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The Economics of Slavery

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Writing on the economics of slavery is in some ways an impossibly difficult task, for the subject's limits and bounds are viewed by many as virtually coterminous with those of slavery itself. Indeed, such an assignment has become increasingly difficult over time, as economists incorporate more and more areas of human experience into their interpretive clutches. Whereas at one time almost everyone conceded the material realm to economics, but cordoned off spiritual concerns, economists now make claims on such concerns as well, bringing the emotions, the psyche, and even the soul under the discipline's dominion. It is thus a long way from the ancient Greeks, whose original sense of economics concerned the rules, customs, and laws (*nomos*) of the house or household (*oikos*), to Nobelist Gary Becker, for whom the decision to bear children is interpretively akin to the decision to purchase a refrigerator or car, to more recent writers who have written on the economics of attention, interpreted the rise of religion and the origin of fear in economic terms, and linked behavioral expressions ranging from sexual orientation to laughter to cruelty to economic variables.

This said, here we shall focus on issues of traditional concern to economic historians of slavery, to wit: the origins of and motivations/rationales for slavery; pattern and variation in the institution both across space and over time; questions relating to slavery's profitability; the developmental effects of slavery; and the reasons for its demise. One other delimiting qualification, relating to purview, should also be kept in mind. Slavery in some form and in some place has been with us from antiquity to the present day.[1] This essay will focus on slavery in the Western Hemisphere, and, only then, on slavery in societies established therein by European colonizers beginning in the late fifteenth century. Even so, our remit is huge, for the system(s) of slavery in the Western Hemisphere during that period drew not only Europe and Africa, but also Asia into their powerful embrace.

Although there are several plausible and by no means mutually exclusive explanations for the origins of slavery in the areas being treated here, all of them from today's perspective are explicable through recourse to standard bourgeois economic logic. That is to say, we can safely proceed under the assumption that both slaveholders and those authorizing and legitimizing slavery acted, wittingly or unwittingly, self-consciously or un-self-consciously, in ways consistent with what we would today call economic rationality, most notably, utility-maximizing decision-making criteria. Before we go any further, let me wave a few cautionary flags regarding the interpretive thicket we are about to enter. Scholars can and in fact have disagreed, sometimes sharply, over how to classify in economic terms slavery in the societies organized by Europeans in the Western Hemisphere. To simplify a number of complex, often arcane academic debates, the key issues revolve around the relationship between slavery and the system (s) of slavery in such areas, on the one hand, and capitalism, on the other. [2] Complicating this inherently difficult question is a host of considerations: There are various ways to approach, let alone attempt to define capitalism. The criteria employed to ascertain its existence vary enormously from interpretive tradition to interpretive tradition, indeed, from scholar to scholar. Numerous European nation-states organized societies in the Western Hemisphere wherein slaves played important roles, and these European nation-states and their geopolitical offspring in the Western Hemisphere all followed their own trajectories at least to some degree, leading to considerable variation--temporal and spatial--in slavery both *across* colonial/national regimes and *within* the same (within English/British areas, within Spanish or French or Dutch areas, etc.).

Regardless of epistemological predilections, preferred evaluative criteria, or position on slavery and capitalism, the most convincing scholarly explanations of slavery's origins all associate it in one way or another with available resources or factor endowments in the "New World" during the period of initial colonization and settlement. [3] More specifically, they focus on considerations such as the human-land ratio, "open resources," or free land, and the problem these considerations posed to those interested in, if not fixed on profitable economic exploitation. Simply put, it appeared difficult, even impossible in certain places at certain points in time for economically rational Europeans to operate efficiently enough at sufficient scale to accrue impressive profits in the absence of institutional mechanisms that functioned to hold down wages and keep an adequate number of laborers from taking advantage of such "open resources", particularly land , by either moving away or setting up for themselves. In other words, slavery in a sense represented the sanctioning and legitimization by the state of a categorical form of property rights in human beings in order to render profitable exploitation possible, thereby facilitating the accumulation process in otherwise unfavorable labor-market conditions. [4]

Of course, slavery--a labor system wherein workers are "unfree" in legal terms, owned by others, and have little or no enforceable claims to either their progeny or to the principal means of production--was not the only way to solve the labor problems mentioned above. Other "unfree" forms of labor organization were possible, and some were in fact tried--indentured servitude, temporary slavery, tribute or corvée labor, convict labor, etc.--with varying degrees of success. Europeans obviously had had long experience as well with another form of labor organization, serfdom, whereby the labor force is tied to a specific piece of land, which form shared some features with slavery. Of such options , however, *chattel* slavery (whereby slaves were defined legally as personalty and thus as movable property) soon came to be seen as the most effective means of solving the labor problems outlined above, and was to prove the most pervasive and enduring option in areas where some form of "unfree labor" made economic sense.

What constituted economic sense in slavery times? Then, as now, the chance for profits, more than anything else. Generally speaking, slavery became deeply entrenched in those parts of the Western Hemisphere where profit possibilities were sufficiently large as to justify the time, cost, and trouble of recruiting, retaining, and defending--whether in a constabulatory or an ideological sense--a bound labor force. A few mining areas could justify such assessments, but the vast majority of places dominated by slavery and slave labor were regions whose economies were based largely on the production, mostly for export, of a limited range of highly profitable agricultural staples.

Of these staples, sugar constituted the bellwether for most of the period treated in this essay, in so doing, making the market for slave labor, as it were.[5] Whether or not other parts of the Western Hemisphere came to depend on slave labor was largely determined, that is to say, by the chance that the area in question early on could utilize such labor at least as profitably as it--or, more formally, each marginal unit of which-- could be used in the principal sugar-producing regions in Brazil or the Caribbean. The power of sugar in informing the market for slaves/slavery in the Western Hemisphere was especially great before a second market maker, cotton, began its rapid ascent in the nineteenth century.

Not surprisingly, such stringent conditions--the imputed opportunity costs of deploying slaves in activities other than sugar or cotton-- set sharp limits on the appeal and distribution of slave labor in the hemisphere, limits that were always subject as well to additional conditioning factors, most notably, the availability and price of alternative forms of labor, certain “lock-in” mechanisms associated with early path-dependent/path-influenced decisions regarding labor organization, and, in a much more limited way relatively late in the game, to moral qualms about (or “psychic costs” associated with) holding slaves. As a result, although we find slaves (sometimes in sizable numbers) in most societies organized originally by Europeans in the Western Hemisphere, slave labor came to structure entire societies only in parts of the hemisphere: In the circum-Caribbean especially, but also in parts of Brazil and in the southern region of what came to be known after the American Revolution as the United States. This broader area has usefully been labeled the "extended Caribbean" by one influential scholar--Immanuel Wallerstein--and in forcing us, when thinking about slavery in the Western Hemisphere, to recalibrate our metageographies so as better to reflect the position of the Caribbean (and Brazil) the formulation makes a good deal of sense. [6]

Explaining the composition, particularly the *racial* composition of the slave labor forces in various part of the Western Hemisphere is another thorny issue, one that has pricked many that have deigned to touch it. We can not do complete justice to an issue of such complexity here, so it must suffice to say that, although a world of possibilities was possible--scholars of race such as Theodore Allen and Noel Ignatiev have usefully reminded us that some whites plausibly could have been enslaved, especially in the fifteenth, sixteenth, and seventeenth centuries—slavery in the Western Hemisphere in the period between the early sixteenth century and the late nineteenth century was confined for all practical purposes to peoples classified either as Native Americans or African/African American Blacks. Of these two groups, Blacks came to constitute the vast majority, except in certain mining areas in Spanish America.

But why? A number of reasons have been offered: European racism and notions regarding racial/ethnic/religious hierarchies; the greater experience of African Blacks with sedentary agriculture, experience made manifest (and attractive) at times in potentially appropriable knowledge systems and technology; Europeans' prior experience with African slaves in the Atlantic islands off of Africa (the Canaries and Madeiras especially) and in Europe itself from the mid-fifteenth century on; the greater difficulty of recruiting/retaining sufficient numbers of

Native Americans; the greater elasticity of supply of Black Africans; the greater relative resistance of Black Africans to various Old World diseases (particularly mosquito-borne diseases) that became major epidemiological threats in many parts of the Americas. [7]

All of these reasons have merit, but, for my money, the first—European racism/ethnocentrism—and the latter two weighed most heavily. First of all, if and when the decision to utilize slave labor was made, it is difficult to believe that during the so-called early modern period the Europeans making such decisions would not have preferred *ceteris paribus* to enslave non-Europeans, non-Christians, etc. And all other things were <u>not</u> equal, of course. Indeed, if we approach supply elasticity elastically, so to speak, so as to incorporate not only relative supply responses to changing prices, but also total capacity and "spare" capacity, it is readily apparent that in general the supply response was more robust and more predictable in the African/African-American slave trade than in the Native American slave trade, which was at once less organized , more erratic, and more subject to disruption. Coupled with the partial immunities many Africans/African Americans had to both malaria and yellow fever—deadly killers and debilitators during slavery times--it made greater economic sense for those involved in slave markets as either buyers or sellers to organize said markets around the purchase and sale of Africans/African Americans rather than around Native Americans, whose numbers in the Americas dropped drastically after and in larger part because of the so-called Columbian exchange.[8]

If slave markets were organized by and large around the buying and selling of Africans/African Americans, it seems both reasonable and, in fact, necessary next to consider where the human chattel being bought and sold lived (and died), and in what numbers. With this in mind, let us move on to what might be labeled geo-historical/demographic concerns, more specifically, the spatial and temporal patterns informing the history of slavery in the Americas.

Such concerns present something of a conundrum, if not "a riddle wrapped in a mystery inside an enigma," as Churchill famously said of Russia. Why? To cut to the chase: As stated above, sugar and slaves were inextricably linked in the Western Hemisphere. The vast majority of the 10.5-12.5 million slaves brought to the Western Hemisphere between c. 1500 and the late nineteenth century worked either in the cane fields themselves or in sugar-producing areas.[9] Relatively speaking, much smaller numbers of slaves were brought to non-sugar-producing areas. Nonetheless, by the middle of the nineteenth century, non-sugar-producing areas were home to the largest number of slaves, and, long after slavery's demise, and even today very large populations of descendants of slaves live in such areas. How and why did this situation come about?

There are short and long answers to these questions. Here, the short answer must suffice: For a variety of reasons (some simple, some complex), slave mortality rates were higher and slave fertility rates lower in most sugar-producing areas most of the time than was the case in (most) non-sugar-producing regions most of the time. Any list of factors responsible would include the following: the grueling work regimen in sugar; the highly morbid and mortal disease environment in most sugar-producing areas during slavery times; the age and sex ratios typical of slave imports into sugar-producing areas and the preferred age and sex ratios on sugar production units in these areas; the lactation practices amongst slaves in many sugar-producing regions,; and the natalist preferences and policies of slave owners in sugar regions.[10]

The upshot of these factors, *in toto* or in some combination, was that natural increase among slave populations generally did not occur in sugar regions or, when it did, it occurred at low rates. In contrast, African/African American slave populations in non-sugar areas (where the above considerations affecting slave fertility and mortality were quite different) generally increased at relatively impressive rates by natural means relatively soon after arrival. As a result, slave populations in sugar areas generally grew only--or at least mainly-- through the importation of slaves, while slave populations in other areas grew via both the influx of imported slaves and natural increase. Once the trans-Atlantic and intra-hemispheric slave trades were shut down at various points in the nineteenth century, sugar -producing regions, particularly those in which sugar production was still climbing rapidly, had a hard time maintaining, much less increasing their slave populations.

In contrast, the closing of the foreign slave trades, by and large, mattered little to regions devoted to other cultivations, where slave populations (and, hence, slave labor forces) had long been growing via natural means. For African Americans, there were profound long-term consequences to the demographic differences between sugar-producing and non-sugar-producing areas in slavery times. We find, for example, that as late as 1950 the Caribbean, the sugar region par excellence, was home to only about 20 percent of the African American population in the Western Hemisphere, despite having accounted for about 40 percent of the total number of African slave imports into the Western Hemisphere. In the same year the United States, a minor player in the sugar industry under slavery, was home to about a third of the African American population in the hemisphere, despite accounting for no more than 5 percent of the total number of slaves imported via the external slave trade. Brazil, where large numbers of slaves worked sugar, but large numbers of slaves were employed in other economic activities as well, we find a kind of equilibrium, to wit: 38 percent of slave imports and 37 percent of the Western Hemisphere's African American population in 1950. To be sure, establishing "race" is fraught with difficulties, and differential population flows and rates of natural increase during the post-slavery period (among other factors) play some part in explaining the hemispheric figures for 1950, but experts are unanimous that the broad contours were set by and because of the differential demographic experience for slave populations in sugar/non-sugar areas under slavery.[11]

In the section above we have emphasized the place of sugar (and to a lesser extent cotton) in the workings of the slave systems in the Americas between 1500 and the late nineteenth century. In so doing we perforce emphasized the principal sugar-producing regions in the Western Hemisphere, which is to say, the Caribbean and Brazil. We have proceeded at a very high level of generalization, obviously: Not every part of the Caribbean or Brazil produced a lot of sugar. Slaves in both the Caribbean and Brazil were involved in many other economic activities. Many slaves lived in other areas, especially in the southern part of what eventually became the United States, and relatively few of those slaves produced sugar. Clearly, we need to drill deeper into the economic workings of the slave systems of the Western Hemisphere, and, just as clearly, we need to employ the historian's most important stock-in-trade: change over time.

To say that sugar and, later, cotton made the market for slaves in the Western Hemisphere is not to imply that slaves could not be profitably employed in other activities, merely that employing slaves in such activities always had to be gauged against the relative costs/returns of employing other forms of labor in said activities and/or against the returns possible of employing slaves in sugar or, late in the history of slavery, in cotton. In the real world, of course, calculations of this sort were often implicit rather than explicit, and numerous non-economic factors--historical, familial, emotional, psychological, and the like--might also enter into any individual or even societal decision regarding the deployment of a slave or slaves. But, generally speaking, slaves were employed systematically in activities and in geographic areas where their labor earned or at least was expected to earn rates of return comparable to those possible in sugar or cotton.

What types of activities? Our argument thus far--quite properly--has stressed the role of slave labor in agricultural activities, particularly the production/manufacture of sugar, but slaves were central to the production of many other crops as well. Other major export staples grown mainly in tropical and subtropical regions of the Western Hemisphere—tobacco, rice, indigo, coffee, and cotton—come immediately to mind in this regard, but a variety of other export crops ranging from wheat to cacao and a vast range of food crops for household consumption were also cultivated by slaves. Moreover, although many view slave labor in agriculture and slave labor on plantations almost as a mathematical equality, it should be pointed out that slaves worked on agricultural units of varying sizes, and as part of labor forces ranging from one into the thousands. Similarly, although slave labor in agriculture is typically associated with field crops, slaves were commonly employed in various ways in animal husbandry, particularly cattle herding, as well. Indeed, some scholars view African/African American slaves as among the Western Hemisphere's first "cowboys."[12]

As suggested earlier, slave labor--both Native American and African/African American-- was also vital to mining operations in the Americas. Slaves were employed in significant numbers not only in the famous silver mines in the highlands of New Spain/Mexico and Peru (particularly in the latter) in the sixteenth century, but, later on, also in the placer mines of New Grenada/Colombia and Brazil. Indeed, according to some authorities—Philip Curtin, for example--there were in fact as many or African/African American slaves working in the gold mines of southwestern Brazil in the late seventeenth century and eighteenth century as there were in the more celebrated cane fields in the northeastern part of the colony. And in the latter century diamond mining—also the work of slaves—became important in southwestern Brazil as well.[13]

One could go on and on regarding the manifold uses of slave labor in the Western Hemisphere: They found extensive employment as sailors and in the fishing industry, in the transport sector, in commerce, as soldiers and military auxiliaries, and, of course, in domestic/personal service. Whereas it was once thought (even by scholars) that slaves could not successfully be employed in manufacturing, the historical record demonstrates otherwise, showing conclusively that slaves were prominently represented in all types of trades and manufactories, from ironworks in Virginia to flour mills in Tennessee, from engine shops in Charleston to sugar *ingenios* in Cuba, from textile works in antebellum Georgia and North Carolina to *obrajes* in the Viceroyalty of New Spain and *fazendas* in Brazil.

If the labor market in the Western Hemisphere for slaves was broad, it was also well developed and articulated, increasingly so over time. Slaves were bought and sold in sophisticated markets, marked by relatively good information, shrewd bargaining strategies and tactics (employed not just by buyers, but by slaves being sold, as Daina Ramey Berry has recently pointed out), well-calibrated standards, and vigilant state regulation.[14] Moreover, as time passed, risk-reduction instruments such as warranties and insurance were often available in such markets. Slaves could be hired by the day, week, month, or year in various areas—sometimes in ways analogous to "spot markets" today--and slaves sometimes entered into informal contracts with their owners to "hire out" their time in exchange for fixed payments at designated intervals. In some cases, we even find groups of slaves themselves hiring out as teams, almost as business partnerships. And, as we shall see later, slaves throughout the hemisphere often "contracted" with their masters to "sell" their "free" time (or the output produced during their free time) to them in exchange for varying forms of compensation. In no way, then, can slave markets in the Western Hemisphere be considered lacking in organization, much less as being rudimentary in nature.

The manner in which slave sales were financed adds further support for the view that slave-labor markets were well developed and relatively sophisticated. This general proposition is true whether we look at the financing of the African slave trade or the buying and selling of individual slaves in rural outposts and way stations in the Western Hemisphere. The myriad ways in which multiple layers of European, African, American--and Asian--merchant capital combined to finance the African slave trade has been well documented in recent decades. The fact that banions, dubashes, and shroffs from South Asia, Arab traders from the Mahgreb, African generals, Afro-European middlemen at coastal trade factories, drapers from northern England, and merchants in Liverpool, Sevilla, and Nantes all played roles in the financing of the African side of things only hints at the complexity of what might be called, *faute de mieux*, slave financing. [15]

On the other side of the Atlantic, we find some of these same figures—European merchants and drapers, as it were—involved, but also factors in the major ports of the Americas, back country storekeepers, and the final purchasers themselves (planters, famers, manufacturers, and the like) through retained earnings, and from the profits derived from land and slave appreciation. Government helped, too, by establishing and/or supporting institutions needed for efficient capital mobilization: the provision of clear titles to land (and thus the facilitation of mortgage markets); support for debt instruments such as bonds and promissory notes; the establishment of state banks and agricultural banks; and the licensing of private banks and insurance companies. And then there was the financial help of what we would now call NGOs--fraternal groups and religious orders and sodalities—which sometimes made money available for the acquisition of haciendas, plantations, *ingenios*, *fazendas*, and slaves (and sometimes even bought slaves themselves). The money-lending nuns in the convents of Santa Clara and Santa Catalina in seventeenth-century Cuzco, the South Carolina Society and the Vestry of St.

Thomas and St. Dennis in eighteenth -century South Carolina, and the brotherhood of the Misericórdia in eighteenth-century Bahia come to mind in this regard.[16]

In light of the fact that slave-labor markets and slave financing were both well organized and smoothly functioning, it is not surprising that slave labor itself, generally speaking, was reasonably well organized and smoothly functioning *in situ*. This is not to suggest that production platforms whereon slaves labored in the Western hemisphere during slavery times --plantations, small farms, fishing boats, mines, shops, factories, etc.--were marked by "efficiency" in the modern sense, only that possibilities for profitable production, the great desideratum of most slave owners, were not foreclosed by opting for slave labor, which, as we have seen, was often viewed as the best, if not the only viable economic choice by those that chose to buy them.

Making universal or normative statements about slave productivity in the Western Hemisphere over a period stretching almost four hundred years is in many ways a fool's errand, but, given no honorable alternative, try we must. Keep in mind, though, that occupational variation among slaves was great, and that work routines and rhythms differed century by century, region by region, unit to unit-- even for slaves doing the same job or involved in the same cultivation. And then there are the profound data gaps, lacunae, and limitations, not to mention the pregnant silences in the sources impeding exegesis and interpretation.

This said, what can we say about slave productivity, that is, about the relationship between the output of goods and services produced by slaves and the factor inputs necessary to produce the same? This question has generated a considerable scholarly literature over the years, particularly among economic historians of the American South. Although students of slavery—including first-hand observers of slavery in the Americas such as Frederick law Olmstead and Alexander von Humboldt--had often weighed in on the question (using anecdotal or, at best, non-systematic evidence), it was the publication of Robert William Fogel and Stanley L. Engerman's extremely important and controversial two-volume 1974 study *Time on the Cross: The Economics of American Negro Slavery* that led the scholarly world to focus its attention on the question and for the first time to look at slave productivity in formal terms and to attempt to measure it quantitatively.[17] The details of the firestorm that broke out after the publication of *Time on the Cross*, however interesting, cannot be treated here. To simplify matters rather dramatically, let me just say that whereas Fogel and Engerman (and those in their camp) argued that slave labor- productivity in the American South was relatively high—higher in fact that that of free farmers in the northern part of the United States in the mid-nineteenth century—their many opponents argued not only that slave productivity was decidedly *not* high but also that Fogel and Engerman *et al.* had misspecified this question and mis-measured the productivity of both slave labor and free labor in any case.[18]

If this scholarly brouhaha got nasty and overly personal at times--particularly in the 1970s and 1980s--it nonetheless forced students of slavery to analyze slave labor much more rigorously. As a result, new sources were discovered, new ways to employ older sources were developed, and new ways to conceptualize and measure slave productivity were devised. Despite considerable sound and fury, however, neither side in the debate over slave productivity ever won a clear-cut victory, and defenders of each camp occasionally lob another non-decisive scholarly grenade. [19] A word or two regarding the difficulties associated with this question may help us to understand why it still remains more or less open.

As any economist will admit straight away, productivity estimation is an extremely inexact science even today. Attempting to measure labor productivity, the relationship between labor hours worked and a given output, is tough enough, and broader productivity measures--particularly total factor productivity, which entails knowing the land, labor, and capital inputs used in the production of a given output, and the relative weight of each factor in said production-- is more difficult still. Again, even today. Now try to imagine how difficult it is to estimate, much less measure slave-labor productivity (let alone total factor productivity) when the labor input is comprised of enslaved workers in a variety of settings all over the Western Hemisphere over the course of four (largely pre-statistical) centuries.

Take agriculture, for example. We have different cultivations to consider. In different macro and micro climates. Under different production systems and routines. With work forces of varied characteristics, different age structures and gender profiles, and diverse capabilities. And, of course, all working under management schemes that ranged from proto-scientific to inept, and from barbaric to humane. And that's just to get the labor input. What about output? Here, our information is often quite incomplete, based, as it is, on extrapolation from sketchy data on yields and acreage in use, output figures for one isolated year, interpolation between output estimates for years widely separated in time, on murky export data and assumptions about export/output ratios, etc. And all of the above concerns become more problematic still if we want to estimate total factor productivity rather than labor productivity alone. In that case, we need to know about the quantity and quality of land and capital inputs, their relative intensity (factor proportions) in the production process, and whether or not said intensity was stable over time.

Despite all of these obstacles, intrepid (one can think of other adjectives) economic historians have forged ahead, and, as a result, we have a number of estimates of slave-labor productivity and a few of total factor productivity in agricultural regimes employing slave labor. Most of these estimates are of slave-labor productivity in cotton in the southern part of the United States just before the American Civil War or of slave-labor productivity in the Caribbean sugar industry at various points in time.[20] However, we also have a few studies on the other major agricultural staples in which slave labor was utilized in the Americas, tobacco and rice respectively. Some of the studies referred to above focus on the productivity of slave labor, while a few are comparative in nature, analyzing in various ways the productivity of slaves *vis à vis* agricultural workers in other settings ranging from free farmers in the northern part of the United Sates in the mid-nineteenth century to peasant rice cultivators in Burma in the period 1850-1880.[21]

What we can take away from this work? Nothing definitive certainly, but it seems fair to suggest that the extant scholarship on questions relating to slave productivity has demonstrated that slave labor could be relatively productive in *some* agricultural settings and that slave-labor productivity *sometimes* rose over sustained periods of time. The reasons for the levels and growth of slave-labor productivity varied and remain debatable. Some see the shift to slavery from less coercive forms of labor organization as providing a “one-time” boost to labor productivity. Others argue that slavery allowed for economies of scale in some cultivations and for more efficient forms of labor mobilization and direction than were possible under other forms of labor organization. The implications of some exciting recent work by Alan Olmstead and Paul Rhode opens up the possibility that slave-labor productivity on larger cotton-producing units in the southern part of the United States in the period c. 1811-1860 may have had biological origins, relating to the fact that slaveholders who employed large numbers of slaves tended to be wealthier, more interested in agricultural improvement, more immersed in agricultural technology networks, and more willing to invest in and mandate the cultivation of superior, higher-yielding cotton varieties.[22] To be sure, biology or at least the move to "better" land has long been seen as one of the reasons for rising output--and perhaps for some part of measured labor productivity--in the so-called Cotton South (and in Cuba and Brazil as well, for that matter), but Olmstead and Rhode offer a much richer, empirically-based argument for forces biological. Whether or not the findings these scholars made for cotton also hold for other cultivations is still unknown.[23]

What about the productivity of slave labor in comparative terms? As alluded to above, a longstanding debate—or, to be more precise, set of debates –has existed over the relative productivity of slave labor vs. free labor in agriculture in the United States in the mid-nineteenth century. As yet, no consensus has emerged regarding these debates, and because of the huge differences between the agricultural regions (and cultivations) in the regions characterized by slave labor and free labor in the U.S., none may be possible. On the other hand, a 1987 analysis of total factor productivity—in standard Cobb-Douglass form--

demonstrated that rice production with slave labor in South Carolina and Georgia in the mid-nineteenth century was somewhat more efficient than rice production by peasant cultivators in Lower Burma between about 1850 and 1880, the period in which Lower Burma became the greatest rice exporter in the world. [24] Regarding slave productivity in comparative terms, then, there is still much to learn. At the end of the day, however, it may just be—as Gavin Wright has recently suggested—that productivity is less important in explaining the origins and persistence of slavery than was another consideration: property rights.[25] For, as we have already seen, the rather absolute property rights associated with slaveholding enabled slaveholders to solve various kinds of labor-supply bottlenecks which in many cases (and many parts of the Americas) could have nipped profitable economic activity in the bud.

If many questions remain regarding the productivity of slave labor, most have now been answered regarding a related scholarly perennial : The profitability of the so-called peculiar institution to individual slaveowners. Whereas it was once common for scholars to argue either that slavery was unprofitable to slaveowners or that profitability was an incidental consideration to slaveowners, who were said to be motivated primarily by other concerns, now virtually all scholars of slavery believe that slavery, broadly speaking, was profitable to slaveowners and that the behavior and values of slaveowners, by and large, were either animated by--or at least consistent with and explicable via-- market logic, considerations relating to the so-called cash nexus, and bare-faced, even blunt profit and loss concerns. The most interesting questions related to “profitability” now revolve not around profits to individual slaveholders, but on broader questions, including, most notably, who else profited/benefited from slavery and who lost?

Long-term series on the rising prices of slaves in the Western Hemisphere over time and on the overall growth in the stock of wealth held in the form of human beings make it well-nigh impossible to argue that slaveholding was not profitable.[26] In the case of the U.S. , for example, in 1859 slaves comprised about 44 percent of total wealth in the "Cotton South," and about 18.75 percent of the total wealth in the entire country (more than the total comprised by railroads and manufacturing combined). [27]

To be sure, prices for export staples produced by slaves rose and fell, and industries wherein slaves were utilized sometimes collapsed, but the uses of slave labor were sufficiently varied, and slave-labor markets sufficiently flexible that slaves , by and large, were reallocated to efficient (and profitable) uses most of the time in most of the hemisphere. In the case of the United States, for example, Joshua Rosenbloom has found that during the antebellum period slave-labor markets in the South were quite efficient in reallocating workers to their "best" usages and location, which is to say, away from the older agricultural zones along the eastern seaboard and onto cotton and sugar lands in the West South Central census region ("the Old Southwest"). This finding is not particularly surprising, of course: For the most part, the internal slave trade in the region was conducted by highly specialized commercial middlemen—aka slave traders—who established and maintained marketing channels characterized by good information and organization, considerable standardization, and well developed financing mechanisms.[28]

Moreover, while it is still possible to argue that slavery, for a complex variety of reasons, held back the U.S. South's urbanization and industrialization, it is difficult to maintain that, in utilizing slaves on cotton plantations and in cane fields in the Old Southwest , planters were somehow misguided, let alone economically irrational.[29] Indeed, speaking more broadly: Given the production possibilities available, supply and demand considerations (particularly relating to agricultural export staples, gold, and silver in extra-regional and international markets), and the *mentalités* of most of those who owned slaves and most of those otherwise implicated in the slave economies, it is not especially surprising where and how slaves were deployed in the Western Hemisphere or that, generally speaking, such deployments were profitable to many individuals and groups. Many, but not all, I hasten to add.

Who (or what) besides individual slaveowners stood to profit—or to lose—from the institution of slavery? The slaves themselves clearly lost –of that there can be no doubt--and it is likely that Africa lost both in social and economic terms. In a recent econometric study , Harvard economist Nathan Nunn has estimated just how much the slave trades cost Africa in terms of economic (and political) development.[30] One thing lacking in Nunn's analysis, however, is a consideration of how much Africa was aided in a material sense by the so-called Columbian exchange of biota—particularly by the introduction of American foodstuffs such as maize and manioc—and how much (if at all) said introduction was sped up by the slave trade.[31]

Whether or not the European governmental entities that sanctioned slavery and fostered the development of slave societies in the Western Hemisphere profited *qua* governmental entities from the slave trade and slavery is still debatable, but, certainly, both individuals and certain groups, classes, and constituencies in the metropolises did. Slave traders, merchants, and commercial middlemen come immediately to mind, and, in some cases and in some ways, European manufacturers and industrial interests may have profited as well, though not necessarily in the straightforward way suggested by Eric Williams in the 1940s.[32] In a material sense the biggest winners in Europe and elsewhere were arguably those that consumed commodities, goods, and services produced by American slaves, particularly those that consumed slave-produced sugar, rice, tobacco, and coffee, those that purchased articles fashioned out of gold and silver mined by slaves, and those that bought machine-made textiles produced from slave-grown cotton. Clearly, some part of the surplus extracted from slave labor in the Western hemisphere was passed along to consumers in the form of cheap carbohydrates, cheap plate, and cheap cloth and clothing.

There were other winners, too, most notably, mercantile, financial, and industrial groups throughout the *Western Hemisphere* that were implicated in some way in slavery's plot. A number of scholars have argued, moreover, that in slave societies some non-slaveholding farmers benefited, too, by embedding themselves in one way or another in the slave economy. Just as small businesses today often benefit by selling to or providing services for large corporations, in slavery times yeomen and others often pursued similar strategies. Here it is important to remember that large slave plantations and mining operations were among, if not *the* largest business entities in the Western Hemisphere for most of the period in which slavery existed.[33] In the U.S. case it is likely that the populations in the free states were winners as well, because their taxes were lower than they would have been without the income from tariffs collected on imported goods financed by exports of southern cotton, tobacco, and rice. [34]

Clearly, then, many profited or at least benefited in broader ways from slavery. Careful readers will note, however, that we have yet discussed the overall effects of slavery on the economic growth and development of areas where the institution played an important role. It is to this hugely important and controversial topic that we now shall turn.

Economic growth and its sometimes companion, development--a broader concept that incorporates a range of qualitative changes such as a shift toward a more sophisticated economic structure, the establishment, if not institutionalization of a relatively sustainable growth path, and evidence of a host of demographic/social/political changes that were once subsumed under the rubric of "modernization"—have long been the great desiderata of *homo oeconomicus* (as well as most everyone else!) and the most common measuring sticks for evaluating a given economy's performance. To be sure, it is possible to think of other desirable economic ends, and there are alternative ways to assess an economy's performance—in terms of equality or perhaps even the size of a given economy's carbon footprint, for example—but most specialists still believe that evaluating economies in terms of growth and development can offer us important insights about their overall performance.

Assessing the slave economies of the Western Hemisphere on the basis of growth and development is tricky for a variety of reasons: matters of definition, Intervening variables, and truncation problems to name but three of the most obvious. Let us start with definitional concerns. Most economists define economic growth as a sustained rise in per capita income or output. Unlike the case in economies organized on the basis of free labor, it is not clear in economies wherein slaves are present how to define "per capita." Put another way, should slaves be considered part of the population denominator when we're dividing up income or output on a per capital basis? The decision we make on this matter matters a lot, increasingly so as the slave proportion of the population grows. The best solution to this problem, arguably, is to define and measure "per capita" in a variety of ways when considering questions relating to economic growth, per capita income, per capita wealth, etc., in slave economies. Unfortunately, relatively few scholars studying such questions have done so, which makes for interpretative problems. To further complicate definitional matters: What do we do about the fact that in slave economies a large, often overwhelming proportion of total wealth consisted of "slave capital," which is to say, human beings? This makes comparison with free-labor economies quite difficult, as economists going back at least as far as John Stuart Mill have pointed out, because free laborers do not show up as "wealth" in anyone's portfolio.[35] Here, again, a solution is to define wealth in slave economies in a variety of ways, including and excluding wealth held in the form of slaves, but here, too, few scholars have taken this path.

Then there are the problems relating to causation. One can't necessarily assume that slavery, however powerful, was the only important variable involved in shaping an economy even when the institution clearly played a major role. For one thing, since the slave economies in the Western Hemisphere were concentrated in the "extended Caribbean," as we have seen, and, since the human population in much of this broad region was plagued by heavy disease loads, disease rather than (or, more likely, in addition to) slavery was probably an important factor in determining the course of the slave economies located therein. Scholars ranging from Pierre Gourou, writing a half century ago, to Jeffrey Sachs today have pointed out that in the tropics especially, people are often poor because they are sick rather than sick because they are poor, as is sometimes assumed. [36] Those interested in evaluating the performance of the slave economies and the relationship between slavery and said performance must perforce allow for the fact that other factors such as disease (not to mention power relations between and among geopolitical entities with varying degrees of might) helped determine the extent to which growth and development occurred. Slavery, that is to say, was *not* the only independent variable involved.

Let us now turn to the truncation problem mentioned above, which in this case relates not to the well-known set of problems subsumed under that rubric in statistics and actuarial science, but rather one arising from what might be called temporal truncation. Two of the principal slave societies in the Western Hemisphere, that is to say—Saint-Domingue and that in the southern part of the United States—were destroyed in full flower, in the first case as a result of the Haitian Revolution (1791-1804) and in the second , between 1861-1865, as a result of the American Civil War. In other words, we do not know for sure how these societies would have *evolved* economically in the absence of the unforeseen cataclysmic shocks that ended slavery and fundamentally reshaped not only the regions' economic positions, but also their structures of opportunity and, presumably, long-term economic trajectories. We can, of course, gain certain insights from the experiences of other slave economies wherein the demise of slavery came less abruptly--in the British Caribbean, in Cuba, and in Brazil, for example--but we must nonetheless admit that our conclusions about these two places at least are based largely on inference and informed conjecture rather than upon actual historical experience.

Even with the above qualifications in mind, it seems fair to say that most of the slave economies in the Western Hemisphere experienced periods, sometimes relatively sustained periods, of economic growth. A number of them were still growing right up until the end of slavery, which offers some support for Seymour Drescher's famous argument that in the case of the British Caribbean, slavery did not die out because it was unprofitable, but through a self-conscious, morally-driven policy of "econocide." [37] This said, it also seems fair to point out that none of the slave economies, however robust, showed strong signs over time of developing economically. The American South probably came closest, but, even in this case, we find that on the eve of the American Civil War this region lagged far behind the free states in the North in almost every developmental indicator--quantitative and qualitative-- relating to urbanization, industrialization, transportation, labor-force composition, education, technological innovation, and domestic demand. [38] As a result in large part of the cotton boom of the 1850s the region was growing relatively rapidly and accumulating considerable wealth, but the structure and degree of sophistication of the southern economy were not changing in commensurate ways.

Moreover, the American South c. 1860 by and large was considerably more advanced economically than the other major slave economies in the Western Hemisphere. If recent work, such as that by Laird W. Bergad, demonstrates that the slave economies of Cuba and Brazil were also growing in the 1850s and exhibited a number of the same patterns as the

American South, no one argues that these economies, let alone slave economies in the other parts of the circum-Caribbean were at that time on par with the southern part of the United States.[39] In other words, if the American South was not developing as it grew, neither was any other slave economy in the hemisphere.

Not only did slave economies in the Western Hemisphere fail to develop when labor markets therein were organized around the peculiar institution, but in many cases the legacy and long-term effects of slavery impeded growth long after emancipation. Indeed, the structural imbalances, distortions , and asymmetries characteristic of most slave economies, coupled with the deficiencies in capital--financial, human, and cultural—that freedmen and women had to make up after emancipation often meant that such economies, in the aftermath of slavery, often suffered (again in a path-dependent/path-influenced way) through generations of stagnation, poverty, and inequality. In a few extreme cases, alas, slavery may even have led to what some scholars call "the development of underdevelopment."[40]

Thus far, all this talk of the relationship between slavery, on the one hand, and growth and development, on the other, has been cast largely in the framework of standard economic accounting, as it were, but, in thinking about the economic position of enslaved peoples themselves, other frames can also be useful. For example, the "basic needs" approach, popular among development economists in the 1970s and 1980s, assesses performance on the basis of criteria such as infant mortality, nutritional well-being and overall health, life expectancy, housing, and literacy. Judged along these lines, slaves in most parts of the Western Hemisphere did not fare well overall, but even here, there were some anomalies and exceptions. In the American South, a number of anthropometric studies have shown that slaves' diets, clothing and housing generally were at least minimally adequate, and that their net nutrition was sufficient for *adult slaves* to achieve fairly impressive height levels and normal BMIs. [41] Even here, though, it is chilling to learn (from data assembled by Richard Steckel) that the growth of young slaves was often stunted, which suggests that whatever "catch up" in growth they were able to achieve came about only after they were old enough to contribute economically to the bottom line of their owners. [42] No such thing, then, as the "priceless" child under slavery.

Moreover, both the adequacy of slaves' diets and the fact that adult slaves were relatively tall often owed much to slaves' own efforts in improve their material living standards by working for themselves on their "own" time. Indeed, such efforts, often subsumed under broad rubrics such as "the slaves' economy" or the "internal economy" have generated a significant literature in recent decades, allowing us to understand more clearly than ever before both the material worlds of slaves and the dynamics of master-slave relations.[43] As a result, we now know a good deal about slaves' economic strategies, their bargaining tactics with their masters, the manner in which the "internal economy" supported, supplemented, and articulated with the external economy, and about slave property-holding and wealth accumulation. The most complete data available thus far are for the Caribbean and for the American South, but the picture in other regions is beginning to fill out as well. Although some broad patterns have emerged, a number of important questions relating to the internal economy remain open: Why and at whose behest did it originate? Whose overall interests did it serve: Slaves or masters –or both? Can we use limited quantitative data on slave wealth-holding (and sometimes even slave income) via careful extrapolation to estimate wealth or income levels for entire slave populations? What were the internal economy's overall effects both on the material (and spiritual) well-being of slaves and on the economy as a whole?

Just as recent scholarship on the internal economy of slaves has generated new insights into the overall economics of slavery, other new sources, new approaches, and new lines of enquiry have done so as well. In this regard, one can point, for example, to recent work on slavery employing the IPUMS (Integrated Public Use Micro Sample) of the federal censuses of the U.S., developed at the University of Minnesota, and to scholarship utilizing GIS tools and technology in innovative ways to map both slavery and economic patterns in slave economies. Several scholars--Stanley Engerman and Kenneth Sokoloff, most notably-- have refined our understanding of the relationship between factor endowments and institutions (including slavery) in the Western Hemisphere, in so doing, endogenizing cultural patterns to boot. [44] Provocative demographic and anthropometric work continues to enrich our understanding of the economics of slavery, as have studies employing insights from the new microeconomics, particularly the economics of information.[45] And feminist scholars and historians of women, in analyzing sexual divisions of labor and infra-household economics, have done so as well. [46]

This said, there is more work to be done and, by now, more work *should* have been done on the economics of slavery. In recent decades, though, many economic historians have tended to shy away from studying the *economics* of slavery, fearful that studying this topic would seem insensitive to post-modern sensibilities or even that they themselves would be considered insufficiently discomfited by one of the history's great enormities. This tendency was aided, too, by the cultural turn in the humanities and social sciences, a turn which in a relative sense devalued quantitative work—the "icy water of egotistical calculation" and all that –if not the entire material world.[47] These developments are unfortunate because the past, as we know, is full of distasteful, even villainous agents, events, processes, and institutions--slavery among them—that need to be understood. In averting our scholarly gaze, we may feel smug and self-righteous but, in so doing, at the end of the day we delude only ourselves.

[1] See, for example, David Brion Davis, *The Problem of Slavery in Western Culture* (New York: Oxford University Press, 1966); Orlando Patterson, *Slavery and Social Death: A Comparative Study* (Cambridge: Harvard University Press, 1982); Davis, *Inhuman Bondage: The Rise and Fall of Slavery in the New World* (New York: Oxford University Press, 2006).

[2] For still provocative introductions to most of the key issues involved in these debates, see Eugene D. Genovese, "The American Slave Systems in World Perspective," in Genovese, *The World the Slaveholders Made: Two Essays* in *Interpretation* (New York: Random House, 1969), pp. 3-113; Elizabeth Fox-Genovese and Eugene D. Genovese, *Fruits of Merchant Capital: Slavery and Bourgeois Property in the Rise and Expansion of Capitalism* (New York: Oxford University Press, 1983).

[3] Evsey D. Domar, "The Causes of Slavery of Serfdom: A Hypothesis," *Journal of Economic History* 30 (March 1970): 18-32; Stanley L. Engerman and Kenneth L. Sokoloff, "Factor Endowments, Institutions, and Differential Paths of Growth among New World Economies: A View from Economic Historians of the United States," in Stephen Haber, ed., *How Latin America Fell Behind: Essays on the Economic Histories of Brazil and Mexico, 1800-1914* (Stanford: Stanford University Press, 1997), pp. 260-314; Engerman and Sokoloff, "Institutions, Factor Endowments, and Paths of Development in the New World," *Journal of Economic Perspectives* 14 (Summer 2000): 217-232; Engerman and Sokoloff, "Factor Endowments, Inequality, and Paths of Development among New World Economies, "*Economia* 3 (Fall 2002): 41-109.

[4] On slavery as a form of property rights, see Gavin Wright, *Slavery and American Economic Development* (Baton Rouge: Louisiana State University Press, 2006).

[5] See Philip D. Curtin, *The Rise and Fall of the Plantation Complex: Essays in Atlantic History*, 2d ed. (New York: Cambridge University Press, 1998); Richard B. Sheridan, *Sugar and Slavery: An Economic History of the British West Indies, 1623-1775* (Baltimore: Johns Hopkins University Press, 1974); Gavin Wright, “Economics of Slavery,” in Randall M. Miller and John David Smith, eds. Updated edition, *Dictionary of Afro-American Slavery* (Westport, Conn.: Praeger, 1997), pp. 200-209.

[6] On the phrase “extended Caribbean,” See Immanuel Wallerstein, *The Modern World System*, 3 vols. thus far (New York: Academic Press, 1974-1989), Vol. 2 (1980): 103.

[7] For discussions of these concerns, see Philip D. Morgan, “Slave Trade: Transatlantic,” in Paul Finkelman and Joseph C. Miller, eds., *Macmillan Encyclopedia of World Slavery*, 2 vols. (New York: Macmillan Reference USA, 1998), 2: 837-844; Herbert S. Klein, *The Atlantic Slave Trade* (New York: Cambridge University Press, 1999), passim; John Thornton, *Africa and Africans in the Making of the Atlantic World, 1400-1800*, 2d ed. (New York: Cambridge University Press, 1998), pp. 98-151 esp.; Philip D. Curtin, “Epidemiology and the Slave Trade,” *Political Science Quarterly* 83 (June 1968): 190-216.

[8] See Alfred W. Crosby, Jr., *The Columbian Exchange: Biological and Cultural Consequences of 1492* (Westport, Conn.: Greenwood Press, 1972), pp. 35-63; Curtin, “Epidemiology and the Slave Trade.” For the now classic account of the entrenchment of African slavery in British

North America, see Edmund S. Morgan, *American Slavery, American Freedom: The Ordeal of Colonial Virginia* (New York: W.W. Norton, 1975).

[9] This estimate of the total number of Africans imported as slaves into the Western Hemisphere (c. 1500-1870) is based on figures in Morgan, "Slave Trade: Transatlantic," 2: 837; Klein, *The Atlantic Slave Trade*, pp. 210-211; "Estimates," website: *Voyages: The Trans-Atlantic Slave Trade Database*, Emory University, http://www.slavevoyages.org/tast/assessment/estimates/faces. On the geographical distribution of imports, see Klein, *The Atlantic Slave Trade*, pp. 210-211; "Estimates," on *Voyages* website. Much of the fundamental compilation work on numbers and destinations was done by Philip D. Curtin in *The Atlantic Slave Trade: A Census* (Madison: University of Wisconsin Press, 1969).

[10] For good discussion of these demographic issues, see Kenneth F. Kiple, *The Caribbean Slave: A Biological History* (New York: Cambridge University Press, 1984). For a closer look at one part of the Caribbean, see Barry W. Higman, *Slave Populations in the British Caribbean 1808-1834* (Baltimore: Johns Hopkins University Press, 1984).

[11] Curtin, *The Atlantic Slave Trade*, pp. 89-92.

[12] James Lockhart and Stuart B. Schwartz, *Early Latin America: A History of Colonial Spanish America and Brazil* (New York: Cambridge University Press, 1983), pp. 381-383; Herbert S. Klein and Ben Vinson III, *African Slavery in Latin America and the Caribbean*, 2d ed. (New York:

Oxford University Press, 2007), p. 25; Peter H. Wood, *Black Majority: Negroes in Colonial South Carolina from 1670 Through the Stono Rebellion* (New York: Knopf, 1974), pp. 28-33.

[13] Curtin, *The Rise and Fall of the Plantation Complex*, pp. 100-102; Klein and Vinson, *African Slavery in Latin America and the Caribbean*, pp. 24-25, 28, 65-6, 77-78.

[14] On the economic strategies and bargaining tactics employed by slaves to optimize outcomes at sales and auctions, see Daina Ramey Berry, "'We'm Fus' Rate Bargain': Value, Labor, and Price in a Georgia Slave Community," in Walter Johnson, ed., *The Chattel Principle: Internal Slaves Trades in the Americas* (New Haven: Yale University Press, 2004), pp. 55-71.

[15] See, for example, Peter A. Coclanis, "Atlantic World or Atlantic/World?" *William and Mary Quarterly*, 3d ser., 58 (October 2006): 725-742; Philip D. Curtin, *Cross-Cultural Trade in World History* (New York: Cambridge University Press, 1984), pp. 15-59; Curtin, Th*e Rise and Fall of the Plantation Complex*, pp. 29-45, 211.

[16] Jacob M. Price, *Capital and Credit in British Overseas Trade: The View from the Chesapeake, 1700-1776* (Cambridge: Harvard University Press, 1980); Peter A. Coclanis, *The Shadow of a Dream: Life and Death in the South Carolina Low Country, 1670-1920* (New York: Oxford University Press, 1989), pp. 102-106; Russell R. Menard, "Financing the Lowcountry Export Boom: Capital and Growth in Early South Carolina," *William and Mary Quarterly*, 3d. ser., 51 (October 1994): 659-676; Stuart B. Schwartz, *Sugar Plantations in the Formation of Brazilian Society: Bahia, 1550-1835* (New York: Cambridge University Press, 1985), pp. 204-218; Kathryn

Burns, *Colonial Habits: Convents and the Spiritual Economy of Cuzco, Peru* (Durham: Duke University Press, 1999), pp. 41-69, 132-154, and passim.

[17] Robert William Fogel and Stanley L. Engerman, *Time on the Cross: The Economics of American Negro Slavery*, 2 vols. (Boston: Little, Brown, 1974).

[18] See Paul David *et al*., *Reckoning with Slavery: A Critical Study in the Quantitative History of American Negro* Slavery (New York: Oxford University Press, 1976); Herbert G. Gutman, *Slavery and the Numbers Game: A Critique of* Time on the Cross (Urbana: University of Illinois Press, 1975); Fox-Genovese and Genovese, *Fruits of Merchant Capital,* pp. 90-171; Gavin Wright, *The Political Economy of the Cotton South: Households, Markets, and Wealth in the Nineteenth Century* (New York: W.W. Norton, 1978); Peter A. Coclanis, "Time on the Cross," in William A. Darity, Jr., ed., *International Encyclopedia of the Social Sciences*, 2d ed., 9 vols. (Detroit: Macmillan Reference USA, 2008), 8: 366-368.

[19] Robert William Fogel, *Without Consent or Contract: The Rise and Fall of American Slavery* (New York: W.W. Norton, 1989); Robert William Fogel and Stanley L. Engerman, eds., *Without Consent or Contract: The Rise and Fall of American Slavery, Technical Papers*, 2 vols. (New York: W.W. Norton, 1992); Fogel, *The Slavery Debates, 1952-1990* (Baton Rouge: Louisiana State University Press, 2003); Elizabeth B. Field-Hendry and Lee A. Craig, "The Relative Efficiency of Free and Slave Agriculture in the Antebellum United States: A Stochastic Production Frontier Approach," in David Eltis, Frank D. Lewis, and Kenneth L. Sokoloff, eds., *Slavery in the*

Development of the Americas (New York: Cambridge University Press, 2004), pp. 236-257; Wright, *Slavery and American Economic Development*, pp. 83-122 esp.

[20] See the works mentioned in note 19. Also see David Eltis, Frank D. Lewis, and Kenneth L. Sokoloff, "Introduction," in Eltis, Lewis, and Sokoloff, eds., *Slavery in the Development of the Americas*, pp. 1-27; David Eltis, Frank D. Lewis, and David Richardson, "Slave Prices, the African Slave Trade, and Productivity in the Caribbean, 1674-1807," *Economic History Review* 58 (October 2005): 673-700.

[21] On tobacco, see Lorena S. Walsh, "Slave Life, Slave Society, and Tobacco Production in the Tidewater Chesapeake, 1620-`820," in Ira Berlin and Philip D. Morgan, eds., *Cultivation and Culture: Labor and the Shaping of Slave Life in the Americas* (Charlottesville: University Press of Virginia, 1993), pp. 170-199. On rice, see Peter A. Coclanis and John Komlos, "Time in the Paddies: A Comparison of Rice Production in the Southeastern United States and Lower Burma in the Nineteenth Century," *Social Science History* 11 (Fall 1987): 343-354; Peter C. Mancall, Joshua Rosenbloom, and Thomas Weiss, "Agricultural Labor Productivity in the Lower South, 1720-1800," *Explorations in Economic History* 39 (October 2002): 390-424.

[22] Alan L. Olmstead and Paul Rhode, "'Wait a Cotton Pickin' Minute': A New View of Slave Productivity," Working Paper, August 2006.

[23] Fogel and Engerman, *Time on the Cross*, 1: 196-199; Laird W. Bergad, *The Comparative Histories of Slavery in Brazil, Cuba, and the United States* (New York: Cambridge University Press, 2007), pp. 132-164.

[24] Coclanis and Komlos, "Time in the Paddies."

[25] Wright, *Slavery and American Economic Development*.

[26] Stanley L. Engerman, Richard Sutch, and Gavin Wright, "Slavery," in Susan B. Carter, Scott S. Gartner, Michael Haines, Alan Olmstead, Richard Sutch, and Gavin Wright, eds., *Historical Statistics of the United States: Earliest Times to the Present, Millennial Edition*, 5 vols. (New York: Cambridge University Press, 2006) 2: 369-374, esp. 372-373; Schwartz, *Sugar Plantations in the Formation of Brazilian Society*, p. 190, Figure 7-4; Eltis, Lewis, and Richardson, "Slave Prices, the African Slave Trade, and Productivity in the Caribbean, 1674-1807"; Bergad, *The Comparative Histories of Slavery in Brazil, Cuba, and the United States*, pp. 157-164.

[27] Roger Ransom and Richard Sutch, "Capitalists without Capital: The Burden of Slavery and the Impact of Emancipation," *Agricultural History* 62 (Summer 1988): 133-160; James L. Huston, *Calculating the Value of the Union: Slavery, Property Rights, and the Economic Origins of the Civil* War (Chapel Hill: University of North Carolina Press, 2003), p. 65.

[28] Joshua L. Rosenbloom, *Looking for Work, Searching for Workers: American Labor Markets during Industrialization* (New York: Cambridge University Press, 2002), pp. 40-47 and passim.

[29] Claudia D. Goldin effectively countered simple arguments about the (allegedly negative) relationship between slavery and cities in *Urban Slavery in the American South, 1820-1860: A Quantitative History* (Chicago: University of Chicago Press, 1976). In more subtle ways, however, slavery likely did hold back urbanization and industrialization in slave economies by impeding the development of the domestic market. See William N. Parker, "Slavery and

Southern Economic Development: An Hypothesis and Some Evidence," *Agricultural History* 44 (January 1970): 115-125; Robert E. Gallman and Ralph V. Anderson, "Slaves as Fixed Capital: Slave Labor and Southern Economic Development," *Journal of American History* 64 (June 1977): 24-46.

[30] Nathan Nunn, "The Long-Term Effects of Africa's Slave Trades," National Bureau of Economic Research, NBER Working Paper 13367, September 2007, http://www.nber.org/papers/w13367. Also see Joseph E. Inikori and Stanley L. Engerman, "Introduction: Gainers and Losers in the Atlantic Slave Trade," in Inikori and Engerman, eds., *The Atlantic Slave Trade: Effects on Economies, Societies, and Peoples in Africa, the Americas, and Europe* (Durham, N.C.: Duke University Press, 1992), pp. 1-21.

[31] Crosby, *The Columbian Exchange*, pp. 185-188.

[32] Eric E. Williams, *Capitalism and Slavery* (Chapel Hill: University of North Carolina Press, 1944); Heather Cateau and S.H.H. Carrington, eds., *Capitalism and Slavery Fifty Years Later: Eric Eustace Williams—A Reassessment of the Man and His Work* (New York: Peter Lang, 2000); Carrington, *The Sugar Industry and the Abolition of the Slave Trade, 1775-1810* (Gainesville: University Press of Florida, 2002); Wright, *Slavery and American Economic Development*, pp. 35-40.

[33] Alfred D. Chandler, Jr., *The Visible Hand: The Managerial Revolution in American Business* (Cambridge: The Belknap Press of Harvard University Press, 1977), pp. 62-67.

[34] J. Bradford DeLong, "Who Benefited From North American Slavery," Paper, Fall 2007, http://delong.typepad.com/113_F07/20070910_cuibono.pdf

[35] John Stuart Mill, *Principles of Political Economy…,* ed. W.J. Ashley, 7th ed. (London: Longmans, Green, 1909, originally published 1848), p. 8.

[36] Pierre Gourou, *The Tropical World: Its Social and Economic Conditions and Its Future Status*, 2d. ed., trans. E.D. Laborde (London: Longmans, Green, 1958), pp. 6-12; Jeffrey D. Sachs, *The End of Poverty: Economic Possibilities for Our Time* (New York: Penguin Press, 2005), pp. 188-209 and passim. Also see James P. Smith, "Healthy Bodies and Thick Wallets: The Dual Relationship between Health and Economic Status," *Journal of Economic Perspectives* 13 (Spring 1999): 145-166.

[37] Seymour Drescher, *Econocide: British Slavery in the Era of Abolition* (Pittsburgh: University of Pittsburgh Press, 1977); Drescher, *The Mighty Experiment: Free Labor versus Slavery in British Emancipation* (New York: Oxford University Press, 2002).

[38] See, for example, Eugene D. Genovese, *The Political Economy of Slavery: Studies in the Economy and Society of the Slave South* (New York: Random House, 1965), pp. 13-39 esp.;

Coclanis, *The Shadow of a Dream*, pp. 111-158.

[39] Bergad, *The Comparative Histories of Slavery in Brazil, Cuba, and the United States*, pp. 132-164. Also see Richard Graham, "Slavery and Economic Development: Brazil and the United

States South in the Nineteenth Century," *Comparative Studies in Society and History* 23 (October 1981): 620-655.

[40] See, for example, Roger L. Ransom and Richard Sutch, *One Kind of Freedom: The Economic Consequences of Emancipation* (New York: Cambridge University Press, 1977); Gavin Wright, *Old South, New South: Revolutions in the Southern Economy Since the Civil War* (New York: Basic Books, 1986); Alex Dupuy, *Haiti in the World Economy: Class, Race and Under Development since 1700* (Boulder, Colo.: Westview Press, 1988); Jay R. Mandle, *Not Slave, Not Free: The African American Economic Experience Since the Civil War* (Durham, N.C.: Duke University Press, 1992); Rebecca J. Scott, "Exploring the Meaning of Freedom: Postemancipation Societies in Comparative Perspective," in Scott *et al*., *The Abolition of Slavery and the Aftermath of Emancipation in Brazil* (Durham, N.C.: Duke University Press, 1988), pp. 1-21; Pieter C. Emmer, "The Big Disappointment: The Economic Consequences of the Abolition of Slavery in the Caribbean, 1833-1888," History in Focus website, Institute of Historical Research, University of London, Spring 2007, http://www.history.ac.uk/ihr/Focus/Slavery/articles/emmer.html. For the classic formulation of the "development of underdevelopment" line, see Andre Gunder Frank, "The Development of Underdevelopment," *Monthly Review* 18 (September 1966): 17-31.

[41] Fogel and Engerman, *Time on the Cross*, 1: 109-126; Richard H. Steckel, "Slave Height Profiles from Coastwise Manifests," *Explorations in Economic History* 16 (October 1979): 363-380; Steckel, "The Nutrition, Health, and Mortality of American Slaves from Childhood to Maturity," *Journal of Economic History* 46 (September 1986): 721-741; John Komlos, "The

Stature of Runaway Slaves in Colonial America," in Komlos. ed., *Stature, Living Standards, and Economic Development: Essays in Anthropometric History* (Chicago: University of Chicago Press, 1994), pp. 93-116. Note that the "basic needs" approach to development was perhaps most closely associated with the strategies and policies of the United Nations Development Program.

[42] See Richard H. Steckel and Robert A. Margo, "The Heights of American Slaves: New Evidence on Slave Nutrition and Health," *Social Science History* 6 (Fall 1982): 516-538; Steckel, "A Peculiar Population"; Steckel, "A Pernicious Side of Capitalism: The Care and Feeding of Slave Children" Working Paper, July 2007, http://web.econ.ohiostate.edu/rsteckel/VITA/2007%20Pernicious.pdf.

[43] See, for example, the essays in Ira Berlin and Philip D. Morgan, eds., *The Slaves' Economy: Independent Production by Slaves in the Americas* (London: Frank Cass, 1991). Also see Michael Mullin, *Africa in America: Slave Acculturation and Resistance in the American South and the British Caribbean, 1736-1831* (Urbana: University of *Illinois Press, 1992); Stuart B. Schwartz, Slaves, Peasants, and Rebels: Reconsidering Brazilian Slavery (Urbana: University of Illinois Press, 1992), pp. 65-101; Roderick A. McDonald, The Economy and Material Culture of Slaves: Goods and Chattels on the Sugar Plantations of Jamaica and Louisiana* (Baton Rouge: Louisiana State University Press, 1993); Betty Wood, *Women's Work, Men's Work: The Informal Slave Economies of Lowcountry Georgia* (Athens: University of Georgia Press, 1995); Dylan C. Penningroth, *The Claims of Kinfolk: Property and Community in the Nineteenth-Century South* (Chapel Hill: University of North Carolina Press, 2003); Anthony E. Kaye, *Joining Places: Slave Neighborhoods in the Old South* (Chapel Hill: University of North Carolina Press, 2007).

[44] See Engerman and Sokoloff, "Factor Endowments, Institutions, and Differential Paths of Growth among New World Economies"; Engerman and Sokoloff, "Factor Endowments, Inequality, and Paths of Development among New World Economies."

[45] Peter A. Coclanis, "How the Low Country Was Taken to Task: Slave-Labor Organization in Coastal South Carolina and Georgia," in Robert Louis Paquette and Louis A. Ferleger, eds., *Slavery, Secession, and Southern History* (Charlottesville: University Press of Virginia, 2000), pp. 59-78; Richard Follett, "Slavery and Technology in Louisiana's Sugar Bowl," in Susanna Delfino and Michele Gillespie, eds., *Technology, Innovation, and Southern Industrialization: From the Antebellum Era to the Computer Age* (Columbia: University of Missouri Press, 2008), pp. 68-96.

[46] Elizabeth Fox-Genovese, *Within the Plantation Household: Black and White Women of the Old South* (Chapel Hill: University of North Carolina Press, 1988); Stephanie McCurry, *Masters of Small Worlds: Yeoman Households, Gender Relations, and the Political Culture of the Antebellum South Carolina Low Country* (New York: Oxford University Press, 1995); David Barry Gaspar and Darlene Clark Hine, eds., *More Than Chattel: Black Women and Slavery in the Americas* (Bloomington: Indiana University Press, 1996); Deborah Gray White, *Ar'n't I a Woman?: Female Slaves in the Plantation South*, Rev. ed. (New York: W.W. Norton, 1999); Hilary McD. Beckles, *Centering Women: Gender Discourses in Caribbean Slave Society* (Kingston, Jamaica: Ian Randle Publishers, 1999); Brian L. Moore, *et al*., eds. *Slavery, Freedom, and Gender: The Dynamics of Caribbean Society* (Kingston, Jamaica: University of the West Indies Press, 2001); Mieko Nishida, *Slavery and Identity: Ethnicity, Gender, and Race in Salvador, Brazil, 1808-1888* (Bloomington: Indiana University Press, 2003).

[47] Karl Marx and Frederick Engels, *The Communist Manifesto*, ed. Joseph Katz, trans. Samuel Moore (New York: Washington Square Press, 1964; originally published 1848), p. 62.

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Economics of Slavery. The profitability of the slave trade to Europeans has been debated by historians, yet even if this aspect is contentious, the productivity of slave labor is undeniable. Further, the controlled labor of millions of people has been linked, directly or indirectly, to the rise of European industrialization, capitalism, the scientific revolution, rapid population growth, huge migrations, and changing social roles for men, women, and children, to name just a few.Â A major text on the economics of slavery is: Robert William Fogel and Stanley L. Engerman, Time on the Cross: The Economics of American Negro Slavery. Boston: Little, Brown and Company, 1974. These scholars argued that Economies which used slavery may, in the long run, have been at a disadvantage. Some analyses suggest that the economic contradictions of slavery led to its inevitable demise. But slavery had indirect effects on other economies. Douglass North, a Nobel-Prize-winning economist, argued that the expansion of Southern plantation slavery was at the centre of midwestern economic development in the nineteenth century (though the South's demand for certain foodstuffs). And other research looks at slavery's effects on economies outside America.Â The economics of slavery in the ante bellum South. The Journal of Political Economy, 66(2), 95-130. Fogel, R. W. (1995). Fogel, R.W. & Engerman, S.L. (1974) Time on the cross: The economics of American Negro slavery. Yet as the use of slaves diminished in the North over time, it increased in the Southern states. This was because it was advantageous for the landowners to use slaves instead of hiring white free laborers who might cost more, strike, or quit. Their plantations depended on increased production of export crops on increasingly tired soil.Â Contrary to views espoused by critics of the system at the time, slave labor was productive. Slaveholders in the South extracted sufficient labor from their slaves to produce a considerable surplus each year. They did this with a combination of coercion and incentives that implies a very close control of labor by the master.