#### NBER WORKING PAPER SERIES

## THE SOCIAL IMPLICATIONS OF SUGAR: LIVING COSTS, REAL INCOMES AND INEQUALITY IN JAMAICA C1774

Trevor Burnard Laura Panza Jeffrey G. Williamson

Working Paper 23897 http://www.nber.org/papers/w23897

NATIONAL BUREAU OF ECONOMIC RESEARCH 1050 Massachusetts Avenue Cambridge, MA 02138 October 2017

The views expressed herein are those of the authors and do not necessarily reflect the views of the National Bureau of Economic Research.

NBER working papers are circulated for discussion and comment purposes. They have not been peer-reviewed or been subject to the review by the NBER Board of Directors that accompanies official NBER publications.

© 2017 by Trevor Burnard, Laura Panza, and Jeffrey G. Williamson. All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that full credit, including © notice, is given to the source.

The Social Implications of Sugar: Living Costs, Real Incomes and Inequality in Jamaica c1774 Trevor Burnard, Laura Panza, and Jeffrey G. Williamson NBER Working Paper No. 23897 October 2017 JEL No. N16,N36,O54

#### **ABSTRACT**

This paper provides the first quantitative assessment of Jamaican standards of living and income inequality around 1774. To this purpose we compute welfare ratios for a range of occupations and build a social table. We find that the slave colony had extremely high living costs, which rose steeply during the American War of Independence, and low standards of living, particularly for its enslaved population. Our results also show that due to its extreme poverty surrounding extreme wealth Jamaica was the most unequal place in the pre-modern world. Furthermore, all of these characteristics applied to the free population alone.

Trevor Burnard
Department of History
University of Melbourne
Melbourne, Australia
tburnard@unimelb.edu.au

Laura Panza
Department of Economics
University of Melbourne
Melbourne, Australia
laura.panza@unimelb.edu.au

Jeffrey G. Williamson 350 South Hamilton Street #1002 Madison, WI 53703 and Harvard University and CEPR and also NBER jwilliam@fas.harvard.edu

# 1. Britain's Richest Colony? The Issues

The income and wealth of colonial Jamaica around the time of the American Revolution has been a topic of historiographical interest since a pioneering work by Richard Sheridan appeared which estimated that Jamaican wealth around 1774 was extremely high, even by British standards (Sheridan, 1965). Sheridan's work seemed to confirm the famous thesis put forward by Eric Williams (1944) that the wealth of the British West Indies was fundamental in financing British industrialisation during the second half of the eighteenth century. William's work also played a central role in debates about the value of the British West Indies to the British Empire. By so doing, it helped explain why, during the period of the American Revolution, a few extremely rich Jamaican planters could persuade the British government to see Jamaica as the one colony whose loss they could not afford, both with respect to the money it brought to Britain and also to its geopolitical importance as an island in the middle of the French and Spanish Empires (Marshall 2005, 363-4). Indeed, Lord North, Prime minister during Britain's war with the Thirteen Colonies, used to quip that Jamaican planters were the only masters he had to bow down before. Some of Jamaica's planters, like William Beckford (1709-1770), an extremely influential Lord Mayor of London and close

\_

<sup>&</sup>lt;sup>1</sup> Sheridan's article provoked a response by R. P. Thomas (1968), in which the latter claimed that Jamaica was a net drain on rather than a net gain to the British economy, and a rejoinder by Sheridan (1968) refuted those claims.

<sup>&</sup>lt;sup>2</sup> The debate over the Williams' thesis has produced a voluminous literature. At the turn of this century it seemed that the consensus was that the contribution of West Indian wealth to British industrialization was of marginal importance (Eltis and Engerman, 2000). Williams' contention that the West Indies were pivotal to British industrialization have made a comeback since then (see Inikori, 2002) and Beckert, 2014). Recently Burnard (2018) has argued that Eltis and Engerman were closer to the truth than the more recent enthusiasts for the Williams position. For a balanced view of the Jamaican economy before and after the abolition of the slave trade, see Reid (2016).

associate of William Pitt, were reputed to be among the richest and most powerful men in Britain. Sir Simon Taylor (1740-1813), Beckford's successor as the wealthiest Jamaican planter, enjoyed a princely income of £47,000 per annum near his death. This figure was five to eight times higher than the average British aristocrat and the same as the legendary income that Robert Clive of India was reputed to have made in 1760 (Petley, 2009).

Scholars appear to agree that the income of Jamaica immediately before the American Revolution was so substantial that it made the colony the jewel in the British Crown. Jamaica was an extraordinarily rich place then and remained so despite some significant economic reverses during the War for American Independence. It also provided some free white inhabitants generous living standards that were above comparable occupations and social classes in Britain. By 1774, Jamaican performance had confirmed Patrick Browne's boast that Jamaica was "the richest ... colony at this time under the government of *Great Britain*." It was an island, he declared, that surpassed "all the other *English* sugar-colonies, both in quantity of land and the conveniencies of life." It was "so advantageously situated, in regard to the *main continent*, that it has for years been looked upon, as a magazine for all the neighboring settlements in *America*" and "the quantity or value of its productions, the number of men and ships employed in its trade [and] the quantity of valuable commodities imported there from various parts of Europe" (Browne 1756, p. 9).

Not all observers glowed over Jamaica's wealth. Others saw instead its poverty, low living standards for both slaves and poorer free people, and its immense inequality, best illustrated by Benjamin Franklin's remarks in his pioneering *Observations on the Increase of Mankind* (1750/1961). Franklin claimed that colonial North Americans enjoyed a standard of living superior to any other people in the world, although he confined himself to white people, not to African-Americans or Native Americans. With a land-abundant frontier before them, young Americans could establish economic independence earlier and get married

sooner than Europeans, produce larger families and through their demand for imported consumer goods advance commercial development in the Atlantic economy. Franklin's arguments about relatively high living standards for the ordinary man in colonial North America and its egalitarianism have been confirmed by recent scholarship. Peter Lindert and Jeffrey Williamson (2016) have shown that the standard of living for ordinary white Americans in the Thirteen Colonies (that became in 1783 the United States of America) was remarkably high and egalitarian. The gap between rich and poor was small by contemporary standards and abundant land, cheap foodstuffs, fuel, lighting and homespuns meant that even white Americans in the lowest income deciles lived relatively comfortable lives. Furthermore, poverty and poor relief was much less common than in other societies while rates of taxation were relatively low (Franklin 1750 in Labaree *et al.* 1961, 225-34; Rabushka, 2008, 729-30).

Franklin also initiated a debate that became increasingly intense as abolitionism began to take hold in the United States and Britain: that slavery was not a source of imperial economic strength but rather one of imperial weakness. His text contained, *inter alia*, an attack on West Indian slavery. His main argument was that while slavery provided profits in the short-run, it was much less profitable in the long run, at least in the West Indies where plantation owners drove their slaves exceptionally hard and where the slave system was only maintained by additional imports of captive Africans every year by an increasingly efficient Atlantic slave trade. Franklin argued that the promotion of slavery in America and the West Indies diverted resources from sustainable long term development in a society where all participated relatively equally.

This essay provides new evidence that supports Franklin's argument. Specifically, we provide data used to analyse the cost of living facing ordinary free whites, the cost of slave

\_

<sup>&</sup>lt;sup>3</sup> It was even higher than Britain when America's slaves are included (Lindert and Williamson 2016, Chp. 2).

provisions, standards of living for slaves, free common labor and artisans, and inequality across all social groups during the years of the American Revolution. We argue that Jamaica was a poor colony in the sense that, while average incomes were certainly high, incomes were distributed so unequally that the vast majority of all Jamaicans – all blacks, free or slave, and a large share of whites – did not share any of those riches. Compared with British North America, Jamaica was an extremely poor place for the vast majority, with levels of poverty that were well above what was normal in either Britain or British North America, including the slave societies of the American South. Unlike British North America, which was largely self-sufficient in food, drink, fuel, lighting and most incidentals, Jamaica had to import much of its foodstuffs from abroad so that its productive land could be more effectively devoted to growing tropical crops for export, especially sugar. Thus, Jamaica was an extremely expensive place to live, especially before transport revolutions of the nineteenth century lowered greatly the cost of moving commodities long distances, and especially during imperial conflicts that cut off trade with the mainland and elsewhere, notably during the American Revolution before France's entry into the war in 1778 (Carrington, 2002).

It was also a colony marked by extraordinary degrees of income inequality, not just between free and enslaved but even within the free population. As Franklin argued, the riches of Jamaica were concentrated in a "few Families ... as well as their agents". Many poor whites and almost all free people of colour were not so fortunate. Levels of poverty were very high among the large transient white population of sailors and soldiers as well as among ordinary whites living in town. The island's few incredibly rich, therefore, constructed a strong state fiscal-military regime in which poor relief for whites was abundant and easily accessed.

<sup>&</sup>lt;sup>4</sup> We concentrate on 1774 for which Jamaican data are most abundant and where the same is true for the mainland British colonies (Lindert and Williamson 2016).

Inequality was, of course, most pronounced on the plantations where the living standard gap between whites and blacks was enormous. Our data confirms Richard Dunn's observation that Jamaican plantations had one of the harshest, if not the harshest, slave system in history (Dunn 2014, 180). Enslaved blacks produced more for their Jamaican masters than they did in the American South but received much less for their work. Franklin also noted that Jamaican slavery was hard-driving, with the enslaved enduring extremely harsh working conditions, suffering malnutrition from inadequate food provision.<sup>5</sup> As we shall see below, our evidence confirms a slave system based on maximum exploitation and minimum maintenance. It also suggests that Jamaican planters, and whites more generally, were not interested in the long term economic prospects of the island. They did little to reduce their dependence on imported foodstuffs and nothing at all to make the slave system demographically sustainable without fresh new slaves to replace those who died under it so soon (Burnard, 2015; Roberts, 2013).

The qualitative literature on the standards of living in eighteenth-century Jamaica is not lacking but it does not offer a quantitative dimension to make comparative assessments possible for both slave and free people. Recently, scholars have developed a common methodology to construct living standard estimates for many eighteenth and nineteenth century societies including French Canada, what became the United States, many in South America, Australia, Europe, including Britain. We do the same for c1774 Jamaica in order to compare our results with these previous studies. The qualitative literature has also given us a good sense about economic inequality in Jamaica, but we need quantitative evidence thus to place Jamaica in a comparative perspective. To this purpose, we have built a social table, a

\_

<sup>&</sup>lt;sup>5</sup> That is, provisions from their owners and also from their own plots. Jamaica was one of the few British American plantation societies where slaves were expected to provide much of their own food, housing and clothing from their own labor time on Sundays and part of Saturday.

common device frequently used by economic historians, for Jamaica c1774, which allows us to compare it with other times and places – including those that used coerced labor. This enables us to make empirical statements about inequality among whites, among whites and free blacks, as well as among all residents, in towns and in the countryside. A new literature has also developed using purchasing power parity to assess differences in living costs across time and space, something that we also do here for Jamaica. The next section reports this evidence for living standards and Section 3 does the same for the cost of living. Section 4 presents a Jamaican social table c1774 and discusses the inequality implications of that new evidence. Section 5 concludes.

# 2. Measuring Jamaican Living Standards

This section assesses Jamaican living standards around 1774, following the methodology pioneered by Robert Allen (Allen, 2001), widely used by economic historians since (see for example Arroyo-Abad *et al*, 2012; Geloso, 2016; Lindert, 2016). As far as we know, this is the first attempt to provide a quantitative estimate of Jamaican living conditions during pre-industrial times, thus making it possible to locate its experience in a comparative perspective.

Jamaican living standards are constructed by computing so called welfare ratios, which allow us to estimate the relative purchasing power of an average Jamaican working class household. We first calculate the cost of a standard basket of goods representing the household's yearly expenditure around 1774. Following common practice (Allen 2001 and 2009; Broadberry *et al.* 2015), we construct a "bare bones" or subsistence basket including

basic necessities which would have ensured a calorie intake of around 2,000 Kcal.<sup>6</sup> We use price data from Long (1774, Book II, 35) and Jamaican probates (Appendix 1) to cost the basket, and to estimate deflators for nominal annual incomes: these resulting deflated figures are the welfare ratios that represent the number of baskets that a family could buy, thus capturing differences in purchasing power across occupations.<sup>7</sup>

This direct methodology provides an estimate of real income, reflecting the prices and consumption patterns in late eighteenth century peacetime Jamaica. During this preglobalization era, many consumer staples were not traded over great distances so non-tradables must be included in the consumption basket. But as an island economy, Jamaica was exceptional in that a very large share of its consumption goods was imported from Britain, Ireland, Africa and North America while it exported sugar, coffee, and other tropical products to Britain, Europe and North America (Shepherd and Walton, 1972).

Table 1 presents our consumption basket, which draws on Allen *et al* (2012): it reflects Jamaican consumption patterns delivering a subsistence level of 1,958 kilocalories and 64 grams of protein per day. This basket provides daily nutrition at lowest costs, given available local supply. The main staple eaten in colonial Jamaica was domestically produced (country) corn, frequently augmented or replaced by imported wheat flour and corn meal. The diet was similar to Latin American countries, where most calories came from maize, thus accounting for the largest share of the cost of the basket (Allen *et al.* 2012). The principal sources of protein and fat were fish, meat and butter, much of it imported. Cotton linen,

\_

<sup>&</sup>lt;sup>6</sup> Following Allen (2001; 2009) we consider an average working class family to be made up of four members, turned into "adult equivalents" by multiplying the cost of a basket for one person by three. The four-member-family assumption ensures that comparisons between countries and times based on a standardized family size.

<sup>&</sup>lt;sup>7</sup> Our income data are all yearly. Those employed on plantations were also paid food and housing in kind, such as resident bookkeepers and surgeons. For details see section 4 and the Appendix.

candles, soap, fuel and rent constituted the remainder of expenditures.<sup>8</sup> The income data used to compute annual earnings by occupation are described in detail in section 4 and Appendix 2.

# [Table 1 around here]

The welfare ratios, measuring how many baskets a household could buy, are reported in Table 2. They show an extraordinary disparity of real income across occupations: slaves, white paupers and even common labor had welfare ratios lower than one, which represents the minimum standard for a laborer working full time to earn just enough to support his family. Values below one imply either that the household head could only support a smaller family (perhaps remaining single) or that other household members (women and children) had to work in order to achieve subsistence, or that malnutrition and short lives resulted.

The white population of Jamaica was demographically unusual, in part because mortality rates for whites were so high and in part because its plantation economy attracted immigrants with little attachment to long term settlement and family formation To begin with, it was very male dominated, especially in the rural interior. In 1774, males accounted for 70 percent of the white population in Clarendon Parish. Most of them were between the ages of 21 and 40. Only 12 percent of its white population was aged ten or less and only 2 percent were over 60 (Burnard and Garrigus, 2016). A 1752 census of St. James Parish in north-western Jamaica offers a detailed breakdown of family members by gender, age, and status. Most white households had at least one adult male, usually several, indicating that most included unrelated men who shared expenses and artisanal functions. One third of the households contained no adult female and nearly half had no children. Most of these white men worked within the plantation economy, where their living needs were met by their

<sup>&</sup>lt;sup>8</sup> We assumed rent to represent 10 percent of total expenditure, following Burnard and Hart (2013).

employers. If they worked outside the plantation economy, such as working in the service economy in the major town of Kingston, they needed high wages to survive. Those who did not get high wages were supported by a relatively generous welfare system that channeled money to the white poor (but not to free people of color, let alone enslaved people) (Greene, 2016, 184-94; Burnard, 2013; Burnard, 1999; Walker, 2014).

Some white Jamaicans were very rich, such as merchants dealing with foreign trade, owners of sugar plantations, and their attorneys. Merchants engaged in foreign trade and sugar estate overseers enjoyed high living standards, made possible by the profits of slave-produced sugar and its trade. The lives and interests of these men and the occasional woman are well chronicled. It was these rich Jamaicans whose interests were paramount within the British Empire in the second and third quarters of the eighteenth-century. British ministers were most concerned about them when constructing imperial policies. Their correspondence makes it clear that they thought that the Caribbean was the means of acquiring a fortune impossible in Britain. In 1754, the Bristol merchant Henry Bright argued that "Jamaica is the only place to get money as great fortunes can be made there and scarce a livelihood can be got [in Britain] at any business" (Ward, 1978; Morgan, 2007, 36).

Where living standards were especially low was among the enslaved population, which comprised over 90 percent of the total population. Free people of color, excluded from systems of poor relief, struggled also in a very expensive island. Our analysis suggests that Jamaican living standards were very different from those of colonial British America, which never suffered famine or even particularly hard periods of dearth, thus allowing its population in the eighteenth century, both black and white, to grow through natural increase dramatically, as Franklin celebrated in *Observations*. The utter destitution suffered by Jamaican slaves meant that the slave population was never able to reach a stage of natural population growth, as malnourished and often pregnant female slaves overworked as field

hands harvesting sugar cane faced severe reproductive handicaps (Morgan, 2006). Similarly, free laborers outside the plantation economy (black and white) did not earn enough to support a family of four as their real wage was barely enough to feed a man for a day. Such low wages undoubtedly worsened the disease mortality and required an active welfare support system for much of the white population. In 1772, Thomas Thistlewood, a resident small planter, complained that "such enormous taxes" that he had paid that year were "never known in Jamaica before." He paid a parish tax of 3s 9d on slaves and 1s 8d on livestock and a poll tax of 2s per slave and 6d per head of livestock, making his tax bill £8.30 on income that year of £207.50 or 4 percent (Hall, 1989, 230; Burnard, 2004, 61). Wealthier Jamaicans paid quite a lot more in taxes, both in sum and as a proportion of their annual income, at least 6 percent. Most of the island-wide taxation, which was about two-thirds of the total tax take, went to security and paying colonial officers. One-third of total taxation was parish taxes, two-thirds of which was devoted to helping poor whites. If we assume that poor white householders and their family amounted to about 15 percent of the population, or 1,900 people, then each might have got £7-8 (Graham, 2017; Long, 1774, I: 61-69). Free blacks, however, got nothing or very little and enslaved people were dependent on the largesse of their owners (which was very grudging) or what they could provide for themselves on land they were given to grow foodstuffs (Mintz and Hall, 1960).

While common labor's real wages were above subsistence, they were low when placed in a comparative perspective. They were below those of all Latin American countries around the same period, even those of rural Mexico and Potosi, the poorest communities of the region (Allen *et al*, 2012; Arroyo-Abad *et al*, 2012). Indeed, they were much lower than any other European or New World country for which estimates are available, such as nineteenth-century Australia (Panza and Williamson, 2017), early modern Britain (Broadberry *et al*, 2015) and colonial North America and the nineteenth-century United

States (Lindert and Williamson, 2016). The low standard of living that most Jamaicans, black and white, suffered bears out Franklin's comments about the deleterious consequences of slavery on such economies.

### [Table 2 around here]

#### 2.2 Slave living standards

We report slaves' living standards in Table 2 by deflating an estimate of slaves' nominal maintenance cost of £6.5with the cost of our bare bones consumption basket in Table 1. As Appendix 2 indicates, such maintenance rates applied mainly to town slaves who did not work on estates, amounting to yearly food expenditure of £5.5, plus £1 per slave for doctors and medicines. The amount that slave owners paid for slave maintenance was extremely low, in part because planters relied on a provision ground system to support their slaves. Slaves were allocated marginal land on the estate, the crops from which they were expected to supply much of their food and upon which they built their huts. If a slave was healthy, hardworking and lucky, he or she might on Saturday afternoons and Sundays be able to grow enough crops to sell a modest surplus at slave markets. But if he or she was elderly, unwell, or had children and/or elders to support, the provision ground system could be wholly inadequate to achieve subsistence.

Moreover, in times of crisis, when Jamaica was battered by hurricanes or when their provisions from North America were cut off (as during the American Revolution), total reliance on the provision ground system could easily result in famine (Mintz and Hall, 1960; Sheridan, 1985, 164-69). Edward Long, writing in 1774, thought that the cost for owners of maintaining urban slaves was £3.12 per annum. Town slaves were expected, like rural slaves on their provision grounds, to provide some of their own sustenance from hiring themselves out for wages when finished with their master's work. Long's estimates of slave maintenance

costs are borne out by other evidence. Richard Sheridan examined the consolidated Slave Act of 1788 when the provision ground system came under regulation and notes that owners of slaves who had no land for provisioning had to find "some other ways or means" equal to £6.76 per annum (Long, 1774, II: 459; Hall, 1996; Sheridan, 1985, 166). Given that prices increased considerably between 1774 and 1788, our slave maintenance estimate, including medical expenses, of £6.5 per town slave and £5.95 per rural slave (see below), seem reasonable to us.

An alternative way of calculating slaves' income is by computing an estimate of their consumption. Available secondary sources provide useful guidelines for this purpose (Sheridan, 1985, 169-70). The Kingston workhouse specified what enslaved people were to be provided around 1800: 7 quarts of Guinea/Indian corn per week plus 7 herrings or other salt fish equivalent to 1.75 lbs of fish, the latter equal to 19.6 grams of protein (Sheridan, 1985, 170). Table 3 exploits such information to cost a slave food basket to which we add clothing, fuel and housing. This enables us to compute the "income" that slaves were allowed to retain for their own consumption and to compare it with those of free common labor. In Jamaica, town slaves "retained" 6.5/20.5 = 31.7 percent of their marginal product, and rural slaves retained 5.95/20.5 = 29 percent (see Appendix 2). The figures were much higher in the American South, where slaves retained from 52.5 to 61.4 percent of their marginal product (Lindert and Williamson 2016, Table C-5, 301).

## [Table 3 around here]

Our results pinpoint that Jamaican slaves had living standards that were much lower than in other parts of the British Empire: in fact, the rural poor of England earned more

-

<sup>&</sup>lt;sup>9</sup> The weekly corn provision could be substituted with 21 pints of wheat flour or 56 plantains or 56 pounds cocos or yams.

during the early seventeenth century, a period of low wages and widespread underemployment. Indeed, farm labor's annual income in early seventeenth-century England was a little more than £9, which was said to barely keep them alive, but was higher than the income retained by Jamaican slaves in the late eighteenth century, even without taking into account inflation (Hindle, 2004, 23). Jamaican slaves were probably the poorest people in the British Empire and certainly in British America on the eve of the American Revolution.

# 3. Assessing Jamaica's High Cost of Living

Section 2 provides estimates on Jamaica's cost of living around 1774: a bare bone basket cost 107.03 Jamaican shillings, that is 392.8 grams of silver. Compared with other locations in the Americas and Europe, living expenses were indeed very high in Jamaica. They were only higher in seventeenth-century Potosi, where the inflationary effects of the silver economy were felt so strongly, and, for similar reasons, in seventeenth-century Mexico and Spain, a major silver exporter and importer, respectively (Allen *et al.*, 2012, 874-5).

Before the American War of Independence, 1776-1783, white Jamaicans were able to cope with a relatively high cost of living. High plantation profits meant that the wealthiest whites earned so much money from sugar and other tropical commodities or from importing captive Africans or manufactured goods to not be too concerned that everyday living was very expensive. Moreover, wealthy whites' willingness to pay high taxes that helped, among other things, to fund a generous welfare system for poor whites stopped any political discontent arising from the high costs of living. The benefits of being white were high, mainly because rich whites accepted that they had a responsibility to provide for poor whites (Burnard and Grriguis, 2016). The start of war changed this delicate balance very quickly as prices ratcheted up.

After France and Spain entered the War for American Independence in 1778, Jamaica's cost of living skyrocketed. The conflict was shaped by a series of battles for naval supremacy in the Caribbean and included a French blockade of Britain's key sugar producing colonies, Jamaica and the Barbados. Jamaica was heavily reliant on imports, so when food and other supplies from North America were cut off, the cost of living soared. In addition, drastic increases in shipping and insurance rates for goods imported from Britain and Ireland further reduced the supply of consumption goods. These effects led to thousands of slave deaths from starvation and disease in what Sheridan calls a crisis of slave subsistence. Although the cost of living began to fall from wartime peaks in 1783, it remained high through the 1780s, in part due to British refusal to allow the newly formed United States of America to trade with Jamaica (Sheridan, 1976; Carrington, 2002; Burnard and Garrigus, 2016, Petley, 2017).

In order to gauge the magnitude of the war's impact on the island, we computed the cost of the same bare bone basket presented in Table 1 for the war years 1778-9. The results, presented in Table 4, point to an extraordinary hike in prices across all commodities. On average prices rose by 4.7 times. While import prices surged the most, with the highest increase reported in the price of flour, which rose 17.3 times, domestically produced crops such as corn (which competed with imports) were also hit by the inflationary surge: corn prices rose 2.3 times between 1774 and 1779.

### [Table 4 around here]

As reported in Table 5, the war basket cost 1620.91 grams of silver, higher than living costs in any other pre-industrial place for which estimates are available (Allen *et al*, 2012). Jamaican costs of living in 1774 were almost double those in Boston (93 percent higher) and

four times higher in 1779. As for comparisons with London, costs of living were 50 percent higher in 1774 Jamaica and six and a half times higher in 1779.

#### [Table 5 around here]

This increase in living expenses translated into a drastic if short term reduction in real incomes, confirming that Jamaica faced very tough times for that period of the War for American Independence (Petley, 2017; Ward, 1978). Using 1778-9 prices to deflate 1774 incomes yields extremely low welfare ratios, namely 25 percent of those reported in Table 2. This drop affected more than slaves and free common labor, but even artisans and some white collar occupations, such as town bookkeepers, which had welfare ratios below one. Conditions were particularly bad for Jamaica's slaves. Already at subsistence in peacetime, during the war years slaves became severely malnourished, mortality must have risen, and the island edged towards famine conditions. <sup>10</sup>

At the other end of the income spectrum, overseers, merchants and sugar estate owners also suffered losses during the conflict – after all, export prices and slave labor's productivity fell – but they could still afford very comfortable lives. This points again to Jamaica's very high levels of inequality.

# 4. Was Jamaica the Most Unequal Place on the Planet?

How much of Jamaica's aggregate income accrued to a few plantation owners and their white management, or to the top 10 percent? How much did a slave field hand receive as "in-

<sup>10</sup> Slaves living standards declined again as in the early 1780s, when hurricanes hit the island, so that the small line between deprivation and destitution was stretched. Hector McLean gave evidence to the British Parliament in 1788 that in the aftermath of the great hurricane of 1780, he experienced "the misery of beholding hundreds of wretched beings around you, clamouring for food and imploring that assistance which you cannot bestow." (Cited in Burnard and Garrigus 2016, 118-9).

kind maintenance" compared with his marginal product or with the annual earnings of free common labor in the towns? How much did skilled white collar clerks, bookkeepers, attorneys, clergy, surveyors and surgeons get relative to free common labor in town? What about overall income inequality? Was Jamaica the most unequal place in the Atlantic economy?

We have such evidence, also based on social tables, for late eighteenth century England, for the slave-based colonies in the American South, and for Franklin's almost-completelyfree Middle Atlantic and New England colonies in the American North<sup>11</sup> (Lindert and Williamson, 2016: Chp. 2). Indeed, in a recent study Milanovic, Lindert and Williamson (2011) were able to exploit social tables for seventeen pre-industrial societies stretching over time from Rome in 14, to the Ottoman Empire in 1000, to England in 1688, and to India in 1948. Social tables were first used to document national income and its distribution across social classes more than three centuries ago by the English political arithmeticians William Petty (written in 1676, published in 1690) and Gregory King (1688; reproduced in Barnett 1936) followed in the eighteenth century by others. Their idea was to rank income earners by various occupations or social classes from the richest to the poorest with their estimated number of income earners and their average incomes. Social tables are especially useful in evaluating pre-industrial societies where classes were clearly delineated, and the differences in mean incomes between them were substantial. We cannot document income variance within these classes (driven by age, health, and luck) for Jamaica, but the same is true for the societies with which we make comparisons. Obviously, the more social classes documented, the less serious is the within class variance problem. We try to achieve that aim in our Jamaican c1774 social table (Table 6) by distinguishing between owners of large (sugar) estates and owners of small (typically coffee or cattle) estates, overseers on small estates

.

<sup>&</sup>lt;sup>11</sup> With the exception of New York, where slaves comprised about 12 per cent of the population.

(with less in-kind income) and overseers on big estates (with more in-kind income), rich merchants dealing with foreign trade and not-so-rich merchants dealing with local trade, surgeons on estates (and thus receiving additionally in-kind income) and surgeons in town, and so on.

## [Table 6 about here]

Table 6 offers our estimated Jamaican social table for 1774. There are 23 categories in the table, and all incomes (including income in-kind where relevant) are in local Jamaican currency (1.4 Jamaican £s to the £ sterling). What is missing is evidence regarding the market earnings of white and free black women. While free women were described in records by their marital or racial status, they were not by occupation. We know that most women in towns worked, and some women in the countryside were also small property owners, but there simply is not enough evidence to fit them in our social table with the exception of female slaves. Those in the military garrison are viewed as transitory, and thus excluded (although some were retired and paupers). Slave holdings and their value is known for those owning more than five slaves, but those with five or less escaped tax and tax records so we had to estimate property incomes from slave ownership for those classes (6 per cent return on documented slave values) and add the result to the incomes of those more modest, town-based slave owners. Such slaves would have been off the plantations and in town, and they make up the urban slave totals. Appendix 2 supplies details on sources and methods.

Table 6 is used to make the comparative income distribution statements in Table 7. Jamaica certainly was the most unequal society in the Atlantic economy, and by a lot. We have already discussed the slave retention rate in section 2, but here the reader can see from Table 7 that the ratio of slave to free common labor "incomes" was barely half of that of the American South (0.26 vs 0.36), thus confirming the hard-driving characterization of Jamaican

slavery. The huge gap between slave and master can best be seen by the ratio of slave "income" to that of the top 10 percent, 536 in Jamaica and 16 in the American South. The Gini coefficient summarizes these immense income gaps: it was an extraordinary 0.75 in Jamaica, well above unequal England (and Wales) which recorded 0.52. That English figure was higher in 1802, 0.59, 12 but still well below 1774 Jamaica. Indeed, the island economy recorded by far the highest inequality for any pre-industrial economy that can be documented (Milanovic, Lindert and Williamson, 2011, Figure 2), including British India in 1947 (0.48). Furthermore, given Jamaica's estimated per capita income in the late eighteenth century, its inequality far exceeded the limits dictated by the Milanovic-Lindert-Williamson *inequality possibility frontier*, defined as that level of inequality which supplied only a survival level of subsistence for the majority at the bottom, and thus the maximum surplus that the elite at the top could squeeze out. Jamaica obviously exceeded that maximum condition, since its low nutrition, hard-driving work intensity, and resulting high slave mortality required the import of new slaves to replace them.

## [Table 7 about here]

What was true of this large pre-industrial world sample was also true of Franklin's mainland British colonies. The richest 10 percent received an astounding 65 percent of total Jamaican incomes, while the figure for the American South was 38 percent, and 45 percent for England. The Gini coefficient recorded by the southern slave colonies of British North America was 0.46, well below the Jamaican 0.75, and, of course, much farther below the mostly-free American middle colonies where Franklin lived (Philadelphia in Pennsylvania, 0.38).

\_

<sup>&</sup>lt;sup>12</sup> Lindert and Williamson 2016, Table 2.5, p. 39. At least as judged by the Lowlands on the Continent, the 1802 English figure characterized all of pre-industrial Western Europe: e. g. Holland 1732, 0.61, and the Netherlands 1808, 0.56.

What is striking about this hard-driving and grossly unequal slave society is that income was so unequally distributed among *free* residents (which, of course, included free but poor emancipated blacks). The ratio of the top 10 per cent share's average income to that of common labor was an enormous 128 in Jamaica compared with a modest 5.8 in the American southern colonies and an egalitarian 2.9 in the American middle colonies. The richest 10 percent took home 65 percent of total Jamaican income, while the figure was 35 percent in the American South and 29 percent in the American Middle Colonies. The Gini coefficients were, respectively, 0.73 vs 0.34 and 0.38. Perhaps this result is not surprising since free common labor in Jamaica had to compete with cheap slave labor.

## 5. Concluding Remarks

This essay provides new estimates of incomes, cost of living, living standards and income inequality in colonial Jamaica, and documents that it was markedly different from other British American colonies given its extreme poverty surrounding extreme wealth. Our findings signify a radical departure from the usual characterization of Jamaica as the richest colony in the pre-revolutionary British Empire, a "constant mine," which provided "prodigious riches" to its inhabitants and to the imperial state (Sheridan, 1965; O'Shaughnessy, 2000; Burnard, 2001). The difference in our findings is that we put slaves front and centre of our analysis. Jamaica was only the richest colony in the empire if we ignore (as white Jamaicans and most Britons did) that the majority of its inhabitants were enslaved Africans. It was a bad place to live even for free blacks, and for a large share of whites. It was only the privileged few who did well. This group, however, dominated discourse and political realities, thus shaping metropolitan understanding of Jamaica and its economic value to the empire (Burnard, 2015).

We reach these conclusions on Jamaica's living standards and inequality by the construction of a social table documenting nominal incomes, common labor and slave consumption baskets, prices to cost those baskets, and welfare ratios to assess living standards. There is now similar pre-industrial evidence for the rest of the New World, Britain and the Continent so that comparisons are possible, and they confirm the assertions in the previous paragraphs. But it is important to stress that poverty and inequality characterized the white community alone, a result hardly surprising given that free common labor had to compete with cheap slave labor. Our evidence also confirms that Jamaica was a very expensive place to live: it had the highest cost of living among all places for which such evidence is available. This too is hardly surprising for a small island economy that relied so heavily on the import of so much of their consumption staples. This high cost of living was even true of peacetime Jamaica before the American War for Independence shut down trade.

Benjamin Franklin was absolutely correct in seeing that the political economy of the "sugar islands" was very different from that of British North America, especially outside the plantation regions. Even including the South, British America was the most income-egalitarian place on the planet in 1774, with places like Franklin's Pennsylvania being especially egalitarian and providing growing incomes for ordinary white folk (Lindert and Williamson, 2016). It was the best poor man's place on earth, but Jamaica was the worst. Of course, the poorest men and women in Jamaica were enslaved people of African descent. Color made all the difference in the British Empire in which the interests of whites, not blacks, took precedence.

## References

## **Primary sources**

Jamaican Inventories, IB/11/3/56-60, Jamaica Archives, Spanishtown Jamaica

The Kingston Weekly Advertiser (1/5/1779)

Journals of the Assembly of Jamaica, (Kingston: Jamaica Assembly, 1805), 10 vols.

# **Secondary sources**

- Allen, R. C. (2001). "The great divergence in European wages and prices from the Middle Ages to the First World War," *Explorations in Economic History*, 38, 4: 411-47.
- Allen, R. C. (2009). *The British Industrial Revolution in Global Perspective* (Cambridge: Cambridge University Press).
- Allen, R. C., Bassino, J-P., Ma, D., Moll-Murata, C. van Zanden, J. L. (2001). "Wages, prices, and living standards in China, 1738–1925: in comparison with Europe, Japan, and India," *Economic History Review*, 64: 8-38.
- Allen, R. C., Murphy, T.E. and Schneider, E. B. (2012). "The Colonial Origins of Divergence in the Americas: A Labor Market Approach," *Journal of Economic History* 72: 863-94 and supplementary materials.
- Arroyo A., Elwyn Davies, L. and van Zanden, J. L. (2012). "Between Conquest and Independence: Real Wages and Demographic Change in Spanish America, 1530-1820," *Explorations in Economic History* 49, 2: 149-66.
- Beckert, S. (2014). *Empire of Cotton: A New History of Global Capitalism* (London: Allen Lane).
- Broadberry, S., Campbell, B. Klein, A. Overton, M. and van Leeuwen, B. (2015). *British Economic Growth*, *1270-1870* (Cambridge: Cambridge University Press).
- Browne, P. (1756). The Civil and natural History of Jamaica (London: T. Osborne).

- Burnard, T. (1999). 'The Countrie Continues Sicklie': White Mortality in Jamaica, 1655-1780, *Social History of Medicine*, 12: 45-72.
- Burnard, T. (2013). Kingston, Jamaica: A Crucible of Modernity. in Jorge Canizares-Esguerra, Matt D. Childs, and James Sidbury, eds. *The Black Urban Atlantic in the Age of the Slave Trade* (Philadelphia: University of Pennsylvania Press), pp. 123-46.
- Burnard, T. (2015). *Planters, Merchants, and Slaves Plantation Societies in British America,* 1650-1820 (Chicago: University of Chicago Press).
- Burnard, T. (2018). "Plantations and the Great Divergence," in G. Riello and T. Roy eds.

  Global Economic History (London: Bloomsbury), ch.6. forthcoming
- Burnard, T. and Garrigus, J. (2016). *The Plantation Machine: Atlantic Capitalism in French Saint Domingue and British Jamaica* (Philadelphia: University of Pennsylvania Press).
- Burnard, T. and Hart, E. (2013). Kingston, Jamaica and Charleston, South Carolina: A New Look at Comparative Urbanization in Plantation Colonial British America. *Journal of Urban History* 39: 214-34.
- Carrington, S. (1998). The British West Indies during the American Revolution (Dordecht: Foris)
- Carrington, S. (2002). *The Sugar Industry and the Abolition of the Slave Trade*, 1775-1810. (Gainesville: University of Florida Press).
- Dunn, R. S. (2014). *Tale of Two Plantations: Slave Life and Labor in Jamaica and Virginia* (Cambridge, Mass.: Harvard University Press).
- Eisner, G. (1961). *Jamaica*, 1830-1930: A study in economic growth. (Cambridge: Cambridge University Press).
- Eltis, D. and S. L. Engerman (2000). The importance of slavery and the slave trade to industrialising Britain. *Journal of Economic History* LX: 123-44.

- Franklin, B. (1750/1961). Observations on the Increase of Mankind, in The Papers of Benjamin Franklin, ed. L. W. Labaree et al. (New Haven: Yale University Press).
- Gauci, P. (2013). William Beckford: First Prime Minister of the London Empire (New Haven: Yale University Press).
- Geloso, Vincent (2016). "Distinct within North America: Living Standards in French Canada, 1688 to 1775." Available at SSRN http://dx.doi.org/10.2139/ssrn.2885514
- Graham, A. (2017). The Colonial Sinews of Imperial Power and the Political Economy of Jamaican taxation, *Journal of Imperial and Commonwealth History* 45: 188-209
- Greene, J.P. (1988). Pursuits of Happiness: The Social Development of Early Modern British

  Colonies and the Formation of American Culture (Chapel Hill: University of North

  Carolina Press).
- Greene, J.P. (2016). *Settler Jamaica in the 1750s: A Social Portrait* (Charlottesville: University of Virginia Press).
- Hall, D. (1996). "Botanical and Horticultural Enterprises in Eighteenth-Century Jamaica." In Roderick A. McDonald, ed., *West Indies Accounts: Essays on the History of the British Caribbean and the Atlantic Economy* (Kingston: University of the West Indies Press).
- Higman, B.W. (2000). "The Sugar Revolution." Economic History Review. 53: 213-36
- Hindle, S. (2004). On the Parish? The Micro-Politics of Poor Relief in Rural England c.1550-1750 (Oxford: Oxford University Press).
- Inikori, J. E. (2002). Africans and the Industrial Revolution in England: A Study in International Trade and Economic Development (Cambridge: Cambridge University Press).
- Lindert, P. H. (2016). "Purchasing Power Disparity before 1914?" NBER Working Paper 22896. National Bureau of Economic Research, Cambridge, MA (December).

- Lindert, P. H. and J. G. Williamson (2016). *Unequal Gains: American Growth and Inequality* since 1700 (Princeton: Princeton University Press).
- Long, E. (1774). The history of Jamaica: Or, General survey of the ancient and modern state of that island with reflections on its situation, settlements, inhabitants, climate, products, commerce, laws and government. London: Lowndes
- Marshall, P. J. (2005). *The Making and Unmaking of Empires: Britain, India and America* c1760-1783 (Oxford: Oxford University Press).
- Milanovic, B., P. H. Lindert, and J. G. Williamson (2011)." Pre-Industrial Inequality," *Economic Journal* 121 (March): 255-72.
- Mintz, S. and D.G. Hall (1960). The Origins of the Jamaican Internal Marketing System, *Yale University Publications in Anthropology* no. 57.
- Morgan, K. (2006). "Slave Women and Reproduction in Jamaica, c.1776-1834," *History* 91: 231-53.
- Morgan, P.D. (2005). "The Poor: Slaves in Early America," in D. Eltis, F. D. Lewis and K. Sokoloff, eds., *Slavery in the development of the Americas*. (Cambridge: Cambridge University Press), 288-323.
- O'Shaughnessy, A. (2000). *An Empire Divided: The American Revolution and the British Caribbean* (Philadelphia: University of Pennsylvania Press).
- Petley, C. (2009). "Home" and "this country": Britishness and Creole identity in the letters of a transatlantic slaveholder," *Slavery & Abolition* 6: 43-61.
- Rabushka, A. (2008) *Taxation in Colonial America* (Princeton: Princeton University Press).
- Reid, A. (2016). "Sugar, Slavery and Productivity in Jamaica, 1750-1807," *Slavery and Abolition* 37: 159-82.
- Roberts, J. (2013). *Slavery and the Enlightenment in the British Atlantic, 1750-1807* (New York: Cambridge University Press).

- Shepherd, J.F. and Walton, G.M. (1972). *Shipping, Maritime Trade, and the Economic Development of Colonial North America* (Cambridge: Cambridge University Press).
- Sheridan, R.B. (1985). *Doctors and Slaves: A medical and demographic history of the British West Indies* (Cambridge: Cambridge University Press).
- Sheridan, R. B. (1965). "The Wealth of Jamaica in the eighteenth century," *Economic History Review* 2d ser. XVIII: 292-311.
- Sheridan, R. B. (1968). "The wealth of Jamaica in the eighteenth century: a rejoinder," *Economic History Review* 2d ser., XXI: 46-60.
- Sheridan, R. B. (1971). "Simon Taylor, Sugar Tycoon of Jamaica, 1740-1813," *Agricultural History* 45: 285-96.
- Thomas, R. P. (1968). "The sugar colonies of the old empire: profit and loss for Great Britain," *Economic History Review* 2d ser., XXI: 30-45
- Walker, C. (2014). "Pursuing Her Profits: Women in Jamaica, Atlantic Slavery and a Globalising Market, 1700-60." *Gender and History* 26: 478-501.
- Walvin, J. Sugar: The World Corrupted, from slavery to obesity (London: Robinson).
- Williams, E. (1944). *Capitalism and Slavery* (Chapel Hill, N.C.: University of North Carolina Press).

### Appendix 1: Jamaica's bare bone basket prices in 1774 and 1779

The prices used to calculate the bare bone expenditure in Tables 1 and 4 are all retail prices. The bare bone baskets are adapted from Allen *et al* (2012) with the following modifications:

- 1) Due to data unavailability, we doubled the quantity of candles to make up for missing lamp oil prices.
- 2) Because of Jamaica's hot climate, we used only 1/4 of the BTU indicated in Allen's basket, as wood was not used as a heating source, but only for cooking. The 1774 price of wood is inferred from Carrington (1998, pp. 112-3), who lists price increases during the American war of Independence in various West Indian islands, including Jamaica. Citing CO137/85/115 and Ragatz, 1928, p. 153, he notes that lumber costs rose greatly during the war; specifically, common white oak and pitch boards increased by 150%. We deflated fuel wood prices accordingly by 150% from 1779 to 1774.
- 3) We use fish instead of beans/peas as alternative source of protein. In 1774 the price of fish is an average of turtle calipash, turtle calipee, salt fish, while in 1779 an average of large fish, salted fish and turtle.

Table A1 provides details of the units of measurements used in the original sources and of the conversion metrics used to transform them in the units of measurement of the bare bone basket. The sources used for the conversions are: <a href="http://gpih.ucdavis.edu/Converting.htm">http://gpih.ucdavis.edu/Converting.htm</a>; and <a href="http://gpih.ucdavis.edu/Converting.htm">http://gpih.ucdavis.edu/Converting.htm</a>; and <a href="http://www.convert-me.com/en/">http://www.convert-me.com/en/</a>.

Table A1: Units of measurements, conversion metrics and sources for Jamaica's prices, 1774 and 1779

Commodity	Unit of	Conversion	Source for 1774	Source for 1779
	measurement			
Country				The Kingston Weekly
corn	Bu	1  bu = 25.4  kg	Long (1774)	Advertiser (1/5/1779)
Flour	Cwt	1 cwt=50.802 kg	Long (1774)	Burnard (2015)
Fish	Lb	1  lb = 0.4536  kg	Long (1774)	Burnard (2015)
Meat	Lb	1  lb = 0.4536  kg	Long (1774)	Burnard (2015)
Butter	lb; firkin	1  lb = 0.4536  kg	Jamaican	The Kingston Weekly
		1 firkin=11	Inventories,	Advertiser (1/5/1779)
		gallons	IB/11/3/56-60	
Cotton	Lb	1  lb = 1.34  m	Jamaican	The Kingston Weekly
			Inventories,	Advertiser (1/5/1779)
			IB/11/3/56-60	
Soap	Lb	1 lb = 0.4536	Jamaican	Jamaican Inventories,
			Inventories,	IB/11/3/56-60
			IB/11/3/56-60	
Candles	Lb	1 lb = 0.4536	Long (1774)	The Kingston Weekly
(tallow)				Advertiser (1/5/1779)
Fuel	Foot	1 foot $=287,747$	Carrington (1988)	The Kingston Weekly
		BTU		Advertiser (1/5/1779)

# Appendix 2. Jamaica's c1774 Social Table

## **Incomes by Occupation**

All of these are annual incomes and in Jamaican currency.

## Free Whites on Poor Relief

In 1750-51, the parish of Kingston supported 103 whites at £12.27 per person (Edward Manning to Journal of Assembly (1751) in *Journals of Assembly of Jamaica* (1805), IV: 365). We do not have the figure for 1774, but we know from Kingston vestry records that the amount collected by the poor law tax went up by 10 percent between 1745 and 1770,<sup>13</sup> perhaps by 13 percent if the additional four years up to 1774 are included. Thus, the figure for 1774 might have been around £14. Given the rise in staple prices in the run up to 1774 (see below), the figure was probably closer to £15, which is what we assume here. Edward Long estimated in 1774 that military subsistence was £13 per annum with a further £9.75 for the maintenance of a wife and £6.50 for children, making £34.75 for a family of four. (Long, 1774, I: 425)

#### **Slave Maintenance**

In 1781, John Slater, the Deputy Marshall of the Kingston goal complained that the allocation of £16.43 per slave was too low (18 August 1781, *Journal of the Assembly of Jamaica*). While the white pauper rate was lower in c1770 (£13.87), staple prices rose 1770-1781 (leading to the Marshall's 1781 complaint). Thus, we lowered the town slave 1774 figure accordingly. As section 3 documented, staple prices rose hugely from pre-war (early 1770s) to wartime (late 1770s and early 1780s). Indeed, imported rice, corn meal and flour prices rose by about 3.5 times (unweighted average: Sheridan 1985. p. 157; see section 3). But that figure does not include cheaper local provisions like dried fish and yams, so we assume slave maintenance prices rose 3 times. This staple price inflation implies that the cost of slave

<sup>&</sup>lt;sup>13</sup> Kingston Vestry Records, 1750-74, IB/2/6/2-5, Jamaica Archives, Spanishtown, Jamaica.

maintenance in town was about £5.5 in the early 1770s. Since estate owners and overseers spent £1 per slave for doctors and medicines (Sheridan, 1985, 315-18) we raise the 1774 town slave maintenance estimate to £6.5. Section 2 offers a rural slave estimate of 5.95£ (prices were lower in the countryside) based on consumption estimates there.

### **Slave Retention Rate**

Slave marginal product = net profit + maintenance = 14 (based on returns to slave wealth: see below) + 6.5 = 20.5, which is about equal to the male slave hire rate of £20 (see below). Thus, town slaves "retained" 6.5/20.5 = 31.7 percent and rural slaves 5.95/20.5 = 29 percent of their marginal product, which is considerably below the 52.5-61.4: mean 57) percent which prevailed in the American colonial South (Lindert and Williamson 2016, Table C-5, p. 301). This seems consistent with the comparative hard-driving view of Jamaican plantation policy.

## **White Common Labor**

The starting wage for urban "casual" free labor was £25 per annum (Burnard, 2004), about double that of a pauper and almost four times the slave maintenance rate.

#### **Artisans**

Manufacturers and building tradesmen earned £65 and sugar bakers £75 (Long, 1774, II: 103).

#### White Collar

Annual average earnings in £s were: bookkeeper 55, plus room and board if on estate; school master 100; surgeon 100, plus room and board if on estate. clerk 140; surveyor 140; clergy 500; and attorney 1000 (Long, 1774, I: 407, 423, 480).

### **Overseers**

The standard or average rate for an overseer on smaller estates was about £100 in the 1770s (not including room and board), but it ranged up to as high as £200-300 for experienced men

on large sugar estates (Burnard, 2004). These figures are about doubled when in-kind room and board are included. We take the value of in-kind room as 9 percent of total income: based on 1354 Kingston houses, annual house rent averaged £46.29 (Burnard and Hart, 2013) or 8.5 percent of a sugar estate overseer's income, but 20.9 percent of a surgeon's income if resident on estate. Of course, the latter did not have use of the whole estate mansion. We take board as 25.5 percent of total income.

## **Wealthy Slave Owners**

The Pennant family owned estates in Clarendon, which yielded in 1772-75 net profits of £14,242 per annum, or £14.02 per slave. A 6 percent net return and £14.net profit per slave is repeated and confirmed everywhere in the records. For example, William Perrin, an absentee plantation owner, got a 6 percent return in 1777, or £14.05 per slave. The Spring estate in St. Andrew's parish made £14.29 per slave in the 1770s (Burnard 2015, Table 4.1, p. 160). (If the slave male/female ratio was around 1, and the average net profit per slave was £14, then the slave rental should have been about £20 for males and £8 for females. And the hire rate for males was indeed about £20.) With the available information on slave holdings, we can calculate incomes of plantation owners, as below.

<u>Probated wealth holders 1774</u>: Those probated averaged 28 slaves, implying incomes of £392 (Burnard 2001, p. 517).

Non-probated wealth holders 1774: These smaller holders made about 67 percent of those probated, or £262.64. Thus, average income of all slave holders in 1774 (from slaves alone) was about £308 (Burnard 2015, Table 4.13, p. 207).

Average income from slaves: In 1774, St. James' parish yielded total slave profits of £16, 613 or £455 per white adult male. These were not, of course, necessarily plantation owners, nor were the latter the majority.

### **Sugar Estate Owners:**

These richest Jamaicans are well documented (Burnard 2015, p. 160) and had average incomes of about £3,960. We arrive at this estimate as follows. Income of £11000 per annum with slaves returning £15 per annum would suggest a slave holding of over 700, which was true of only a few at the top. The average number of slaves held by these 875 sugar estate owners was about 200. Long was a reliable contemporary observer who estimated that gross receipts for an estate with 100 slaves was £1980 and net income after expenses £1420 (Long, 1774, I: 459-62). According to this, an estate with 300 slaves would gross £5940 and net £4260. To be consistent with other social tables with which we compare, we use gross income applied to the average of 200 slaves for the 875 sugar planters, making average income for this category £3960.

Other Estate Owners: For these smaller (mostly coffee and cattle) estates, we assume their incomes to have been that reported above for St. James' parish, £450.

## **Income Adjustments for Small Slave Holders in Town:**

Those with less than 5 slaves were not taxed and their slave holdings not reported. Our income estimates add net profits from them (at £14) to total cash incomes, assuming those with incomes of (in £s): 100-149 held 1 slave; 150-199 held 2 slaves; 200-299 held 3; and 300-400 held 4.

### **Total Population and Labor** Force by Occupation

These figures are taken from the 1774 census for free colored, whites, and slaves (see Burnard 2015, Table 4.3, p. 161). For free colored and whites, we assume only adult males worked, but that both male and female adult slaves worked (women even when pregnant).

## **Town Income Recipients by Occupation**

Free whites are reported by occupation for Kingston in 1782 (Higman 1991), and these numbers are inflated by 1.3 under the assumption that both Montego Bay and Spanish Town were 15 percent of Kingston's labor force size (as was population). We assume that free

colored (males) were distributed across occupations as were whites <u>except</u> that they were not gentlemen, professionals, or rich merchants.

## Rural Income (and Maintenance) Recipients by Occupation

We use the 1774 St. James parish census for white male and free colored male heads plus adult slaves as the occupation mix which applied across all rural Jamaica. The share of labor force participants in total populations were white male adults 0.613, free colored male adults 0.237, and slaves 0.752 Elderly unable to work were a very small share of the total population.

Table 1: Bare bone basket and expenditure in colonial Jamaica, c. 1774, in £ Jamaican.

Commodity	Annual	Price	Yearly expenditure (s.)		Nutrients per day	
	quantity per person	per unit (s)	Individual	Household	Calories	Gr. protein
Corn	165 kg	0.209	34.510	103.531	1,655	43.00
Flour	20kg	0.394	7.874	23.621	187	7.71
Fish	5 kg	1.653	8.27	24.802	22	10.51
Meat	5 kg	1.846	9.23	27.695	34	3
Butter	3 kg	3.614	10.84	32.525	60	0.0
Cotton	3 m	2.310	6.931	20.793		
Soap	1.3 kg	0.441	0.573	1.720		
Candles	2.6 kg	6.889	17.91	53.737		
Fuel	0.5 M BTU	2.317	1.16	3.475	1,958	64
Rent			9.73	29.190		
Total			107.030	321.089		

Sources: The prices of corn, flour, fish, meat and candles are from Long (1774); the prices of butter, cotton and soap are from Jamaican Inventories, IB/11/3/56-60; the price of fuel is derived from Carrington, 1988, pp.112-3.

*Notes:* The price of fish is an average of turtle calipash, turtle calipee, salt fish. The price of meat is an average of beef, mutton, lamb, veal, pork. The price of fuel comes from the conversion of mahogany into BTU. Rent assumed to be 10 percent of total goods expenditure, following Burnard and Hart (2013).

Table 2: Welfare ratios by occupation in colonial Jamaica, c. 1774

Occupation	Welfare ratio
Clave	0.405
Slave	
White pauper	0.935
Common labor	1.558
Free coloured	2.181
Bookkeeper (town)	3.427
Artisan	4.050
Surgeon (town)	6.231
Clerk	8.723
Surveyor	8.723
Bookkeeper (on estate)	9.732
Surgeon (on estate)	12.783
Overseer small estate	12.784
Small estate owners	28.037
Overseer (sugar estate)	31.958
Attorney	62.305
Merchants (local trade)	74.766
Gentlemen, esquires	93.458
Sugar estate owners	247.975
Merchants (foreign trade)	249.221

*Note:* Welfare ratios calculated as the ratio of a household annual expenditure over annual income.

Sources: Annual expenditure: Table 1. Annual income: Table 6.

Table 3: Slaves living standards in colonial Jamaica, c. 1774.

	5 11 v 111g Staritaaras 111	Price per	Yearly		
	Annual quantity	unit	expenditure	Nutrients per day	
Commodity	per person	(s.)	(s.)	Calories	Gr. protein
Corn	263.55 quarts	0.166	43.753	1,750	46.34
Plantains		0.104	21.146	122	1.59
Fish	1.75 lb	1.653	2.894	41	19.60
Cotton	3 m	2.310	6.931		
Soap	1.3 kg	0.441	0.573		
Candles	2.6 kg	6.889	17.91		
Fuel	0.5 M BTU	2.317	1.16		
Rent			4.718		
Medical					
expenses			20		
Total			119.088	1,913	68

Sources: The prices of corn, plantains, fish and candles are from Long (1774); the prices of cotton and soap are from Jamaican Inventories, IB/11/3/56-60; the price of fuel is derived from Carrington, 1988, pp.112-3. The slaves' basket is constructed based on information contained in Sheridan (1985) and Eisner (1961).

*Notes:* The price of fish is an average of turtle calipash, turtle calipee, salt fish. The price of fuel comes from the conversion of mahogany into BTU. Rent assumed to be 5 per cent of total expenditure.

Table 4: Bare bone basket and expenditure in colonial Jamaica, c. 1779.

Commodity	Annual quantity	Price per unit	Yearly expenditure (s.)		Nutrients per day	
	per person	(s)	Individual	Household	Calories	Gr. protein
Corn	165 kg	0.482	79.577	238.730	1,655	43.00
Flour	20kg	6.811	136.215	408.645	187	7.71
Fish	5 kg	11.883	59.41	178.241	22	10.51
Meat	5 kg	15.807	79.03	237.103	34	3
Butter	3 kg	4.409	13.23	39.683	60	0.0
Cotton	3 m	3.234	9.702	29.106	0	
Candles	2.6 kg	0.88	1.146	3.439	0	
Soap	1.3kg	8.267	21.49	64.484		
Fuel	0.5 M				1,958	64
	BTU	3.47	1.74	5.213		
Rent			39.065	117.195		
Total			441.703	1325.109		
3.7	0.01 01.1					· ·

*Notes:* The price of flour, fish and meat are from Burnard (2015); the price of soap from Jamaican Inventories, IB/11/3/56-60; the price of corn, cotton, butter, candles and wood (for fuel) from The Kingston Weekly Advertiser (1/5/1779). The price of fish is an average of large fish, salted fish and turtle. The price of meat is an average of veal, pork and kid. The price of fuel comes from the conversion of mahogany into BTU. Rent assumed to be 10 percent of total expenditure, following Burnard and Hart (2013).

Table 5: Comparative cost of the bare bone basket, gr. of silver

	Cos	st of bare bone basket	
	1774	1779	1775-99
Jamaica	392.8	1620.91	
Beijing	191.34	197.63	
London	278.69	245.70	
Amsterdam	211.02	168.35	
Florence	295.47	262.82	
Wien	159.64	143.26	
Leipzig	106.69	111.94	
Boston	203.36	248.77	
Philadelphia			240.98
Maryland			223.51
Potosi			598.01
Mexico			312.55
Bogota			240.41
Valencia			393.02

Sources: Beijing, London, Amsterdam, Florence, Wien, Leipzig are from Allen *et al.* 2011; Boston, Philadelphia, Maryland, Potosi, Mexico, Bogota and Valencia from Allen *et al.* 2012.

Table 6. A social Table for Jamaica c. 1774 (in £s of local currency)

Occupation/ Social Class	No. of Earners	Income	In-kind food	In-kind	Owned slaves	Added slave	Total
				rent		property income	income
Rural slaves	144,976	n	У	У	N	N	5.95
Town slaves	568	n	У	У	N	N	6.5
White pauper	113	n	У	y	N	N	15
Common	299	25	n	n	N	N	25
labor	<b>60</b>	25			NT	N.Y.	2.5
Free colored	62	35	n	n	N	N	35
Artisan	114	65	n	n	N	N	65
Sugar baker	10	75	n	n	N	N	75
Bookkeeper	875	55	78.1	23.1	N	N	156.2
(on estate)							
Bookkeeper	10	55	n	n	N	N	55
(in town)							
Schoolmaster	10	100	n	n	1	14	114
Surgeon (in	2	100	n	n	1	14	114
town)							
Surgeon (on	564	100	82.07	23.1	1	14	219.17
estate)							
Clerk	17	140	n	n	1	14	154
Surveyor	7	140	n	n	1	14	154
Clergy	20	500	n	n	4	58	558
Attorney	4	1000	n	n	4	58	1,058
Overseer	1035	250	130.87	46.2	2	28	540.93
(sugar estate)							
Overseer	2161	100	82.07	23.12	1	14	219.19
(small estate)							
Sugar estate	875	3960	n	n	N	N	3,960
owners							
Small estate	1847	450	n	n	N	N	450
owners							
Merchants	89	4000	n	n	4	58	4,058
(foreign							
trade)							
Merchants	31	1200	n	n	4	58	1,258
(local trade)							,
Gentlemen,	22	1500	n	n	4	58	1,558
esquires							
Totals	153,711						70.82
Madam Can Am							

Notes: See Appendix 2.

Table 7: Comparative income inequality: Gini coefficients, income shares and income ratios

	Jamaica	American South	American Middle Colonies	England & Wales
	1774	1774	1774	1759
<b>Including Slaves</b>				
Slave (rural) retention rate	0.29	0.54	0.53	na
Slave (urban) vs free common labor	0.26	0.36	0.43	na
Slave (urban) vs artisan	0.10	0.34	0.37	na
Top 10% vs slave (rural)	536.47	15.99	6.73	na
Top 10% share (%)	64.97	37.90	30.40	45.10
Top 10% mean income (£)	3192			
Gini Coefficient	0.75	0.46	0.38	0.52
Free Only				
Top 10% vs common labor	127.68	5.75	2.90	na
Top 10% share (%)	64.52	35.20	28.80	45.10
Top 10% mean income (£)	3192			
Gini coefficient	0.73	0.34	0.38	0.52

*Sources*: The American data are from Lindert and Williamson 2016, Table C-5, p. 301 and data underlying Tables 2-2 - 2-3 and Table 2-4, pp. 29-38. The data for England & Wales are from Lindert and Williamson 2016, Table 2-5, p. 39. The Jamaican figures are based on Table 1.