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CAPITALISTS WITHOUT CAPITAL: THE BURDEN OF SLAVERY AND THE IMPACT OF EMANCIPATION

> Where the capitalist outlook prevails, as on American plantations, this entire surplus value [of slave labor] is regarded as profit. ... The price paid for a slave is nothing but the anticipated and capitalised surplus-value or profit to be wrung out of the slave.
>
> Karl Marx, Capital[1]

Karl Marx recognized the capitalist nature of American slavery long before American historians. The historians, of course, had always known that the essential economic feature of American slavery was that human labor had been capitalized. Black men and women were owned. They could be bought and sold, moved anywhere within the south at their owner's will, and put to any work their owner commanded.[2] But, what Marx also understood was that the slave holding existed to make a profit for the owner. The entire labor product of the slave family, above whatever provision for food and other necessities the owner cared to make, was expropriated. That residual was the owner's profit and the expectation of a continued flow of such returns made slave property an earning asset. The price paid for a slave

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1. Karl Marx, Capital: A Critique of Political Economy, Vol. 3, "The Process of Capitalist Production as a Whole," Frederick Engles, editor (London: 1894), p. 804.

2. For an extended discussion of these points see Richard Sutch, "The Treatment Received by American Slaves: A Critical Review of the Evidence Presented in Time on the Cross." Explorations in Economic History 12 (October 1975): 335-438.

reflected the consensus of the buyer and seller concerning the potential value of the continuous stream of profits that could be extracted from the slave and, in the case of a female, from her descendants as well.

The Capitalist Nature of Slavery

Today, Marx would find no disagreement with American historians on these points.[3] However, this is because there has been a change of view. Until about thirty years ago, American historians denied that there was profit in slave ownership and rejected the idea that a capitalist outlook could have characterized plantation owners. American slavery was instead viewed as a vestige or throwback to feudalism and slaveholders were depicted as proud, even noble, paternalistic landlords tragically out of place in capitalist America.[4] What changed

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3. See the thoughtful discussion of capitalism and slavery by Gavin Wright "Capitalism and Slavery on the Islands: A Lesson from the Mainland," Journal of Interdisciplinary History 17 (Spring 1987): 851-870. Even the attackers of the new orthodoxy, Robert Fogel and Stanley Engerman, agree that the slave plantation was a capitalist business enterprise organized for profit; Time on the Cross, Two Volumes, (Little Brown, 1974). Fogel and Engerman disagree with the rest of the profession about the significance of this fact for the treatment of slaves and the technical efficiency of slavery. For a full discussion of these issues see Paul David, Herbert Gutman, Richard Sutch, Peter Temin, and Gavin Wright, Reckoning with Slavery: A Critical Study in the Quantitative History of American Negro Slavery (Oxford University Press, 1976).

4. See the writings of Ulrich B. Phillips, particularly his book, American Negro Slavery: A Survey of the Supply, Employment and Control of Negro Labor as Determined by the Plantation Regime (D. Appleton and Company, 1918). The American historians who have been most influenced by Marx's class analysis have generally stood away from the emerging consensus about the capitalist nature of slavery and tended to support Phillips' view. In this regard they differ with both Marx himself and most economic historians outside the Marxist tradition as well. See Eugene

this perception was a successful demonstration based on a sizable collection of quantitative data that slavery was profitable.

Almost three quarters of a century after the publication of volume three of Capital, Alfred Conrad and John Meyer explained that the slave system was able to flourish in the midst of a capitalist market economy because it was itself a form of capitalism.[5] The southern plantation system, though, was an unusual species of capitalism in which the capital assets were land and slaves rather than physical or financial capital. Conrad and Meyer argued that slaves were viewed as an alternative to railroad bonds, agricultural land, textile factories, or other manufactories as an outlet for the investment funds of American capitalists. Since slaves were capital, the market price of slaves adjusted to bring the expected rate of return from an investment in slaves into equality with the expected rate of return from the alternative investments. Conrad and Meyer assembled quantitative evidence on prices, productivity, and costs establishing that the rate of return to slaveholders indeed

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Genovese, The Political Economic of Slavery: Studies in the Economy and Society of the Slave South (Pantheon Books, 1965).

5. Alfred Conrad and John Meyer "The Economics of Slavery in the Ante Bellum South," Journal of Political Economy 66 (April 1958). Every subsequent empirical study of American slavery has concluded that slave labor produced a significant surplus for the slave owner. In addition to Conrad and Meyer see Richard Sutch, "The Profitability of Slavery -- Revisited," Southern Economic Journal 31 (April 1965): 365-377; Roger L. Ransom and Richard Sutch, One Kind of Freedom: The Economic Consequences of Emancipation (Cambridge University Press, 1977), Appendix A; and Gavin Wright, The Political Economy of the Cotton South: Households, Markets, and Wealth in the Nineteenth Century (W.W. Norton, 1978), Chapter 3.

equaled what could be earned from alternatives, about 6 to 8 percent per year.

In the 30 years since Conrad and Meyer's article appeared, numerous writers have introduced refinements, extensions, and new data to the analysis. All have employed some variant of the capital-asset pricing model introduced by Conrad and Meyer and all have invariably concluded that slave owners made at least a normal rate of return on their human property.[6]

The conceptualization of slavery as a form of capitalism and slaves as a form of "human capital" is easy to grasp as a logical proposition, but it gained its persuasive force through the accumulation of quantitative evidence. Figure 1 presents a time series of slave prices that spans the period from 1805 to 1860. These price data are developed in detail in the appendix to this paper and refer to the average price of all slaves: men, women, and children together. At the beginning of the period this value is estimated to have been in the neighborhood of $300. By 1860 it had risen as high as $800. There can hardly be a more

6. Major quantitative studies which bolstered and extended Conrad and Meyer's finding of profitability include: Robert Evans, Jr., "The Economics of American Negro Slavery," in Universities-National Bureau Committee for Economic Research, Aspects of Labor Economics (Princeton University Press, 1962): 185-243; Sutch "The Profitability of Slavery"; and James Foust and Dale Swan, "Productivity and Profitability of Antebellum Slave Labor: A Micro Approach," Agricultural History 44 (January 1970): 39-62. One exception to the unanimity is the paper by Edward Saraydar, "A Note on the Profitability of Slavery," Southern Economic Journal 30 (April 1964): 325-332. However, Saraydar's calculations were shown to be in error by Sutch, a point ultimately conceded by Saraydar. These essays and several more are collected in Hugh G. J. Aitken, editor, Did Slavery Pay? Readings in the Economics of Black Slavery in the United States (Houghton Mifflin, 1971).

dramatic demonstration of the profitability of slavery. Eight hundred dollars per slave is ten times as large as the gross value of annual crop output per capita in the south around 1857-1860.[7]

[Figure 1 Here]

The discovery, or rediscovery, of the capitalist nature of slavery has proven to be a significant development. This breakthrough not only has prompted a complete and far-ranging reexamination of racial slavery in the Americas, it also has stimulated a renaissance in the field of American economic history more generally. While these developments can only be described as positive, the discovery of the capitalist nature of slavery has also had at least one unfortunate consequence. Perhaps because of the general association of capitalism with economic growth, high standards of living, and economic development, there has been a tendency to overlook the detrimental consequences of slavery for American growth and welfare. In this article we point to a connection between slavery and the lack of economic development in the slave south.

Growth and Development Are Not the Same

The demonstration that slavery was profitable to the owners of slaves in the United States was soon followed by the preparation of regional aggregate income estimates which clearly

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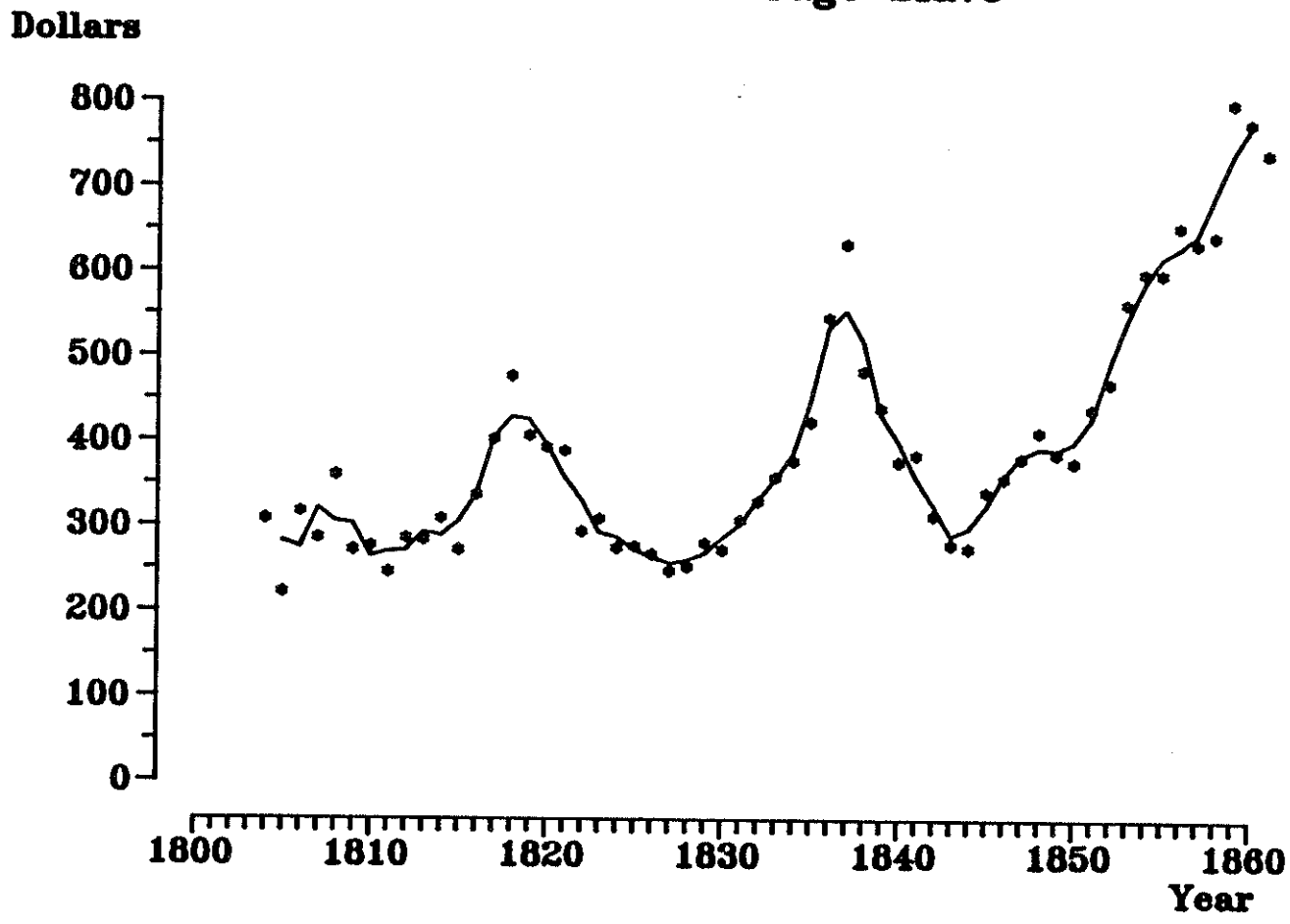
7. Ransom and Sutch, "Growth and Welfare in the American South in the Nineteenth Century," Explorations in Economic History 16 (April 1979): 207-236, p. 213.

Figure 1
Price of an Average Slave



implied that the antebellum south was a growing and prosperous region.[8] Income per capita increased as rapidly in the south between 1840 and 1860 as it did in the United States as a whole.[9] As a consequence, the average income of free southerners remained roughly equal to the average income of those living in the northern states throughout this period of rapid manufacturing development in the north. The principal staple crop of the plantation system was cotton and an expanding world market for cotton textiles permitted the growth of southern incomes to take place without major structural changes in the economic system or the development of a southern manufacturing industry.[10]

These discoveries are important to understanding the dynamics of American history. Had income per capita of free

8. Richard A. Easterlin, "Interregional Differences in Per Capita Income, Population, and Total Income; 1840-1950," in Conference on Research in Income and Wealth, Trends in the American Economy in the Nineteenth Century, National Bureau of Economic Research, Studies in Income and Wealth, Volume 24 (Princeton University Press, 1960): 73-140; "Regional Income Trends, 1840-1950," in Seymour E. Harris, editor, American Economic History (McGraw Hill, 1961): 525-547; and Douglass C. North, The Economic Growth of the United States, 1790-1860 (Prentice Hall, 1961), pp. 91-94.

9. Stanley L. Engerman, "The Effects of Slavery on the Southern Economy: A Review of the Recent Debate," Explorations in Entrepreneurial History 4 (Winter 1967): 71-97; "Some Economic Factors in Southern Backwardness in the Nineteenth Century," in John F. Kain and John R. Meyer, editors, Essays in Regional Economics (Harvard University Press, 1971): 279-306.

10. On the importance of the world demand for cotton see Gavin Wright, Political Economy of the Cotton South, Chapter 4, and "Prosperity, Progress, and American Slavery," in Paul David, et. al., Reckoning with Slavery. On southern manufacturing see Fred Bateman and Thomas Weiss, A Deplorable Scarcity: The Failure of Industrialization in the Slave Economy (University of North Carolina Press, 1981).

whites in the south not kept pace with their northern counterparts, it might have induced a migration of white labor to the north, have caused slave prices to fall, and have brought considerable economic stress to the slave economy. As it was, the two regions, free and slave, followed parallel but separate growth paths. There was insignificant migration between the two regions, slave prices tended to rise (as illustrated in Figure 1), and the slave owners intensified their commitment to the plantation regime.[11]

While the picture of prosperity and growing average income for the white population of the south is statistically accurate, it would be wrong to interpret these facts as evidence of economic development in the south. The slaves, of course, did not share in this prosperity nor did they benefit from the growth. Moreover, the increases in southern incomes per capita -- even when attention is focused exclusively on the welfare of the whites -- was produced almost entirely by the continuous westward movement of population to new and more fertile land.[12] As a consequence, the growth within any of the subregions of the

11. The data on interregional migration establishes the absence of labor flows between the two regions; Peter D. McClelland and Richard J. Zeckhauser, Demographic Dimensions of the New Republic: American Interregional Migration, Vital Statistics, and Manumissions, 1800-1860 (Cambridge University Press, 1982). As far as we can judge, there is no reason to believe that there were significant capital flows between the north and south.

12. Sutch, "The Breeding of Slaves for Sale and the Westward Expansion of Slavery, 1850-1860," in Stanley L. Engerman and Eugene D. Genovese, editors, Race and Slavery in the Western Hemisphere: Quantitative Studies (Princeton University Press, 1975): 173-210.

south was less than for the slave south as a whole. During this period, cotton production was not mechanized, agricultural methods did not change, and productivity on a given piece of land remained nearly constant.[13]

While westward movement required an implicit investment, inasmuch as slaveowners who chose to move west sacrificed a substantial portion of several years' output, such investment was fundamentally different from the type that was propelling northern economic growth. In the north, the stock of physical capital was continually expanding as investors constructed factories and installed machinery. As a consequence, labor productivity in manufacturing was considerably above that in northern agriculture and the manufacturing sector grew rapidly.[14] The productivity gains in the south were achieved not by moving workers from agriculture to an industrial sector made productive with machinery and new technology, but by moving workers to more

13. Engerman's figures show a growth rate in the South Atlantic Region of 1.21 percent per year and a 1.28 percent growth rate for the East South Central region, but a growth rate for the south as a whole of 1.67 percent; "Some Economic Factors in Southern Backwardness," Table 2, p. 287. We have estimated the rate of growth of crop output per capita to have been no more than 0.64 per cent per year between 1839 and 1857; Ransom and Sutch, "Growth and Welfare," pp. 212-217.

14. Paul A. David, "The Growth of Real Product in the United States Before 1840: New Evidence, Controlled Conjectures," Journal of Economic History 27 (June 1967): 151-197. Kenneth L. Sokoloff, "Productivity Growth in Manufacturing during Early Industrialization: Evidence from the American Northeast, 1820-1860," in Stanley L. Engerman and Robert E. Gallman, editors, Long-Term Factors in American Economic Growth National Bureau of Economic Research, Studies in Income and Wealth, Volume 51 (University of Chicago Press, 1986): 679-729. Also see the "Comment" in the same volume by Jeffrey G. Williamson, pp. 729-736.

productive soil. The difference is significant, since a process of physical capital formation could, in principle, continue indefinitely, whereas there is a natural limit to gains that can be achieved from geographical relocation. The south, therefore, grew but did not develop.

Slave Capital Can Displace Physical Capital

Slaveholders were capitalists without physical capital. Their wealth was in the form of slaves and land. Slave capital represented 44 percent of all wealth in the major cotton-growing states of the south in 1859, real estate (land and buildings) was more than twenty-five percent, while physical capital amounted to less than ten percent of the total. Manufacturing capital amounted to only one percent of the total wealth accumulated.[15] The lack of physical capital formation in the south reconciles the quantitative information on overall southern growth rates with the contemporary view that the south was economically backward compared to the northeast.[16]

15. The estimates are for the states of South Carolina, Georgia, Alabama, Mississippi, and Louisiana. They reflect a slight adjustment of our earlier calculations (Ransom and Sutch, One Kind of Freedom, p. 53) to incorporate new estimates of the value of the slave stock presented in the appendix to this paper.

16. The economic backwardness of the slave South has been stressed by Eugene D. Genovese, The Political Economy of Slavery and Douglas Dowd, "A Comparative Analysis of Economic Development in the American West and South," Journal of Economic History 16 (December 1956): 558-574. These writers were echoing earlier treatments by J. E. Cairnes, The Slave Power: Its Character, Career, and Probable Designs: Being an Attempt to Explain the Real Issues Involved in the American Contest (Harper and Row, 1969), first published in 1862; and Robert R. Russell, "The General Effects of Slavery upon Southern Economic Progress," Journal of Southern History 4 (February 1938): 34-54.

A more important point is that the relative shortage of physical capital in the south can be explained by the presence of slavery. In a capitalist society physical capital is owned by private entrepreneurs who are induced to invest in and hold capital by the flow of returns they hope to receive. In the American south slaves were an alternative to physical capital that could satiate the demand for holding wealth. In short, slaves as assets crowded physical capital out of the portfolios of southern capitalists.

There is a related argument about the relationship between slavery and manufacturing development that dates back to the days of slavery itself. Some contemporary observers argued that purchases of slaves, as they put it, "absorbed capital." Simply put, the proposition was that slaveowners invested their savings in slaves and therefore did not have the money available for other forms of investment.[17] Though at first glance this earlier argument appears quite similar to ours, it is actually rather different. Moreover it is wrong; it confuses physical capital with financial capital. The purchase of a slave does not destroy the money paid, it transfers the money to the slave's previous owner who would then be free to invest in physical capital if he so desired.

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17. For contemporary statements of this view see "A Carolinian" [Daniel Reaves Goodloe], Inquiry into the Causes which have Retarded the Accumulation of Wealth and Increase of Population in the Southern States: In which the Question of Slavery is Considered in a Politico-Economical Point of View (W. Blanchard, 1846); Frederick Law Olmsted, The Cotton Kingdom, edited with an introduction by Arthur Schlesinger, (Alfred A. Knopf, 1953), originally published in 1861, and Cairnes, The Slave Power.

Conrad and Meyer attacked this old idea in their 1958 article by pointing out that "[i]t is difficult to see how the capitalization of an income stream, excellent by contemporary standards, can be said to count as a loss of wealth." They concluded that "capitalization of the labor force did not of itself operate against southern development."[18] Ever since the absorption argument has received little support.[19] We are proposing a more sophisticated notion of absorption of capital.

In the version we advance, it is not the capitalization of the labor force itself, but the increase in assets caused by a growth of the slave population that displaces physical capital and operates against southern development. Our argument is that the growth of the slave population would depress the rate of saving (as conventionally defined). When slaves are wealth and the number of slaves is growing an increase in the owner's wealth is automatic and the need to save from current income to augment wealth would be attenuated. Thus we argue that the growth in the value of the south's slave population would reduce the rate of

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18. Conrad and Meyer, "The Economics of Slavery," pp. 81-82.

19. For additional criticism of this view from economic historians see Alfred H. Conrad, et al, "Slavery as an Obstacle to Economic Growth in the United States: A Panel Discussion," Journal of Economic History 27 (December 1967): 518-560; Robert W. Fogel and Stanley L. Engerman, "The Economics of Slavery," in The Reinterpretation of American Economic History (Harper and Row, 1971): 311-341, p. 336; George D. Green, Finance and Economic Development in the Old South: Louisiana Banking, 1804-1861 (Stanford University Press, 1972), pp. 60-61; and Bateman and Weiss, A Deplorable Scarcity, pp. 74-76.

growth of the physical capital stock within the region.[20] Consequently economic development would be retarded.

This proposition was first advanced by John Moes in an article which has since received very little attention.[21] Fogel and Engerman attempted to counter Moes' argument with one of their own. They suggested that there should be no reason why the existence of slavery would reduce the number of other investment opportunities or affect the expected rate of return on non-slave investments. To the extent that saving positively responds to the rate of return on investment, wealth creation in the form of increments to the slave population would simply be an additional investment opportunity that, in Fogel and Engerman's view, would have the effect of increasing the propensity to save.[22] Note, however, that this argument implicitly assumes a perfectly elastic supply of saving with respect to the rate of return. Since all empirical studies suggest that saving is inelastic -- or at least nearly so -- we fail to see the empirical relevance of their criticism.

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20. There is another reason why saving would be depressed by slavery. Slaves could not save for themselves and the slaveowner had no reason to save on their behalf. We do not explore the implications of this mechanism in this article, but the effect it would have, if significant, would reinforce the conclusions we draw.

21. John E. Moes, "The Absorption of Capital in Slave Labor in the Ante-Bellum South and Economic Growth," American Journal of Economics and Sociology 20 (October 1961): 535-541.

22. Fogel and Engerman, "The Economics of Slavery," p. 336.

Our contention that a growing slave population and advancing slave prices would reduce conventional saving, slow the rate of growth of the capital stock, and retard development is analogous to the argument that spending by government which is funded through the creation of national debt rather than by taxes will reduce conventional saving.[23] If, as is usually supposed, the saving-income ratio is independent of the rate of interest, then the displacement of physical capital will be dollar-for-dollar. Put somewhat differently, conventional economic theory suggests that there is a natural relationship between the flow of income and the stock of wealth usually expressed as an optimal wealth-income ratio. Because slaves were regarded as wealth they would displace other assets -- particularly physical capital -- from the portfolios of slaveowners. The growth of the slave population, therefore, would tend to "crowd out" new investment and slow the growth of the stock of physical capital.

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23. The national debt argument is made by Franco Modigliani and is based on his well-known "life cycle hypothesis of saving;" "Long-run Implications of Alternative Fiscal Policies and the Burden of the National Debt," Economic Journal 71 (December 1961): 730-755. Robert Hall first called attention to the equivalence of Modigliani's burden of the national debt and Moes' burden of slavery in a paper written in 1967. Although Hall's paper remains unpublished, it was discussed briefly at the Economic History Association's 1967 Philadelphia meetings; Conrad, et al., "Slavery as an Obstacle to Growth," particularly in the contribution by Sutch. The question is pursued more fully in Ransom and Sutch, "The Long-Run Implications of Capital Absorption in Slave Labor," National Economic Association, New York, December 1982. The Modigliani argument about the national debt is not without its critics, but note that the Moes-Hall argument is immune to the "Ricardian Equivalence" counterargument made by Robert Barro, "Are Government Bonds Net Wealth?" Journal of Political Economy 82 (November/December 1974): 1095-1117.

The Growth of Slave Wealth

Importation of slaves from abroad was prohibited beginning in 1808 but the slave population of the United States continued to grow at rapid rates due to natural increase.[24] Figure 2 displays the trend in the slave population. The data are described in greater detail in the appendix. The overall rate of population growth was over 2.4 percent per year. If, as the new historical consensus assumes, slaves were an investment included in the asset portfolio of the planter/entrepreneur, they helped satisfy the owner's demand for wealth. But unlike most other forms of capital, which depreciate with time, the stock of slaves appreciated. Thus, the growth of the slave population continuously increased the stock of wealth.

[Figure 2 Here]

To obtain an idea of the order of magnitude of the expansion of slave wealth, we have estimated the total value of the slave population of the United States for each year for the period 1805 to 1860 and present the results in the appendix. Figure 3 presents the data graphically. The overall trend is upward and continuously so from 1843 onward. Each year, according to our hypothesis, an increment of potential physical capital formation was displaced by each advance in the value of the slave population. The result was a relative scarcity of funds for

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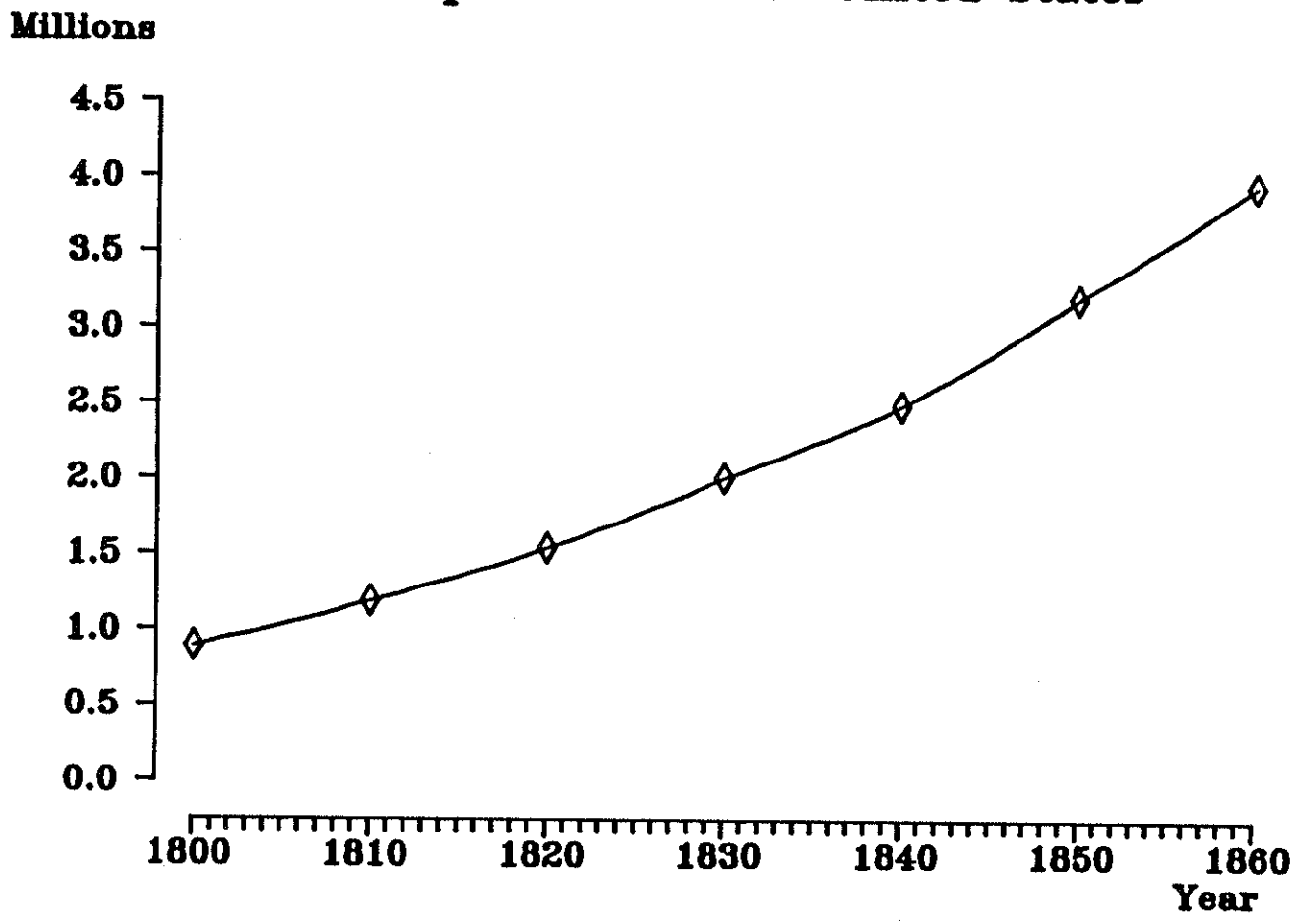
24. Perhaps the increase was not so "natural." There has been a debate among economic historians concerning the practice of slave "breeding." The quantitative evidence on this point is presented in Sutch, "The Breeding of Slaves"; for a recent review of the debate on slave breeding see Richard Sutch, "Slave Breeding," in Randall M. Miller and John David Smith, editors, Dictionary of Afro-American Slavery (Greenwood Press, 1988).

Figure 2
Slave Population of the United States



investment, the failure of manufacturing to develop in the south, and a continued dependency on slave agriculture.

[Figure 3 Here]

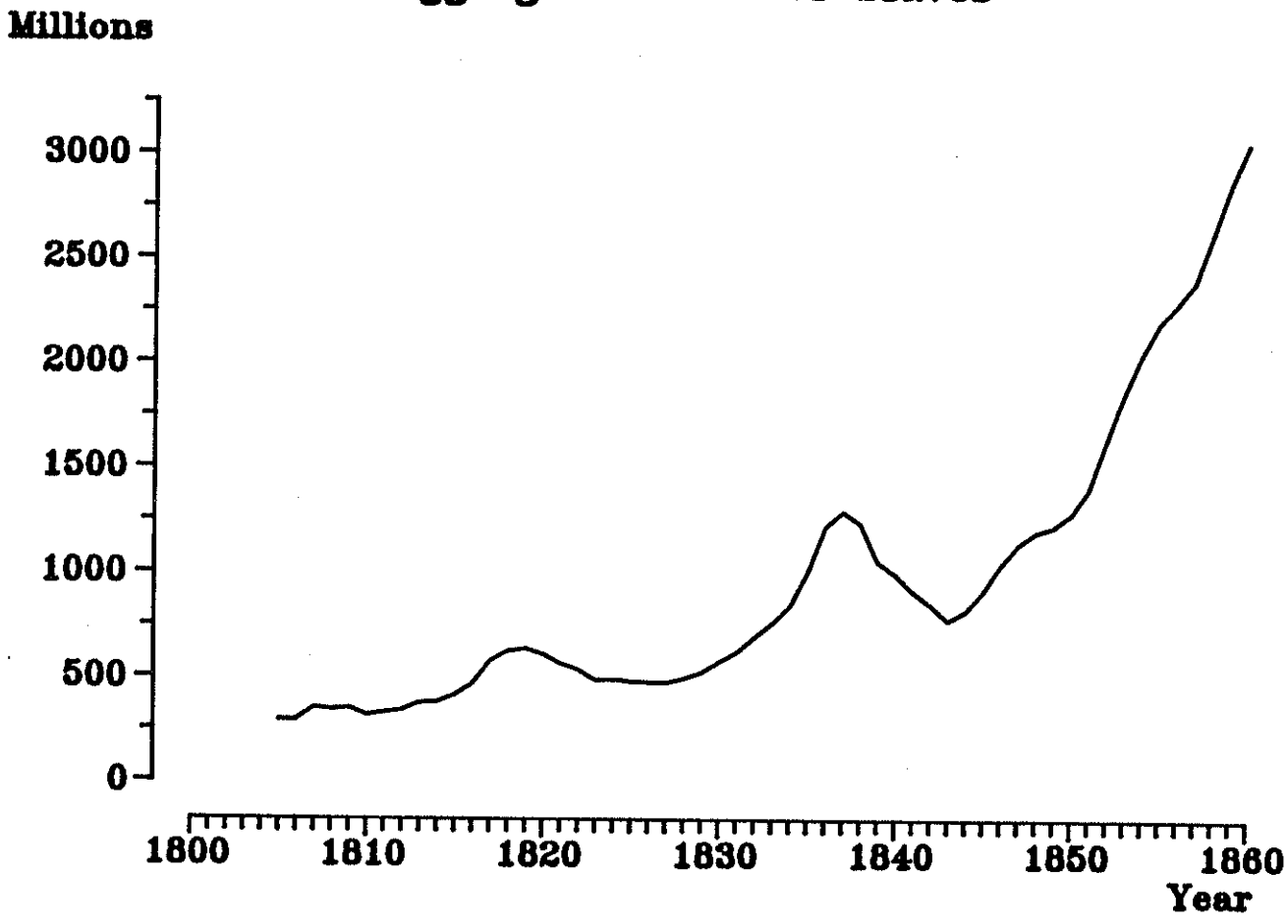
The order of magnitude of this burden of slavery is not negligible. We do not have data on the flow of savings of southern slaveholders. We can, however, gain some appreciation of the impact which slaveholding had on the American economy as a whole by looking at the estimates of the annual increase in the slave stock together with estimates of total wealth formation for the United States. Table 1 presents these figures. Investment in the growth of slaves seems to have absorbed between five and eight percent of the total additions to the national stock of wealth. The impact on the south's manufacturing sector must have been considerably greater.

[Table 1 Here]

The Impact of Emancipation on Saving and Growth

If the growth of the slave population retarded capital formation and economic development before the Civil War, then elimination of this burden should have had a positive and permanent impact on the post-emancipation economy. Moreover, the means by which slavery was eliminated would have produced a transitory stimulus to saving that initially would have had an even more powerful impact on the rate of capital formation. With the stroke of a pen emancipation destroyed much of the "capital" the South had accumulated and neither the slaveowners nor the

Figure 3
Aggregate Value of Slaves



slaves were compensated for this loss of wealth.[25] In response southerners would have had to increase their saving rates to restore their suddenly-diminished stock of wealth and to reestablish an equilibrium wealth-income ratio.[26]

To illustrate the impact of emancipation on southern wealth we have collected data on assets and output for 570 farms from eight southern counties in 1860 and 760 different farms from the same counties in 1870.[27] The 1860 sample included 387 slave farms and 183 free farms. The slave farms included 125 "plantations," each of which was a farm with 20 or more slaves and 100 or more acres of improved land. Both samples were drawn from the manuscript schedules of the censuses of agriculture and

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25. The implications of the way in which emancipation was accomplished is discussed more fully in Ransom and Sutch, "Who Pays for Slavery?" Working Papers in Economics Number 88-23 (Department of Economics, University of California, Berkeley, February 1988).

26. An indication of the magnitude of the effect on the wealth-income ratio is suggested by our calculation that the asset-income ratio for the country as a whole fell from approximately five in 1860 to about 3.7 in 1870; see Ransom and Sutch, "Domestic Saving as an Active Constraint on Capital Formation in the American Economy, 1839-1928: A Provisional Theory," Working Papers in the History of Saving Number 1 (December 1984), Institute of Business and Economic Research, University of California, Berkeley: 56-58.

27. A farm is defined as an agricultural unit producing at least $125 worth of crop output. In 1870, only farms that reported the value for personal estate of the farm operator were included, since the 1870 census appears to have under-enumerated the data for personal wealth.

population.[28] The census returns for these years included questions on the amount of personal assets and real estate owned by each individual. In 1860 the value of the slaves owned was included in the category of personal estate. Based on these samples Table 2 presents comparative data on the average value of personal and total wealth. The level of wealth reported per farm in 1870 was slightly over one-tenth what it had been ten years earlier. As expected, the great decline was in personal estate; the emancipation of slaves produced a decline from $14,576 for all operators in 1870 to a mere $775 in 1870.

[Table 2 Here]

We do not have income data for the farms in the sample, however we have made a rough estimate of the average value of output per farm in the two censuses including, in 1860, the value of the natural increase of the slave population. Using these estimates, we present two wealth-output ratios for the sample of farms in Table 2; one calculated as the ratio of the average wealth to average output the other as a median value. These estimates show that the wealth-output ratio for southern farms fell from over seven to below two during the decade. Allowing for the fact that these wealth-output ratios probably exaggerate the change in the wealth-income ratio, it is still clear that

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28. The farms selected were located in the following counties: Attala, Mississippi; Coweta, Georgia; Dallas, Alabama; Georgetown, South Carolina; Halifax, Virginia; Madison, Louisiana; Red River and Robertson, Texas. For a discussion of the sample collection procedure see Ransom and Sutch, One Kind of Freedom, pp. 294-298.

emancipation must have seriously disturbed the relationship between wealth and income.[29]

The loss of slave capital was not the only way emancipation reduced the value of assets. One of the more dramatic consequences of freedom from slavery was the partial withdrawal of labor services on the part of the black population.[30] This withdrawal had the effect of creating a labor shortage which made land a redundant resource. Consequently, the price of land dropped considerably. Table 3 presents data on the average value of farm land in our sample counties. Values declined dramatically. Improved acreage was worth only about one-half its value of ten years earlier.

[Table 3 Here]

Total wealth fell by the value of the slave stock and also because of the fall in the value of land. Nevertheless, the basis for continued income generation -- the potential labor of the former slave population and the natural fertility of the soil

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29. The wealth-output ratios will tend to be higher than the true wealth-income ratio because the output measure fails to capture all income of the farm operator, or even all of the output generated by the farm. There is a further reason to suspect that the ratios in 1860 may not reflect an equilibrium relationship between wealth and income. Slave prices in 1860 were at their highest level and had been rising for over a decade. The resulting capital gains may have sent wealth-income ratios to abnormally high levels. We note in this regard that the wealth-output ratios for slave farms are in the neighborhood of eight or nine at a time when the average wealth-income ratio for the U.S. as a whole was around five.

30. Ransom and Sutch, "The Impact of the Civil War and of Emancipation on Southern Agriculture," Explorations in Economic History 12 (January 1975): 1-28; and One Kind of Freedom, pp. 44-47.

-- remained unharmed. Thus the wealth-income ratio fell far from the desired level. This undoubtedly stimulated saving by southerners although we do not have data to substantiate this directly. We can, however, see that the prediction is confirmed at the national level by statistics on aggregate capital formation estimated by Robert Gallman.[31] In Table 4 we reproduce two variants of his estimates, both are presented as shares of gross national product. The second estimate is generally preferred, but, by either measure there was a substantial increase in the rate of physical capital formation. In the same table we present the rate of growth of real gross national product. A clear acceleration after 1860 is evident.

[Table 4 Here]

We cannot be certain that the significant expansion of capital formation generated by emancipation took place in the southern states. Indeed, it probably did not. Certainly the south's economy did not experience economic growth comparable to that in other regions of the United States. In fact, the southern economy fell into a prolonged period of stagnation and painfully-slow growth lasting well into the twentieth century.[32] Perhaps part of the explanation for this stagnation was the failure of capitalism to revive in the south following the war.

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31. At the national level capital formation can be viewed as approximately the same as national saving since international capital flows were negligible.

32. We discuss the post-war stagnation of the South in Ransom and Sutch, "Growth and Welfare in the American South."

Emancipation destroyed the assets upon which the pre-war "capitalists without capital" had built their economic system. After the war they seemed unable to reestablish a capitalist system based on physical capital located in the south. As a consequence, postbellum southern saving financed capital formation outside of the region. Much of the explanation for this redirection, no doubt, can be attributed to the post-war economic expansion of northern industry and the opening of new channels facilitating interregional capital mobility. But, as we argued in One Kind of Freedom, the reconstruction of southern capitalism was blocked by a contradictory institutional structure erected during Reconstruction. The south failed to reestablish an effective banking system, white landowners created a system of agricultural sharecropping and mercantile finance that exploited black workers and sapped the initiative of whites as well as blacks, and southerners replaced slavery with an ugly and repressive social regime based on racial intolerance and discrimination. Faced with this inhospitable environment southern savings flowed north. Without a new base of physical capital, southern capitalism simply died.

APPENDIX

THE VALUE OF THE SLAVE POPULATION, 1805-1860

Our estimate of the value of the stock of slaves in current prices for each year from 1805 to 1860 is presented in Table A.1. The estimation procedure follows six steps corresponding to the six columns of the table.

1. The total slave population each year, given in column 1, is estimated by interpolation between decennial census figures.

2. The average selling price of prime-aged male field hands in New Orleans is reproduced in column 2.

3. An index relating the average value of all American slaves to the price of prime-aged male in New Orleans is presented in column 3. The index adjusts for age, sex, location, and skill differences and is set with a base equal to 100 for the price of prime male in New Orleans each year.

4. The New Orleans prices in column 2 are multiplied by the index in column 3 to produce the estimate of the average value of slave given in column 4.

5. The price series in column 4 is smoothed by taking a three-year moving average. This series is displayed in column 5.

6. The slave population in column 1 is evaluated using the price series in column 5. The result (in millions of dollars) is given in column 6.

The estimation procedures and their rational are discussed in more detail below.

[Table A.1 Here]

Column 1 The U.S. Census Office enumerated the slave population at each of the decennial censuses taken before the Civil War. The bold-face numbers for 1810, 1820, ... , and 1860 in column 1 report the official figures. The slave population of the inter-census years is estimated assuming a constant rate of population growth between each pair of census dates. The growth rates used are given in Table A.2.

[Table A.2 Here]

Column 2 The best-known and perhaps the most exhaustive study of slave prices was conduced by U. B. Phillips.[33] Phillips presented separate annual series for four geographical regions: Virginia, Charleston, middle Georgia, and New Orleans. Each series gave "approximate prices" of "young male prime field hands."[34] Phillips reported that his method was

> to select in the group of bills [of sale] for any time and place such maximum quotations for males as occur with any notable degree of frequency. Artisans, foremen and the like are thereby generally excluded by the infrequency of their sales, while the middle-aged, the old and the defective are eliminated by leaving aside the quotations of lower range.[35]

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33. Ulrich Bonnell Phillips, "The Economic Cost of Slaveholding in the Cotton Belt," Political Science Quarterly 20 (June 1905): 257-275; "The Economics of Slave Labor in the South," in The South in the Building of the Nation, Volume 5 (Southern Publication Society, 1909): 121-124; American Negro Slavery; and Life and Labor in the Old South (Little Brown, 1929).

34. Phillips, Life and Labor in the Old South, p. 177, and American Negro Slavery, p. 370.

35. Phillips, American Negro Slavery, p. 370.

The sampling of numbers in Table A.3 has been visually estimated from the chart Phillips presented.[36] The years selected between 1810 and 1843 are the peaks and troughs in the New Orleans series. From 1844 until 1860, according to Phillips, slave prices rose continuously. An examination of the price series reveals a reasonably stable relationship between the four markets.

[Table A.3 Here]

Robert Fogel and Stanley Engerman have used estate appraisal records to examine the relationship between slave values in different regions. They report for the period 1846-1855 that the average price of male slaves, aged 18-30, in Maryland, Virginia, North Carolina, and South Carolina was 73 percent of the value in Louisiana and indicate that this relationship held stable for the entire period from 1838 to 1860.[37] Because of the apparent stability of the relationship between slave prices in different regions of the south, we have chosen to use a series on the price of slaves in New Orleans to indicate the trend in the average price of all slaves.

Phillips' series of New Orleans slave prices has been widely used from the time it was published by Conrad and Meyer.[38]

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36. Phillips, Life and Labor in the Old South, p. 177.

37. Robert Fogel and Stanley L. Engerman, "The Market Evaluation of Human Capital: The Case of Slavery," Cliometrics Conference, Madison, April 1972, pp. 8-9.

38. "The Economics of Slavery," Table 17, p. 76.

Phillips based his estimates on bills of sale that are now in the New Orleans notarial archives. Since his methods of sampling and averaging are questionable, Fogel and Engerman drew a new sample from the same archives of approximately 5,800 sales covering the period 1804-1862. This sample has been used by Engerman and Laurence Kotlikoff to estimate separate price series on prime males.[39] Engerman's series covers all males, aged 18-30, fully guaranteed and without skill or handicap. Kotlikoff's series averages all males, aged 21-38. As expected, these averages give figures substantially below Phillips' maximum values. However, all three series move together. We have used Engerman's estimates since his excludes slaves with skills and defects, while Kotlikoff's does not. Furthermore, Engerman's series permits us to extend our estimates back to 1804.

[Table A.4 and Figure 4 Here]

Column 3 To convert the price of prime male field hands in New Orleans to an average price for all slaves, corrections must be made for geographical location, age, sex, skills, and handicaps. This was accomplished by estimating the number of prime-aged-New-Orleans-male equivalents in the U.S. slave population at each census using age, sex and location specific price information to weight the enumerated population. The ratio of the prime-equivalent population to the actual slave population equals the ratio of the price of an average slave to a prime New Orleans male.

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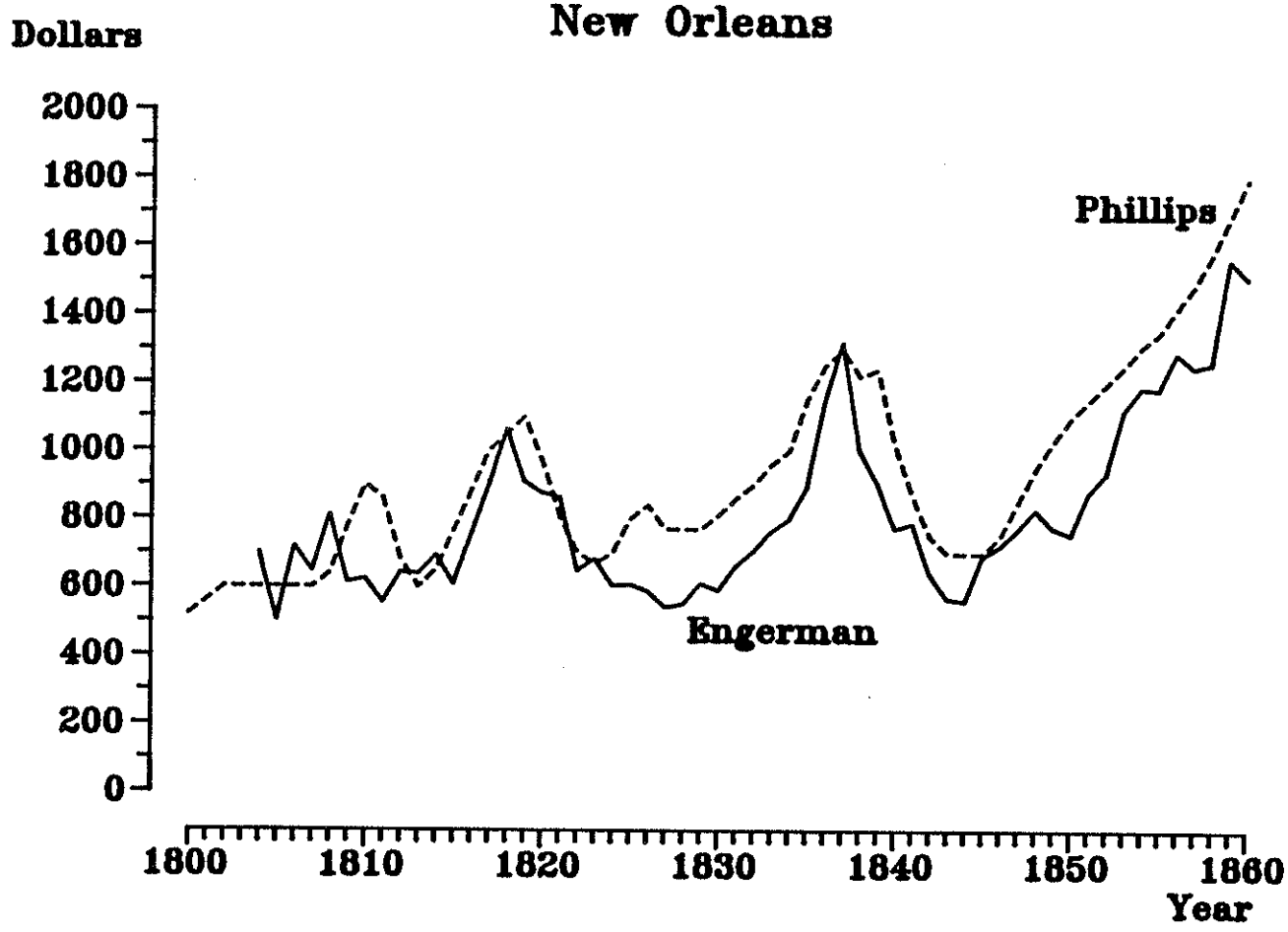
39. Laurence J. Kotlikoff, "The Structure of Slave Prices in New Orleans, 1804 to 1862," Economic Inquiry 17 (October 1979): 496-518.

Figure 4
Price of a Prime Male Slave
New Orleans



Fogel and Engerman have used their sample of estate appraisal records to estimate age-sex price profiles for slaves in the "Old South" (defined to include Maryland, Virginia, North and South Carolina) and in Louisiana for 1846-1855.[40] Fogel and Engerman indicate that the age-sex and geographical patterns remained stable over the period from 1787 to 1860.[41] Accordingly, we have converted the age-sex profiles to relatives using the average appraised price of a Louisiana male between 18.5 and 29.5 years old as a index base equal to 100. The price relatives were calculated for age cohorts consistent with those used to report the ages of the slave population in pre-Civil War censuses. The results are displayed in Table A.5.

[Table A.5 Here]

On the basis of the slave price data collected by Phillips (see Table A.3) and the estimates of the average value of slaves by state in 1850 made by Ezra Seaman in 1852 and reproduced in Table A.6, it seemed reasonable to weight the Louisiana price relatives in Table A.5 by the slave population of Georgia, Florida, Alabama, Mississippi, Louisiana, Arkansas, Missouri, and Texas and the "Old South" price relatives by the remaining slave population at each census. These definitions yield the weights displayed in Table A.7. These weights were used to combine the "Old South" and Louisiana price relatives in Table A.5 thus

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40. Fogel and Engerman, Time on the Cross, Volume I, figures 15, 16, and 18, pp. 72 and 76; Volume II, pp. 79-82, and "The Market Evaluation of Human Capital."

41. Fogel and Engerman, "The Market Evaluation of Human Capital," pp. 8-9, and Time on the Cross, Volume II, p. 79.

producing the indexes of relative value displayed for each census date in Table A.1.

[Tables A.6 and A.7 Here]

The procedures just described yield estimates of the price of an average slave as a percentage of the price of a New Orleans prime-aged male which rise from 45 percent in 1820 to 51 percent in 1860. These proportions seem reasonable. U. B. Phillips stated that the average slave was worth about fifty percent of the prime male price.[42] For the inter-census years relative value indexes were interpolated along a straight line between the census dates. The Census of 1820 was the first to report an age distribution of the slave population. The relative adjustment factor for 1804 was arbitrarily assumed to be 44 percent. The series used is displayed in column 3 of Table A.1.

Column 4 The adjustment factors in column 3 of Table A.1 were used to convert the New Orleans price series in column 2 into the estimated market value of a slave given in column 4 of that table. No adjustment was thought to be necessary for slave skills or handicaps since the two factors would work in opposing directions. In any case the number of skilled slaves in the total population seems to have been quite small.[43]

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42. Phillips, American Negro Slavery, p. 370.

43. Sutch, "Treatment of Slaves," p. 345-353; Herbert Gutman and Richard Sutch, "Sambo Makes Good, or Were Slaves Imbued with the Protestant Work Ethic?" in Paul David, et al, Reckoning with Slavery: 77-93.

Our estimates of the value of an average slave are compared with estimates made by others using different methods of evaluation in Table A.8. In each of the three years for which such comparisons are made our estimate is above the alternative. In 1805 and 1860, however, the difference is less than one percent. For 1850 our estimate is about five percent above the figure suggested by Seaman.

[Table A.8 Here]

Column 5 Column 5 displays a centered three-year moving average of the average price series in column 4. We used this smoothed series to evaluate the slave stock because it is likely that individuals discounted somewhat the year-to-year fluctuations when making evaluations of their slave wealth.

Column 6 Column 6 displays the estimated value of the U.S. slave population using the values given in column 5 and the population estimates in column 1.

Table 1

Physical Capital Formation and
The Value of the Increase in Slaves,
1839-1859, The United States

Year	Millions of Current Dollars: Physical Capital Formation	Value of Increase In Slaves	Increase In Other Assets	Increase In Total Wealth	Slaves as Percentage of Total Wealth Formation
1839	$218	$22	$57	$275	8.1%
1844	230	21	78	308	6.7
1849	332	31	115	446	6.9
1854	631	43	167	798	5.3
1859	600	60	232	832	7.2

Sources: See next page.

Sources to Table 1

Physical Capital Formation defined as Gross Private Domestic Capital Formation is the sum of Manufactures Durables and New Construction taken from Robert Gallman's GNP figure plus the Change in Business Inventories estimated as one tenth of the decade change in the Stock of Inventories reported by Gallman and Howle. See Robert E. Gallman, "Gross National Product in the United States, 1834-1909," National Bureau of Economic Research, Output, Employment, and Productivity in the United States After 1800, Studies in Income and Wealth, Volume 30, (Princeton University Press, 1966), Table A-3, p. 34; Gallman and Edward S. Howle, "The U.S. Capital Stock in the Nineteenth Century" (Unpublished paper, 1979); and Roger L. Ransom and Richard Sutch, "A System of Life-Cycle National Accounts; Provisional Estimates, Tables, and Source Notes to: 'Domestic Saving as an Active Constraint on Capital Formation in the American Economy, 1839-1928'," Working Papers on the History of Saving, Number 2 (December 1984), Institute of Business and Economic Research, University of California, Berkeley, Table C-3].

Value of the Increase in Slaves is calculated as the numerical increase in the slave population [column 1 of Appendix Table A-1] multiplied by the moving average value of a slave [column 5 of Table A-1].

Increase in Other Assets includes Net Foreign Investment, Purchases of Consumer Durables, Public Land Sales, and the Increase in Federal, State and Local Debt. See Ransom and Sutch, "A System of Life-Cycle National Accounts," Table E-1].

Increase in Total Wealth is the sum of the preceding three columns.

Table 2

Wealth and Farm Output on Southern Farms,
Current Dollars, 1860 and 1870,
Eight Counties

	Number Farms Sampled	Average Value per Farm			Wealth-Output Ratio	
		Personal Estate	Total Wealth	Value of Output	Mean	Median
1860:						
All Farms	570	14,576	24,881	2,478	8.9	7.3
Plantations	125	45,394	81,609	7,905	9.0	9.7
Other Slave Farms	262	9,114	13,345	1,215	9.7	9.0
Non-Slave Farms	183	1,346	2,648	577	4.6	3.9
1870:						
All Farms	760	775	2,788	2,128	1.3	1.3
White Farms	560	979	3,704	2,593	2.0	1.4
Black Farms	200	203	226	827	0.2	0.3

Sources and Notes: See next page.

Notes to Table 2

Source: Sample of farms from the 1860 and 1870 Censuses of Agriculture and Population. See text for details.

Note: Total Wealth is defined as the sum of Personal Estate and Real Estate as reported in the population census. The Value of Output is defined as the sum of the value of field crops produced in the previous year plus an estimate of the value of the increase in the stock of slaves in 1860. The physical outputs of cotton, rice, tobacco, corn, wheat, rye, oats, cowpeas, Irish and sweet potatoes, barley, hay, molasses, and hemp were multiplied by estimates of the farmgate prices of these crops in 1859 and 1869 respectively. For 1859 the prices were as reported in Roger L. Ransom and Richard Sutch, One Kind of Freedom: The Economic Consequences of Emancipation (Cambridge University Press, 1977), Table F.4, p. 263, except for the prices of hay, hemp, and cowpeas which were reported in Marvin W. Towne and Wayne D. Rasmusen, "Farm Gross Product and Gross Investment in the Nineteenth Century," in Trends in the American Economy in the Nineteenth Century, National Bureau of Economic Research, Studies in Income and Wealth, Volume 24 (Princeton University Press, 1960), pp. 299, 305, and 30p.pp9, and the price of Molasses which came from Charles E. Seagrave, "The Southern Negro Agricultural Worker: 1850-1870," PhD Dissertation, Economics, Stanford University, 1973, p. 112. Prices in 1869 were taken from Arden R. Hall, "The Efficiency of Post-bellum Southern Agriculture," PhD Dissertation, Economics, University of California, Berkeley, 1977, Appendix C, except for hay, hemp, and cowpeas which were from Towne and Rasmussen as noted above and tobacco and barley which were from U.S. Department of Agriculture, Report of the Commissioner of Agriculture for the Year 1869, (U.S. Government Printing Office, 1869), pp. 26-28. The value of the increase in the slave stock was estimated as 2.12 percent of the number of slaves owned by the farm operator times the average value of a slave in 1859 ($801) as reported in the Appendix. The Wealth-Output ratio is calculated both as the ratio of the averages and as the median for the sampled farms.

Table 3

Average Size of Farm and Average Values of Improved and Unimproved Land, 1860 and 1870, Eight Counties in the South

Year	Number of Farms Sampled	Average Number of Acres per Farm	Value per Acre Current Dollars	
			Improved Acre	Unimproved Acre
1860	624	217.1	$29.61	$5.81
1870	917	107.9	14.32	1.36
percentage change	+47.0	-50.3	-51.6	-76.6

Source: Sample of Farms, 1860 and 1870.

Note: All holdings with 10 or more acres of improved land and a reported farm value were included. The average value of improved land and unimproved land per acre was estimated separately for each county. The values reported here are a weighted average across the eight counties, using as weights the total number of improved acres in each county. The estimates are derived from census data on the value of the farm and the number of acres that were improved and unimproved on each farm. Our hypothesis is that the value per acre of improved land differed from the value per acre of unimproved land on each holding by an amount equal to the cost of clearing land. The cost of clearing land was assumed to be a constant for each county. To estimate the price of improved land per acre and the cost of clearing land we used least-square estimation methods. For a more complete explanation of the procedure and the estimating technique, see Roger L. Ransom and Richard Sutch, "Tenancy, Farm Size, Self Sufficiency and Racism: Four Problems in the Economic History of Southern Agriculture, 1865-1880," Southern Economic History Project Working Paper Series Number 8 (April 1970), p. 86.

Table 4

Share of Gross Capital Formation
In Gross National Product and
the Rate of Economic Growth,
Decade Averages, 1839-1888,
The United States

Percent

	Rate of Capital Formation		
Decade	Gallman	Davis & Gallman	Rate of Growth
1839-1849	11.5%	12.1%	
1844-1854	12.9	13.9	5.0%
1849-1859	13.3	14.2	5.1
1869-1878	17.4	18.4	
1874-1883	17.3	18.2	5.7
1879-1888	18.9	18.7	6.0

Sources: Robert E. Gallman, "Gross National Product in the United States, 1834-1909," National Bureau of Economic Research, Output, Employment, and Productivity in the United States After 1800, Studies in Income and Wealth, Volume 30, (Princeton University Press, 1966): 3-90; and Lance E. Davis and Robert Gallman, "The Share of Savings and Investment in Gross National Product During the 19th Century in the U.S.A.," Fourth International Conference of Economic History, Bloomington, 1968 (Mouton La Haye, 1973): 437-466.

Table A.1

Estimation of the Value of the Slave Stock, Millions of Dollars, 1805-1860, The United States

Year	Slave Population	Price of Prime Male in New Orleans	Index of Relative Value	Price of Average Slave	3-Year Moving Average	Value of Slaves
1804	1,002,545	700	44.0	308	---	---
1805	1,031,796	504	44.1	222	282	291
1806	1,061,901	719	44.1	317	275	292
1807	1,092,883	647	44.2	286	321	351
1808	1,124,770	813	44.2	360	306	344
1809	1,157,587	615	44.3	272	303	351
1810	1,191,362	624	44.3	277	265	316
1811	1,222,181	555	44.4	246	270	330
1812	1,253,798	643	44.5	286	272	341
1813	1,286,232	638	44.5	284	293	377
1814	1,319,506	694	44.6	309	289	381
1815	1,353,640	610	44.6	272	306	414
1816	1,388,657	753	44.7	337	337	468
1817	1,424,580	900	44.7	403	405	578
1818	1,461,433	1,065	44.8	477	429	627
1819	1,499,238	908	44.9	407	426	638
1820	1,538,022	875	44.9	393	397	610
1821	1,579,666	864	45.0	389	359	566
1822	1,622,437	650	45.2	294	331	536
1823	1,666,367	683	45.3	309	293	488
1824	1,711,485	606	45.4	275	287	491
1825	1,757,826	608	45.5	277	273	481
1826	1,805,421	588	45.7	268	264	477
1827	1,854,305	542	45.8	248	257	476
1828	1,904,513	551	45.9	253	261	497
1829	1,956,080	611	46.0	281	269	526

(continued)

Table A.1 -- Continued

Year	Slave Population	Price of Prime Male in New Orleans	Index of Relative Value	Price of Average Slave	3-Year Moving Average	Value of Slaves
1830	2,009,043	591	46.2	273	287	577
1831	2,052,410	663	46.4	308	303	623
1832	2,096,713	707	46.7	330	332	697
1833	2,141,972	765	46.9	359	356	762
1834	2,188,208	800	47.2	378	387	847
1835	2,235,442	893	47.5	424	449	1,005
1836	2,283,696	1,146	47.7	547	535	1,222
1837	2,332,992	1,322	48.0	634	555	1,295
1838	2,383,351	1,002	48.3	484	519	1,237
1839	2,434,798	906	48.5	440	433	1,055
1840	2,487,355	773	48.8	377	401	997
1841	2,551,159	788	48.9	385	359	915
1842	2,616,599	640	49.0	314	326	853
1843	2,683,718	569	49.1	280	290	778
1844	2,752,559	561	49.2	276	299	823
1845	2,823,166	692	49.4	342	325	918
1846	2,895,583	723	49.5	358	361	1,044
1847	2,969,859	771	49.6	382	384	1,141
1848	3,046,039	830	49.7	413	394	1,200
1849	3,124,174	776	49.8	387	392	1,225
1850	3,204,313	756	49.9	377	401	1,286
1851	3,272,371	878	50.1	440	429	1,405
1852	3,341,873	937	50.2	471	492	1,644
1853	3,412,853	1,122	50.4	565	545	1,862
1854	3,485,339	1,189	50.5	601	589	2,052
1855	3,559,366	1,185	50.7	600	619	2,203
1856	3,634,964	1,291	50.8	656	631	2,293
1857	3,712,169	1,249	51.0	636	646	2,397
1858	3,791,013	1,262	51.1	645	694	2,632
1859	3,871,531	1,564	51.2	801	741	2,870
1860	3,953,760	1,513	51.4	778	774	3,059
1861	4,037,735	1,440	51.5	742	---	---
	(1)	(2)	(3)	(4)	(5)	(6)

Sources: See text of Appendix.

Table A.2

Growth Rate of the Slave Population, 1790-1860, The United States

Year	Enumerated Slave Population	Annual Rate of Growth
1790	697,624	
1800	893,602	2.51%
1810	1,191,362	2.92
1820	1,538,022	2.59
1830	2,009,043	2.71
1840	2,487,355	2.16
1850	3,204,313	2.57
1860	3,953,760	2.12

Source: U.S. Bureau of Census, Negro Population, 1790-1915 (U.S. Government Printing Office, 1918), Table 6, p. 57.

Table A.3

Approximate Prices of Prime Field Hands in Four Markets, Selected Years, 1800-1860

Dollars per Slave

Year	Peak or Trough	Virginia	Charleston	Middle Georgia	New Orleans
1800	--	380	500	480	520
1810	P	500	540	600	900
1813	T	400	450	500	600
1819	P	800	900	950	1100
1828	T	400	500	700	770
1837	P	1100	1200	1300	1300
1843	T	500	550	660	700
1848	--	650	720	900	950
1853	--	830	950	1200	1250
1859	--	1100	1200	1650	1690
1860	--	1200	1240	1800	1800

Source: Estimated visually from the chart in Ulrich Bonnell Phillips, Life and Labor in the Old South (Little, Brown, 1929), p. 177.

Table A.4

Prices of Prime Male Slaves, New Orleans, 1800-1862

Dollars per Slave

	Price as Estimated by		
Year	Phillips	Engerman	Kotlikoff
1800	520		
1801	560		
1802	600		
1803	600		
1804	600	700	
1805	600	504	
1806	600	719	
1807	600	647	
1808	640	813	
1809	780	615	
1810	900	624	
1811	860	555	
1812	680	643	
1813	600	638	
1814	650	694	
1815	765	610	
1816	880	753	
1817	1,000	900	
1818	1,050	1,065	
1819	1,100	908	
1820	970	875	875
1821	810	864	762
1822	700	650	579
1823	670	683	618
1824	700	606	498
1825	800	608	603
1826	840	588	587
1827	770	542	568
1828	770	551	479
1829	770	611	596

(continued)

Table A.4 -- continued

Year	Price as Estimated by Phillips	Engerman	Kotlikoff
1830	810	591	579
1831	860	663	652
1832	900	707	701
1833	960	765	797
1834	1,000	800	714
1835	1,150	893	881
1836	1,250	1,146	1,069
1837	1,300	1,322	1,263
1838	1,220	1,002	897
1839	1,240	906	823
1840	1,020	773	800
1841	870	788	746
1842	750	640	608
1843	700	569	547
1844	700	561	547
1845	700	692	608
1846	750	723	709
1847	850	771	656
1848	950	830	797
1849	1,030	776	680
1850	1,100	756	697
1851	1,150	878	831
1852	1,200	937	878
1853	1,250	1,122	1,048
1854	1,310	1,189	1,130
1855	1,350	1,185	1,058
1856	1,420	1,291	1,085
1857	1,490	1,249	1,126
1858	1,580	1,262	1,175
1859	1,690	1,564	1,431
1860	1,800	1,513	1,451
1861		1,440	1,381
1862			1,116

Sources: see next page.

Table A.4 -- Sources

Phillips: Prices for 1800, 1801, and 1812 are estimated visually from Ulrich Bonnell Phillips, Life and Labor in the Old South (Little Brown, 1929), p. 177. All other figures are from Alfred H. Conrad and John R. Meyer, "The Economics of Slavery in the Ante Bellum South," Journal of Political Economy 66 (April 1958), reprinted in Alfred H. Conrad and John R. Meyer, The Economics of Slavery and Other Studies in Econometric History (Aldine, 1964), Table 17, column 6, p. 76.

Engerman: Data were supplied by Stanley Engerman. They are mean values of the prices included in a sample of invoices of slave sales held in New Orleans. The sample size for each year ranged between 2.5 and 5 percent. The prices averaged refer to "males ages 18 to 30, without skills, fully guaranteed as without physical or other infirmity." Engerman "utilized only those cases in which there was an individual price listed for a separate slave." For most years there were about 15 to 20 observations used in preparing the averages given.

Kotlikoff: The data are described in Laurence J. Kotlikoff, "The Structure of Slave Prices in New Orleans, 1804 to 1862," Economic Inquiry 17 (October 1979), Chart I, p. 498. The numbers on which the Chart was based are taken from Laurence J. Kotlikoff, "A Quantitative Description of the New Orleans Slave Market, 1804-1862," Robert W. Fogel and Stanley L. Engerman, editors, Without Consent or Contract: Technical Papers on Slavery (W.W. Norton, forthcoming). Kotlikoff included all males regardless of condition aged 21 to 38.

Table A.5

Age-Sex Profile of Slave Values, Index Numbers

Louisiana Males Aged 18-30 = 100

	Old South		New South	
Age Cohort	Male	Female	Male	Female
Under 5	10.19	10.75	15.29	15.54
5-9	31.19	31.11	40.88	40.47
10-13	48.27	45.11	62.71	58.79
14	56.58	51.07	73.84	67.08
15-19	64.43	55.86	85.05	74.37
20-23	72.55	59.56	97.85	81.24
24-25	75.21	59.64	103.17	82.91
26-29	75.47	57.86	105.49	82.18
30-35	71.75	52.00	103.78	77.00
36-39	64.16	43.80	96.41	68.29
40-44	55.10	35.35	85.68	58.42
45-49	43.50	26.00	71.39	46.79
50-54	32.16	17.57	56.31	35.70
55-59	21.87	10.66	42.30	26.16
60 plus	7.29	2.45	24.16	14.46

Source: Data provided by Stanley Engerman. See Robert W. Fogel and Stanley L. Engerman, Time on the Cross (Little Brown, 1974), Volume I, figures 15, 16, and 18, pp. 72 and 76; Volume II, 79-82, for a description of the method used to derive the estimates. Also see Robert W. Fogel and Stanley L. Engerman, "The Market Evaluation of Human Capital: The Case of Slavery," Twelfth Cliometrics Conference, Madison, Wisconsin, April 1972.

Table A.6

The Value of an Average Slave
by State, 1850

Current Dollars

States	Value
Delaware, Maryland, and District of Columbia	$300
Virginia, Kentucky, and Missouri	310
North Carolina and Tennessee	330
South Carolina and Arkansas	350
Georgia, Florida, Alabama, Mississippi, Louisiana, and Texas	400

Source: Ezra C. Seaman, Essays on the Progress of Nations (Scribner, 1852), p. 619.

Table A.7

The Slave Population of the "Old" and "New" South, 1790-1860

	Population		Percentage of Total	
Year	Old South	New South	Old South	New South
1790	668,360	29,264	95.8	4.2
1800	830,707	62,895	93.0	7.0
1810	1,031,385	159,977	86.6	13.4
1820	1,232,770	305,252	80.2	19.8
1830	1,453,548	555,495	72.4	27.6
1840	1,485,308	1,002,047	59.7	40.3
1850	1,693,081	1,511,232	52.8	47.2
1860	1,817,722	2,136,038	46.0	54.0

Source: U.S. Bureau of the Census, Negro Population, 1790-1915 (U.S. Government Printing Office, 1918), Table 6, p. 57. The "New South" is defined as Georgia, Florida, Alabama, Mississippi, Arkansas, Louisiana, and Texas plus the West North Central (includes Missouri), Mountain, and Pacific Census Regions. The "Old South" is defined as the United States less the New South.

Table A.8

Comparison of the Value of an Average Slave
Presented in Table A.1 with
Estimates made by Different Methods

Dollars per Slave

	Value of Slave		
Year	Estimate from Table A.1	Alternative Estimate	Authority
1805	$ 222	$ 220	Blodget
1850	378	357	Seaman
1860	778	771	Phillips
1860	778	778-782	Soltow

Sources: See next page.

Table A-8 -- Sources

Samuel Blodget, Economica: A Statistical Manual for the United States of America (privately printed, Washington D.C., 1806). In a social table "improved on the plan of Sir William Petty" Blodget valued slaves employed by planters at $200 and slaves "variously employed" at $300 [p. 89]. He judged there were 800,000 slaves in agriculture and 200,000 in other employment, thus giving $220 as an overall average.

Ezra C. Seaman, Essays on the Progress of Nations, (Scribner, 1952). Seaman gives averages for each state (see Table A.6) for 1850. The census of slaves in 1850 was used to calculate the total value of all slaves and the average price given here; U.S. Bureau of the Census, Negro Population, 1790-1915, (U.S. Government Printing Office, 1918), Table 6, p. 57.

Ulrich Bonnell Phillips, Life and Labor in the Old South, (Little Brown, 1929). Phillips gives the prices of prime field hands in Charleston and New Orleans (see Table A.3). Elsewhere, American Negro Slavery (D. Appleton, 1918), Phillips stated that the "average price for slaves of all ages and both sexes" was about one-half the price of prime field hands [p. 370]. Using the geographical weights of the Old and New Souths from Table A.7 and the conversion factor of fifty percent, the weighted average of Phillips' prices for Charleston and New Orleans gives a figure of $771 for 1860.

Lee Soltow, Men and Wealth in the United States, 1850-1870 (Yale University Press, 1975). Soltow shows that the value of personal estate returned to the Census Office in 1860 increased on average by $911 for each slave owned [p. 137]. Soltow's estimation technique will include in the $911 the value of the slave's personal effects and work tools, including clothing, work animals, and the value of slave cabins. Roger Ransom and Richard Sutch, One Kind of Freedom: The Economic Consequences of Emancipation (Cambridge University Press, 1977), report census data to show that the average value of implements, machinery, and livestock totaled $111.71 per slave [Table A.3, p. 209] and estimate the value of housing at $10 [Table A.2, p. 208]. The value of the slave's personal belongings was probably not much more than the slave owner's annual expenditures for clothing and other semi-durable items provided slaves which ranged from $7.70 to $11.00 per slave [Table A.5, p. 211]. Thus the total value of slave-related personal capital, according to these estimates, ranged between $129.41 and $132.71. Subtracting this from $911 gives an estimate for the value of an average slave of $778 to $782.

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