A New Economic View of AMERICAN HISTORY from Colonial Times to 1940

Second Edition

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W. W. Norton & Company
New York London

The south after the civil war

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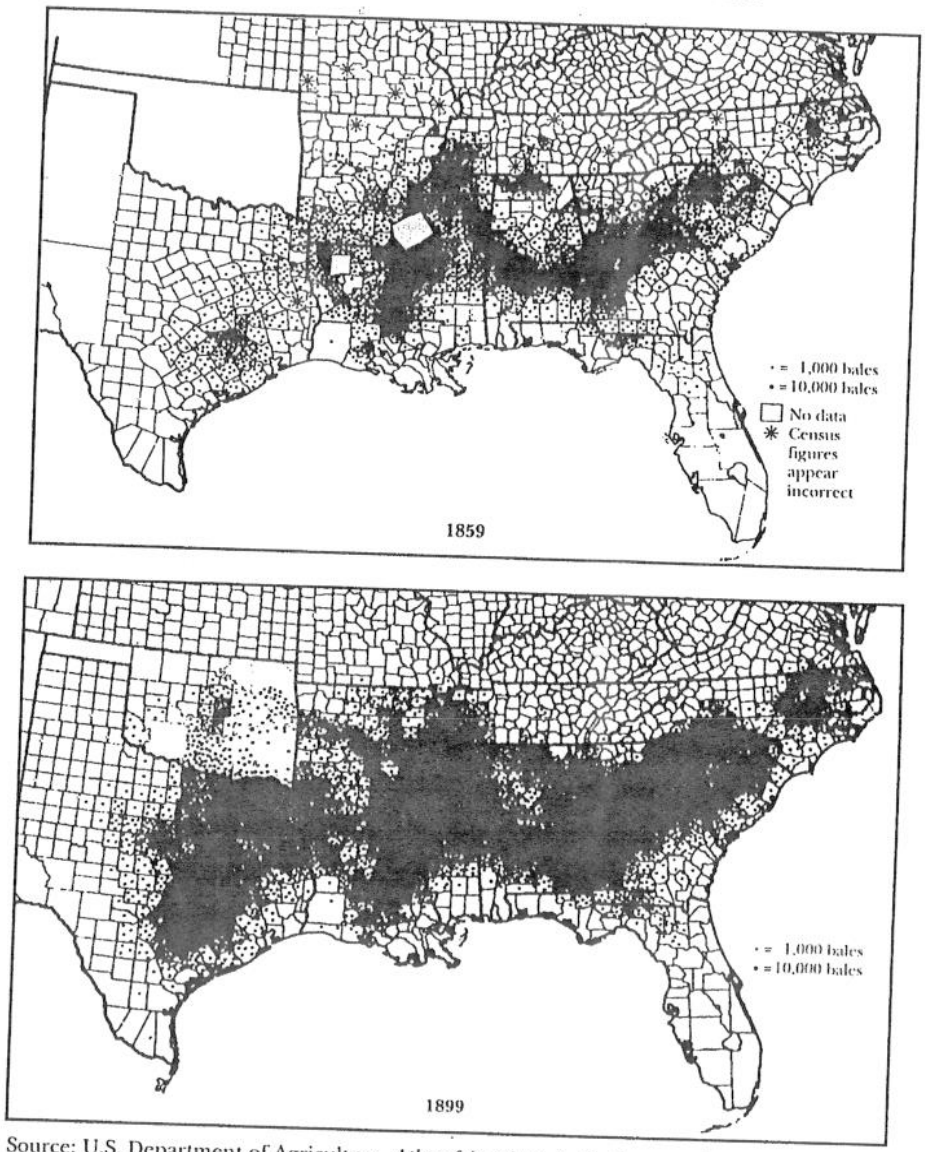
In the North the Civil War resulted in a brief pause in long-run growth and development. In the South it brought a complete restructuring of economic relations as well as military trauma. It was not just that slave and master became freedman or freedwoman and employer. The change was more fundamental. For generations the principal asset in the southern economy had been movable slaves. Overnight the primary asset became immovable land. Before the war southern planters had shown little interest in developing an infrastructure beyond the minimum necessary to facilitate the export of their cotton—some modest river and port improvements, for example—but little support for banks, railroads, and market towns serving local needs. Certainly as individuals southern planters had little or no incentive to maintain and improve their land so long as new and even more productive land lay just a few miles farther south and west.[1] Instead there was a continuous and relentless drift of cotton production into Arkansas, Mississippi, and Texas (see Figure 14.1). Moreover, slaveowners had little incentive to stimulate population growth if it reduced labor scarcity and the value of their capital stock in slaves.

Emancipation radically altered these incentives. Suddenly, overnight, cheap labor became a necessary and desired input and land became the principal source of wealth. As a result, southerners became interested in local development—small towns, roads, and railroads—development that would generate positive externalities that landowners could capture. They also became interested in farm improvement and soil conservation.

[1] In the aggregate, however, the slaveowners had much to fear from the westward migration to more fertile lands undermining the price of slaves and land by driving down cotton prices. See Kotlikoff and Pinera (1977).

FIGURE 14.1

Cotton Production in the United States: 1859 and 1899



Source: U.S. Department of Agriculture, *Atlas of American Agriculture*, part 5, sec. A (Washington, D.C.: Government Printing Office, 1918), 17.

Southern agriculture became land-intensive and labor-extensive rather than labor-intensive and land-extensive. And the relentless westward push of cotton production ceased. The result was nothing short of a revolution, but it failed to integrate the South into the broader, developing national economy.

In 1860 southern per capita commodity output had been slightly higher than the North's, thanks largely to splendid returns to cotton agriculture on the fertile lands west of the Appalachians. But while the North was recording a 9 percent gain per capita in commodity output during the Civil War decade, southern per capita output slipped by 39 percent. In part this reflected the drastic reversal of fortune for the West South Central region: Arkansas, Louisiana, and Texas. In the antebellum period per capita income in this region had been well above the national average, and a growing fraction of southern population lived there, boosting southern per capita income. In 1880, though, per capita income in this region had fallen much farther and faster than in other regions and stood at only 60 percent of the national average. Income levels fell throughout the South between 1860 and 1880. Although the South grew at about the same pace as the North thereafter, the huge income gap that had opened up during the Civil War decade and the 1870s began to close only around World War II. Whereas southern personal income per capita in 1840 had been more than 10 percent higher than personal income per capita in the Midwest, by 1880 it was barely half the midwestern per capita income (Figure 14.2). Although the gap had narrowed substantially by 1950, it was still over 25 percent.

It is not difficult to come up with explanations for this long-term southern economic distress. In fact, the real problem is to choose among the plausible theories. Here we survey some of the competing explanations for the South's dismal economic performance and then consider a closely related issue: the bitter experience of ex-slaves in the hostile world of the post-Civil War South.

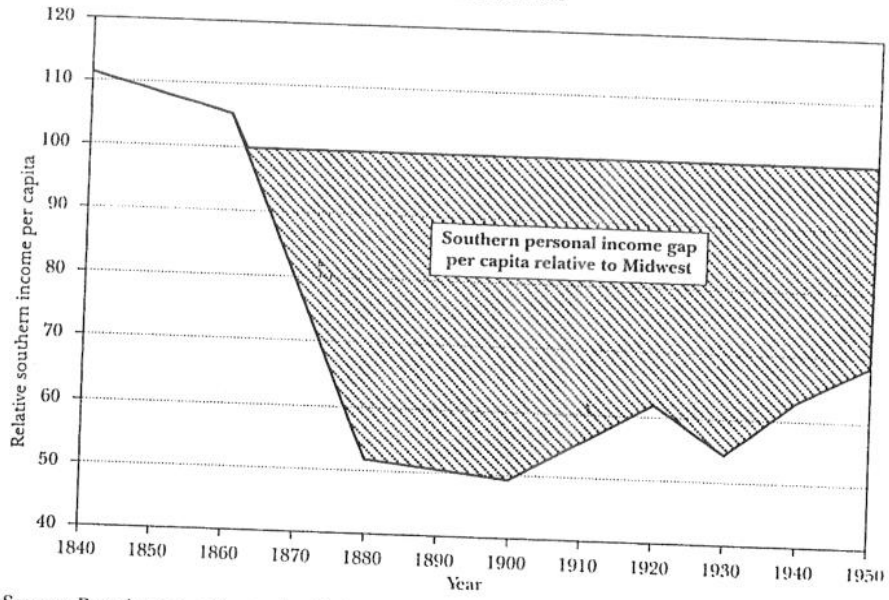
The Southern Economy in Decline

There was extensive physical damage in the South from the war. Much of the war was fought on southern territory, and major cities, including Charleston, Richmond, and Atlanta, were destroyed by the Union army. Moreover, whatever livestock and food supplies in the path of the fighting were not requisitioned by Confederate forces were confiscated by the boys in blue. Still, Claudia Goldin and Frank Lewis's estimate of $1.5 billion in war-related capital destruction or James Seller's estimate of $1.1 billion in property loss (40 percent of total southern property value) may overstate the actual physical damage.

Whatever the damage, though, it was quickly repaired. By 1870 the southern transportation system had been virtually restored to prewar capac-

FIGURE 14.2

Personal Income per Capita in the South as a Percentage of That in the Midwest



Source: Based upon estimates by Richard Easterlin. "Regional Income Trends, 1840–1950," in *The Reinterpretation of American Economic History*, ed. Robert W. Fogel and Stanley L. Engerman (New York: Harper & Row, 1971): 40, Table 1.

ity. Similarly, although the southern manufacturing sector remained small, manufacturing establishments in the towns and cities of the Cotton Belt—presumably a prime target of the Union forces—were producing about 5 percent more output (with about 5 percent more invested capital) in 1870 than they had produced in 1860. Even agriculture, which dominated the southern economy, seems to have suffered no shortage of capital. True, the census shows a one-third decline in the number of draft animals between 1860 and 1870 but if this had constrained output, one should have seen a corresponding increase in the price of the remaining stock as farmers bid for this scarce resource. Instead, after adjustment for inflation, prices fell. In 1870, a mule colt fetched only about $40 or 0.54 of a bale of cotton whereas in 1859 one had been worth about 1.03 bales of cotton.

Nevertheless, many have accepted war damage as the primary source of the southern economic decline. This interpretation has also suited succeeding generations of southerners who blamed the long postwar malaise on Yankee pillage. There is reason, however, to question whether so great and lasting a decline can be explained so easily. After all, Japan and Germany re-

covered rapidly from far worse destruction in World War II. Indeed, the modern experience has been that the military victors have often ended up the economic losers while the military losers have wound up the economic winners.

What, then, made the South's experience so different? Why was southern per capita commodity output in 1880 20 percent below 1860 levels?

Some have blamed the South's loss of its export monopoly in raw cotton.[2] During the war European mills had eventually replaced blockaded American supplies with Indian, Brazilian, and Egyptian cotton. Once growers in these countries had invested in cotton production, they were reluctant to switch to other crops. Consequently, it was more than a decade before the South recaptured its market share (Table 14.1). Other forces may also have impeded the South's recovery of its cotton market share. Deflationary federal policies, increased world demand for midwestern grain, and capital inflows from Europe increased the dollar price of goods, including American cotton, improving the U.S. terms of trade but making it harder for American cotton to compete with that from other countries. The argument is twofold. On the one hand, the war shifted foreign supply function for cotton outward; on the other, the appreciation of the dollar, by making cotton priced in dollars relatively more expensive in terms of foreign currency, shifted the foreign demand curve for American cotton inward.

Gavin Wright has tested these propositions by estimating the supply and demand functions for cotton. He concludes that Indian, Brazilian, and Egyptian cotton supply curves were indeed shifting outward, suggesting that competition from these countries was growing over time, but the growth in supply from India—the South's largest competitor—was as fast before the war as during and immediately after. Brazil and Egypt were much smaller producers than India. Hence shifts in their supply functions had less impact on the demand for American cotton. At the same time high cotton prices probably affected exchange rates more than the other way around. Instead Wright explains southern retardation in terms of the fundamental dependence of the southern economy on world demand for cotton. In the three decades before the Civil War the demand for cotton expanded at roughly 5 percent a year. Prices fluctuated from year to year because crop size varied with the weather, but in the long run cotton suppliers responded as textbooks predict firms in a competitive economy would respond: expanding output at constant cost to maintain the real price of cotton at about 11 cents a pound (1880 prices). Now five percent cotton output growth at a stable price meant rapid extensive economic growth for the South throughout the antebellum years. After the war, however, demand changes made price more sensitive to year-to-year fluctuation in crop size, but much more important, between 1860 and the 1870s demand for cotton plunged and then stagnated. While demand had been growing at 5 percent before the war, it slowed to just 1.3 percent per year for the period 1866-95 and grew at only 2.7 percent, or about half the antebellum average, between 1880 and 1900. Thus, with or without the war, it would have been impossible for the South to sustain its earlier economic success. The long boom in cotton was over. The question is why factors failed to seek alternative employment.

Roger Ransom and Richard Sutch have offered an entirely different explanation for the collapse of the southern economy: the reduction in labor supply associated with emancipation. Their evidence shows that as slaves African-Americans, regardless of gender, had no choice but to begin working earlier in life, work more hours each day and more days each year. Once they were free to choose, they opted to spend some of their potentially greater income on time off. Indeed, Ransom and Sutch estimate that freed-

[2] Conrad et al. (1967).

TABLE 14.1

Average Annual Cotton Imports into Great Britain by Source (thousands of bales)

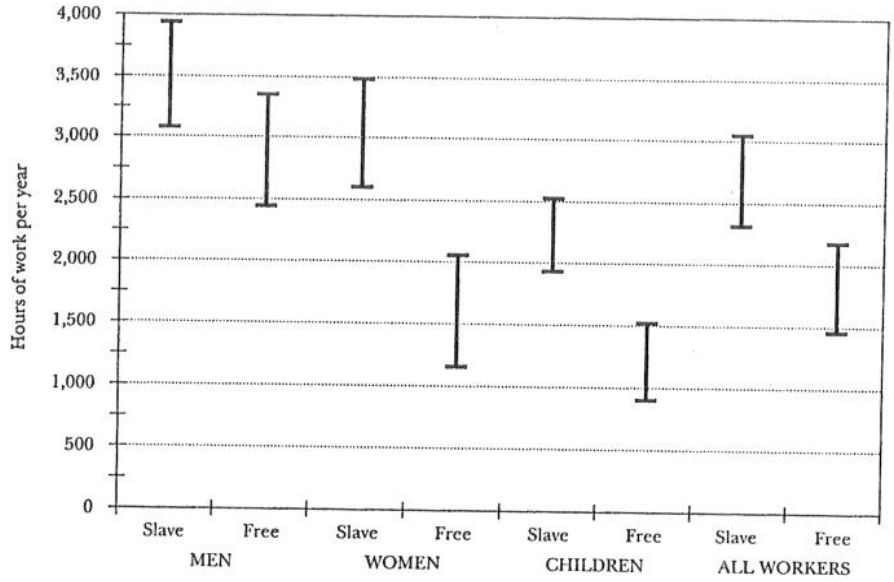
Years	U.S.A.	India	Brazil	Egypt	U.S. Percentage Share
1850s	1,638	406	132	103	72
1860	2,581	563	103	110	77
1861	1,842	987	100	98	61
1862–65	216	1,418	206	282	10
1866	1,163	1,867	408	200	31
1867	1,226	1,511	437	198	35
1868	1,269	1,452	637	201	35
1869	1,040	1,496	514	227	31
1870–71	1,957	1,150	459	246	50
1872–73	1,651	1,179	595	317	42
1874–75	1,909	1,048	461	291	50
1876–77	2,041	649	324	313	60
1878–79	2,330	469	102	220	73
1880–81	2,688	544	176	256	72
1882–83	2,670	870	291	249	65

Interpretation: The U.S. prewar share of the cotton market was not recovered until the 1870s. India and Brazil, which had picked up the market during the Civil War, gradually lost it again, but the regression took more than fifteen years.

Source: Thomas Ellison, *The Cotton Trade of Great Britain* (New York: Augustus Kelley, 1968), cited in Gavin Wright, "Cotton Competition and the Post Bellum Recovery of the American South," *Journal of Economic History* 34 (1974): 611. Reprinted by permission of Cambridge University Press.

FIGURE 14.3

Range of Hours of Work by African-Americans under Slavery and Freedom



Source: Roger Ransom and Richard Sutch, *One Kind of Freedom* (New York: Cambridge University Press, 1977): 45, Figure 3.1.

African-American children (ages ten to fifteen) and women put in only about half as many hours of work per year (Figure 14.3), while freed men cut their annual hours of work by about one-fifth. Overall, man-hours (weighted for productivity differences) declined from between 2,306 hours and 3,047 hours per year to between 1,448 and 2,187 hours a year, or by perhaps a third. The net effect was to reduce average rural African-American work effort per capita between 28 and 37 percent. These statistics raise some puzzling questions: Why did the female labor supply fall so much? How is such a decline, if true, to be interpreted in terms of a choice between market versus nonmarket work? Why did African-Americans work so much less than northern farmers, who still averaged around 3,000 hours or more per year?[3]

Such a drastic reduction in labor supply could explain much of the shortfall in postwar output. Output per African-American slave on plantations in the Cotton South fell from $147.93 in 1859 to just $74.03 per African-American sharecropper in 1879, a decline of 50 percent. Physical output per labor hour, however, fell much less because of the reduction in work hours. Slaves had supplied about 70 percent of southern labor before

[3] Goldin (1979); Olson (1992)

the war, so a 37 percent reduction in African-American labor could indeed cut total southern labor per capita by as much as 26 percent (=37 percent of 70 percent). With an 1859 cotton crop over 30 percent higher than might have been expected, and other crops also well above normal, the combined effect of a return to expected output per laborer and the reduction in hours worked because of emancipation probably reduced per capita output by 50 to 60 percent. In fact, physical productivity actually fell to 52 percent of the 1859 level. The sharp decline in southern economic fortunes can thus be entirely ascribed to factors other than wartime destruction.

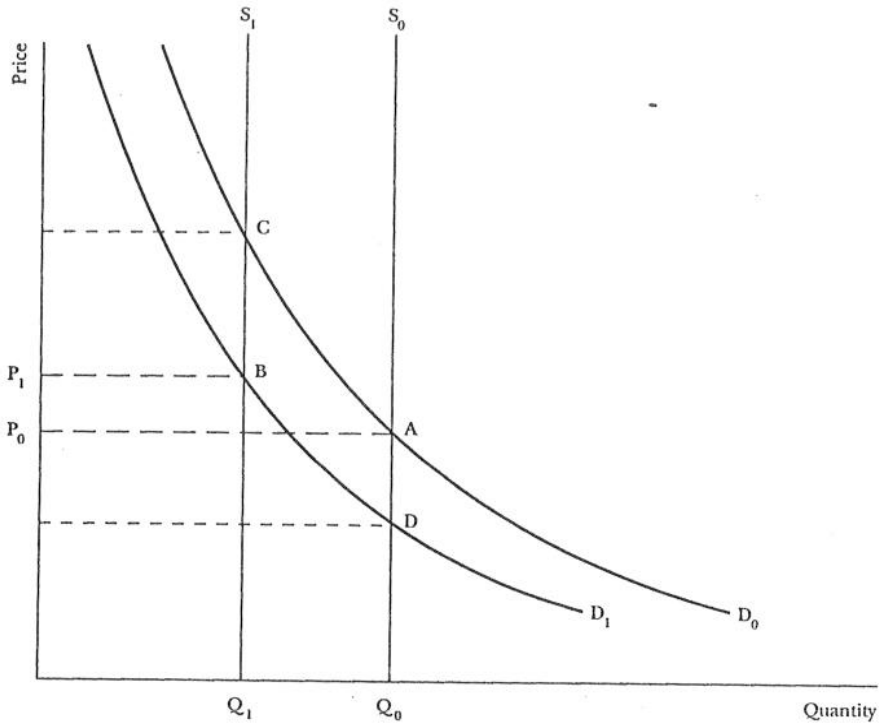
Ransom and Sutch explain the decline purely in supply terms; Wright's explanation centers on demand factors. Can these two radically different views be reconciled? Happily, the answer is yes. In fact, Peter Temin has done precisely that. His argument is elegant, yet simple. Consider Figure 14.4. The supply and demand curves represent the relative positions of antebellum supply and demand (S_0 and D_0) and postbellum supply and demand (S_1 and D_1) for American cotton. In particular, D_0 represents actual prewar demand and the hypothetical relative position of postwar demand if prewar trends had continued unabated. Instead, if demand for cotton grew much less rapidly after the war than before, then postwar demand would be *relatively* less than if the trend had been sustained; that is why D_1 lies to the left of D_0. Evidence suggests that both supply and demand for cotton shifted and the economy moved from a market equilibrium at A before the war to B afterward. The price of cotton (both nominal and real) remained above prewar levels until the late 1870s, gradually returning to prewar levels. Southern per capita income, however, fell to 60 percent or less of the national average.

By focusing solely upon the supply shift from S_0 to S_1, Ransom and Sutch view the change as from A to C. Notice that in a sense Ransom and Sutch are right: The reduction in market sales from Q_0 to Q_1 is attributable solely to the shift in supply. However, the income earned by the South from the sale of cotton depends upon demand as well as supply—that is to say, both price and quantity matter. By emphasizing the role of demand changes, Wright, on the other hand, focuses upon the shift in demand from D_0 to D_1—that is, from A to D.

For southern income, the question is whether a move from A to C that reflects supply shocks results in a larger or smaller income loss than the demand-shock move from A to D. Temin answers this question by first calculating the increase in income from a move from B to C or D. Point C clearly represents a higher income level than B: Sales are unchanged at Q_1, but prices are higher. How much higher? According to Wright's calculations, if we assume no change in demand, prices for the decade centered on 1880 would have been about 80 percent higher than they were. Revenue at C would therefore be 80 percent higher than at B. Since cotton accounted for about half of agricultural income and agricultural income was about 80 percent of total income in the five major cotton states, total income at C would

FIGURE 14.4

The Supply and Demand for Cotton Before and After the Civil War



be about a third higher than at B ($0.8 \cdot 0.5 \cdot 0.8 = 0.32$). The effect on income of a move from B to D is more difficult to calculate and depends upon the elasticity of the demand curve D_1. Wright estimates that this increased from unit elasticity before the war to about 1.5 after the war. Ransom and Sutch estimate that per capita agricultural output in 1880 was only two-thirds to three-quarters what it had been in 1860; thus a shift from Q_1 to Q_0 represents an increase of between a half and a third. If we assume a constant elasticity demand curve, a 50 percent increase in output could be sold only if price were reduced by about 24 percent. If, on the other hand, production increased by only one-third, then price would have had to fall by about 17 percent.[4] In the former case, cotton producers' income would have been

[4] The usual formula for elasticity: $\epsilon = (\Delta Q/Q)/(\Delta P/P)$ doesn't work in this case since "ΔQ is not "small." Instead the calculations reported here were made by evaluating a normalized constant elasticity demand curve: $Q = P^{-1.5}$. The prices changes needed to absorb the change in output are much smaller than one might have expected because the change in quantity is not small and because of the concave (to the origin) curvature of the demand curve.

about 14 percent higher; in the latter case, income from cotton would have increased by about 10 percent.[5] It is reasonable to suppose that in the absence of reduced labor effort, output of other crops would also have increased. If one assumes that demand for them was perfectly elastic so that their price did not change in response to increased production, then income from these other commodities would have increased between one-third and one-half. If half of farm income came from cotton and farm income represented 80 percent of total income, then these changes should have increased total income between 17 and 26 percent, where 26 percent = 80 percent of $(0.5 \cdot 14\% + 0.5 \cdot 50\%)$

Thus, if the supply curve alone had shifted—that is, by moving from A to C rather than A to B—income would have been about 32 percent higher than it actually was and income per capita could have been as high as 80 percent of the national average instead of 60 percent or less. If, on the other hand, the demand curve had shifted while supply remained unchanged, then income might have reached 70 to 75 percent of the national average. Ransom-Sutch's labor force withdrawal and Wright's demand stagnation are thus of similar orders of magnitude. Note one important difference, though: The stagnation of cotton demand generated a real loss of welfare to the South, while the withdrawal of African-American labor as the result of emancipation merely transformed measured income into unmeasured nonpecuniary income for those who chose to work less.

The Operation and Performance of Postbellum Agriculture

The fact that the sharp drop in southern per capita income following the war can be explained by either external demand forces or the emancipation of the slaves does not necessarily mean that the drop in income was therefore the result of those changes in demand or the reduction in the supply of labor. Nor does it necessarily mean that the economy was otherwise operating efficiently. Emancipation brought with it a fundamental restructuring of relationships between the factors of production, and it took time for other institutions to adapt to these changes. Moreover, if southern slave agriculture had indeed been more efficient than southern farming with free labor, then the switch to an all free labor system should have reduced regional total factor productivity. This alternative supply side explanation, advanced by Robert Fogel and Stanley Engerman, could also explain the decline in southern per capita income after the war.

In the wake of military defeat, southern planters had attempted to retain the basic features of the plantation system by hiring former slaves on *annual*

[5] Temin (1976) reports the income gain at 15 to 25 percent. We have been unable to duplicate this result.

wage contracts. Ex-slaves were hired to work the fields in gangs and were subject to discipline by overseers, including fines and discharge without back pay but not whipping. By working their newly freed labor in gangs on the old plantations, the planters hoped to preserve the efficiencies that had served them so well when the labor had been supplied by slaves: self-monitoring of the gangs through collective responsibility. For the freed slaves, though, this system was too like the slavery from which they had been freed. The faces of the plantation owner and the overseer, the nature of the tasks, and the sometimes abusive, insulting, and demeaning treatment were only too familiar to them. The only major difference in their work lives was the receipt of take-home pay. But even then the wages were not necessarily competitively determined, and ex-slaves probably continued to receive less than the value of their marginal products. The courts and state legislatures, for example, tried to restrict African-American mobility and prevent open competition for their labor services by binding the freedman to particular employers through so-called Black Codes. Planters set up employer cartels and encouraged the use of violence and intimidation to coerce employee acceptance and restrict vocal dissent or complaint. Inevitably this system broke down within a few years, in part because ex-slaves fiercely resisted working in gangs, as they had when enslaved, and partly because the general shortage of labor made it difficult to prevent landowners from breaking ranks and competing with one another by offering labor arrangements more pleasing to their former chattels.[6]

The pure plantation was maintained where its advantages were decisive, such as on sugar and rice plantations in Louisiana,where the planters paid whatever wages were necessary to attract the labor they needed.[7] The answer, however, for many of the larger planters was to subdivide the plantation into plots of 20 to 50 acres, each suitable for cultivation by a single—typically African-American—family under new tenancy arrangements. With this change the labor gangs disappeared along with any efficiencies they had generated. To the extent that the plantation was broken up into smaller operating units, economies of scale were also dissipated. As a result, the postwar southern economy lost the key features that Fogel and Engerman credited as its sources of economic success before the war. After emancipation, for example, at least twenty-five tenant families and others, many of them former Barrow slaves, worked the Barrow Plantation. With similar changes elsewhere throughout most of the South, acres per farm declined dramatically in every southern state except Texas, falling from 149 acres per farm in 1880—slightly more than in the average midwestern farm of the time—to only 70 acres by 1930 (Table 14.2). The decline in the Deep (predominantly cotton) South was even more precipitous. These increasingly

[6] See, for example, Shlomowitz (1992).
[7] Wright (1979, 1986).

TABLE 14.2

Acres per Farm, 1880-1930

	1880	1890	1900	1910	1920	1930
Alabama	139	126	93	79	76	68
Arkansas	128	119	93	81	75	66
Florida	141	107	107	105	112	85
Georgia	188	147	118	93	82	86
Louisiana	171	138	95	87	74	58
Mississippi	156	122	83	66	67	55
North Carolina	142	128	101	88	74	65
South Carolina	143	115	90	77	65	66
Tennessee	125	116	91	82	77	73
Virginia	167	150	119	106	100	98
5 Deep South states	159	130	96	80	73	67
10 southern states	149	128	98	84	77	70
Midwest	122	133	145	158	172	181

Source: Adapted from Gavin Wright, *Old South, New South* (New York: Basic Books, 1986): 54, Table 3.2.

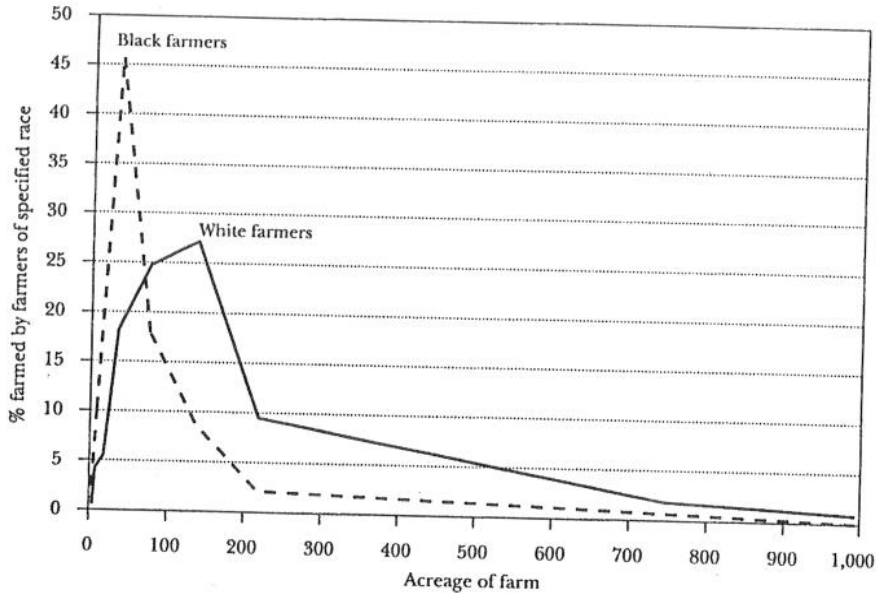
small farms were typically cultivated by tenants and sharecroppers, many of whom were African-American, especially on the smaller farms (Figure 14.5). Indeed, the average African-American–operated farm in the South in 1900 (regardless of tenure) was only about one-third the size of the average farm operated by a white farmer. On the other hand, over the same period, the average farm size in the Midwest grew almost 50 percent to 181 acres.

The breakup of large plantations—hence the dissipation of economies of scale—may be an illusion, since the census identified only farm operators and the farm that each operated. True, those data clearly show a sharp rise in the number of individual farm operators, a decline in average farm size, and a shift in the distribution of farm sizes toward much smaller units after the war. In 1860, for example, 37 percent of farms in the five major cotton-growing states had fewer than fifty acres of improved land, and almost 7 percent exceeded five hundred acres. In 1870 more than 60 percent of farms were smaller than fifty acres while just over 2 percent exceeded five hundred acres. But to the extent that there was still a single landlord who provided the managerial direction and supervision, set lease terms, and so forth, it is not so clear that the activities among the individual farm workers and operators were uncoordinated. Instead plantation landholdings continued to be managed as a single unit even when subdivided.

The typical landlord subdividing a plantation assigned some lots to sharecroppers, others were rented to tenants, and yet others were farmed by

FIGURE 14.5

Distribution of Farms by Size and by Race of the Farm Operator in 1900



Source: U.S. Bureau of the Census, *Agriculture,* 12th Census (1900), vol. 5 (Washington, D.C.: Government Printing Office, 1902): Table 1.

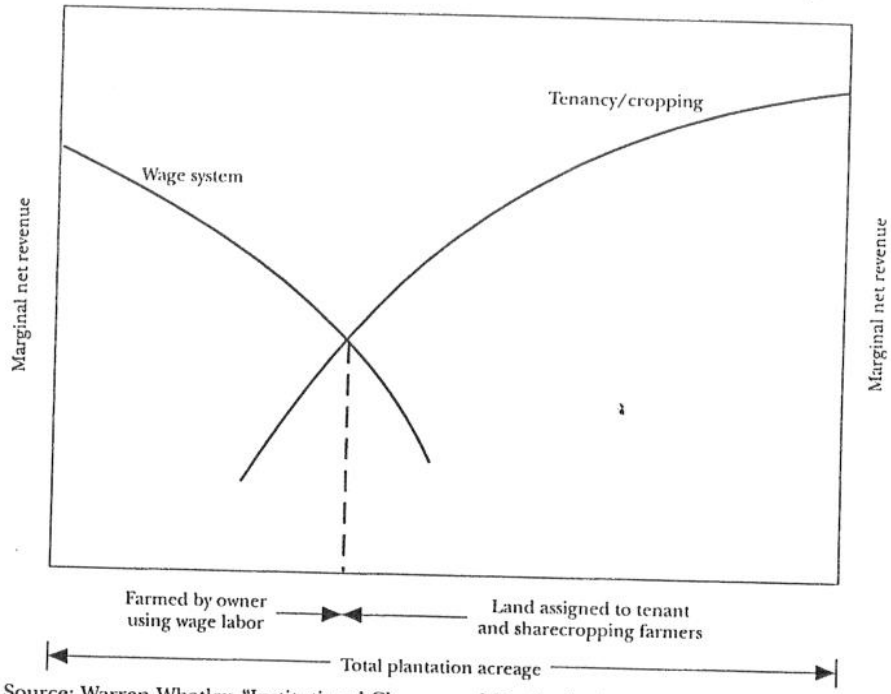
the planter using wage labor in a systematic, economically rational manner.[8] Monitoring and other enforcement costs played a key role in determining the spatial distribution of different forms of land tenure and farm operation on the plantations. Wage labor, which required daily instructions and constant monitoring, farmed the land closest to the planter's home. Croppers required less close supervision since the landlord's interest was less with the day-to-day cropper's work effort than with the overall well-being of the crops in which the landlord had a vested interest. Consequently, sharecroppers farmed land farther from the owner's house, while the cash tenants farmed the land on the boundaries of the plantation since the only landlord concerns were with the stewardship of the land and the tenant's ability to make the rental payment when due.[9] The mix between these different groups was then determined by the planter's equalizing marginal profitability (after taking account of the different transactions and enforcement costs associated with each) across farm operators, taking into account the wages and other

[8] Alston and Higgs (1981); Virts (1987).

[9] See Thomas J. Wooffer, *Landlord and Tenant on the Cotton Plantation* (Washington, D.C.: Works Progress Administration, 1936).

FIGURE 14.6

Determining the Optimum Allocation of Land between Different Tenure Systems



Source: Warren Whatley, "Institutional Change and Mechanization in the Cotton South," unpublished Ph.D. dissertation, Stanford University, 1982: 60.

benefits they would have to offer to attract wage labor—primarily unmarried males—and the terms (especially size of plot) needed to attract sharecroppers and their families (Figure 14.6).

As a result, there was a tremendous diversity of institutional arrangements in the South for combining the planter's land with the freedman's labor and miscellaneous other farming inputs. Wage contracts, for example, might involve time wages per day, week, month, or year. Payment might be made frequently or only after harvest. Additionally, wage contracts might specify piece or task rates, and the contracts might cover groups ("gangs") as well as individuals. Wage contracts went overwhelmingly to young unmarried males, who presumably had few local ties. Just as there was diversity in wage rates, so fixed payment tenancy took two forms: money ("cash rent") or crops ("standing rents"). Moreover, there was sharecropping, in which the landlord provided the land and managerial supervision and some or all of the equipment and workstock in return for a share of the output. As with other tenure arrangements, this broad category encompassed true share tenants who supplied everything but the land. They had secure legal tenure.

There were also croppers who might supply nothing but their labor. Tenant shares might range from perhaps two-thirds for the true share tenant to as little as one-third for the cropper. These contracts typically went to older persons of reputation with families (who might supply additional labor in times of need), while the cash tenants were older, well-established families of reputation with some wealth and resources. In addition, any of these diverse contracts could be modified by innumerable side payments and agreements. The result was a hodgepodge of different contractual arrangements that might be explained by a variety of complementary rather than mutually exclusive hypotheses, such as risk-sharing arrangements and monitoring and supervision costs.[10]

Sharecropping in its various forms emerged as the dominant tenure arrangement in the postbellum South as a compromise. The ex-slaves detested wage work in gangs and wanted some ownership or tenure rights even if these involved some risk. The landlords disliked the idea of arm's-length cash-rental agreements because they did not trust African-Americans to work hard or to maintain property carefully on their own. Sharecropping involved a mix of the two systems, providing some independence to African-Americans, but not so much that landowners could not supervise the day-to-day activities of their tenants.

It is alleged, however, that sharecropping (as opposed to renting) was an inefficient economic solution to the problem of how best to work the land because it reduced production incentives. Consider, for example, the case of a sharecropper who knows that one more day's work in the cotton fields, harvesting the remnants, will increase total crop output by $5 worth. On half shares, the expected gain to the cropper is only $2.50. Consequently, if the casual day labor market wage (or the cropper's shadow price of leisure) is anything over $2.50, the tenant would prefer to let the $5 worth of cotton rot in the fields. As a result, aggregate income (or welfare) is reduced by the difference between the $5 worth of cotton and the day wage (or shadow price of leisure). However, adverse incentives exist under other arrangements as well. Under either a wage contract or straight land rental contract, one of the two parties has a guaranteed income and thus no direct stake in maximizing the value of output.[11] Under a sharecropping arrangement, by contrast, both parties have a clear stake in rapid adjustment to changes in weather or price expectations, and no barrier stands in the way of adjusting work schedules. Sharecropping agreements, moreover, were not lifetime arrangements; they were renegotiated annually. If the landlord suspected that tenants might have produced greater yields through greater diligence, he could always look for a new tenant. Competition among tenants thus

[10] Reid (1973), for example, stresses risk while Alston and Higgs (1981) emphasize the role of transactions costs and the creation of incentive to optimize land use in the absence of continuous monitoring.

[11] Reid (1973).

might force sharecroppers to work as hard as renters, but in general the absolute residual claimancy of one of the parties under either a wage contract or cash tenancy generated stronger incentives to maximize output.[12]

Lack of security in tenure may also have generated adverse incentives with respect to land use. Without some security of tenure or the offer of compensation, effort expended preventing soil erosion, repairing fences, improving breeding stock, and so on was effort wasted from the tenant's perspective. The fruits of any significant productivity improvement would be captured by the landowner. Tenants who shirked on maintenance could always be thrown off the land at the end of the contract year, to be replaced by new tenants who offered a competitive level of service. Cash side payments could also be made to get tenants to finish specific tasks.

Even so, sharecropping was well suited to conditions in the postemancipation South. The ex-slaves had few marketable resources beyond their labor to offer. The owners of the now relatively scarce resource land had an incentive to work it as labor-intensively as possible. With the landowner receiving a fixed share of the total crop, the more intensively the land is worked, the more money the landlord stood to make. Consequently, landowners adopted the strategy of limiting the acreage worked by a single tenant family to induce intensive cultivation. By making land the fixed factor and labor the variable one, as there was less land with which to work, the value of the marginal product of land (and the return to the landlord) rose while labor income fell, although ultimately market forces limited the landlord's ability to reduce labor productivity.

Just as the market limited the ability of tenants to neglect completely the landlord's interest in long-term land investment, the market limited the landlord's ability to exploit his tenants. One measure of how well the market worked is the high degree of geographic mobility among southern farmers. In the early twentieth century more than a third of southern farmers had been on their land less than two years, and more than 60 percent had been there less than five years. Among tenant farmers the five-year persistence rate was less than 20 percent.[13] African-Americans as a group, who were to be found overwhelmingly among the ranks of the sharecropping tenants, were thus much more likely to have moved recently than whites, although whether this was by choice or necessity is not known. Within specific tenure groups, however, African-Americans were less likely to move than others, perhaps because these longer-term residents were the recipients of patronage and paternalism from the landlord. These nonmarket services, which protected the black families from intimidation and an arbitrary criminal and civil justice system in return for deference and subservience, were of substantial value and not lightly relinquished for marginal market gains.[14]

[12] Alston and Higgs (1981).

[13] Pritchett (1987).

[14] Alston and Ferrie (forthcoming).

Emancipation granted the ex-slaves nothing beyond their freedom and the right to the products of their future labor. Slavery had restricted their acquisition of human capital. Most had known little other than unskilled labor, and literacy rates were low. Despite the pernicious influence of racial discrimination, incomes of black Americans grew more rapidly than those of whites, averaging about 2.7 percent per year.[15] Moreover, African-Americans accumulated wealth, including real estate, more rapidly than whites in the late nineteenth and early twentieth centuries. In Georgia, for instance, the value of black property per person increased from just one thirty-sixth that of whites in 1880 to perhaps one-sixteenth of the white per capita property holdings by 1910.[16] This general pattern was repeated across the South.[17] Still, African-Americans achieved farm ownership only slowly. In Georgia, for example, they owned fewer than six hundred thousand acres (about 2 percent of the land in farms in Georgia and an area about the size of a county) by 1880. By 1880 only 9 percent of southern cropland was cultivated by wage laborers on large farms while tenant farmers, both African-American and white, farmed about 40 percent of the land. The remaining acreage was mostly owned and operated by white family farmers.[18]

Although the South had relatively few banks before the Civil War, there seems to have been no shortage of short-term credit for cotton and other staple crop producers. The commodity credit system was shattered by the Civil War. By 1880, though, it had partially recovered. The growth in the number of banks after the war masks a sharp reduction in total bank assets from prewar levels. Nowhere was the resulting lack of bank credit felt more keenly than among small farmers, particularly former slaves. Poor, small farmers had neither the time nor the skills to make a two-day trip to the county seat to negotiate a $100 bank loan against next autumn's crop. Nor would these bankers have had the knowledge of a tenant's reputation and abilities to make a rational and fair appraisal of the risks of such a loan. Thus local merchants became bankers by default, selling food, clothing, and agricultural inputs (on credit) to farmers who pledged their crops as security. These merchants were able to exercise some degree of monopoly power because of (1) location advantages—farmers were naturally reluctant to travel beyond the nearest town to do their provisioning—and (2) high market entry and contract enforcement costs—merchants had to know their credit customers well.[19] One way in which this monopoly power manifested itself was in the alleged high price of rural credit. For example, the credit price for foodstuffs was perhaps 30 percent higher than the cash price (Table 14.3). However, since it is difficult to assert ownership rights over goods that have already been consumed, a good part of this difference may reflect the high risks of

[15] Higgs (1977, 1982).
[16] Higgs (1982).
[17] Margo (1984).
[18] Ransom and Sutch (1977).
[19] Ibid.

TABLE 14.3

Food Prices for Southern Farmers, 1879–1880

Food	Cash	Credit	% Difference
Shelled corn ($/bushel)	.765	.998	30
Bacon ($/lb)	.080	.102	28
Food index (1859 = 100)	79.1	101.5	28
Overall cost of living (1859 = 100)	86.2	99.6*	13

* If 60 percent of family purchases are made on credit.

Source: Roger Ransom and Richard Sutch, *One Kind of Freedom* (Cambridge, England: Cambridge University Press, 1977): 218. Reprinted by permission of Cambridge University Press.

such business. Indeed, despite these high interest rates, local merchants rarely became wealthy. Few had a net worth over $5,000 and there was considerable turnover in the business. There were few barriers to entry other than the potential number of customers, and the actual rapid entry into this business should have kept any potential monopoly profits in check. Equally, many country shopkeepers must have made frequent errors of judgment in extending credit to customers or in the pricing of that credit, for many failed and exited the business.[20]

Suppose, however, that we allow some element of monopoly in rural store credit. Under ordinary circumstances, such monopoly power distorts resource allocation by reducing the output of the product or service monopolized—in this case agricultural credit. Ransom and Sutch, however, claim that country store credit created or at least exacerbated a very different sort of allocative inefficiency: overspecialization in cotton production. Merchants insisted that debtors grow cotton to secure their debts, possibly because this tended to lock in debtors, reducing farm self-sufficiency in food and thereby ensuring that the farmer would be back next year needing food on credit. There is, however, a far less sinister motive for country merchants to have preferred payment in cotton over other crops: There existed a finely developed national and international market in cotton that lowered the transactions cost of dealing in cotton as opposed to, say, corn.

One important consequence of what Ransom and Sutch label "debt peonage" was the marked decline in postbellum southern food production. In the Deep South, where the change was most dramatic, corn production declined from 29 bushels per person in 1860 to only 17.3 bushels per person in 1880. Between 1850 and 1890, on the other hand, the ratio of cotton to corn output more than doubled. With food output per person halved, the South switched from being a net exporter of food to a net importer. This switch from food to staple production was most marked among the smaller farmers

[20] Goldin (1979).

and tenants. Before the war small farmers tended to grow a lot of corn and relatively little cotton, presumably because they had self-sufficiency in food as their primary goal or were too isolated from markets. After the war they devoted a relatively high percentage of their acreage to cotton. Those who rented or sharecropped (the poorest farmers, who needed a cash crop to meet their obligations) devoted an even larger share to cotton as a result of the economic bind in which they found themselves.

Whereas farmers with a potential income above subsistence would plant enough corn to meet their family needs and then plant the remaining acreage in profitable market crops, the only way a small tenant farmer living at the edge of subsistence could be sure of sufficient income to live on was to grow the most lucrative crop:—cotton (Table 14.4). Croppers had little choice but to plant what the landlord ordered. Even other tenants were constrained by lack of suitable security debts other than marketable crops in the field.

Consider the situation depicted in Figure 14.7, which shows the production possibilities of corn and cotton for a small farmer given his land, work-

TABLE 14.4

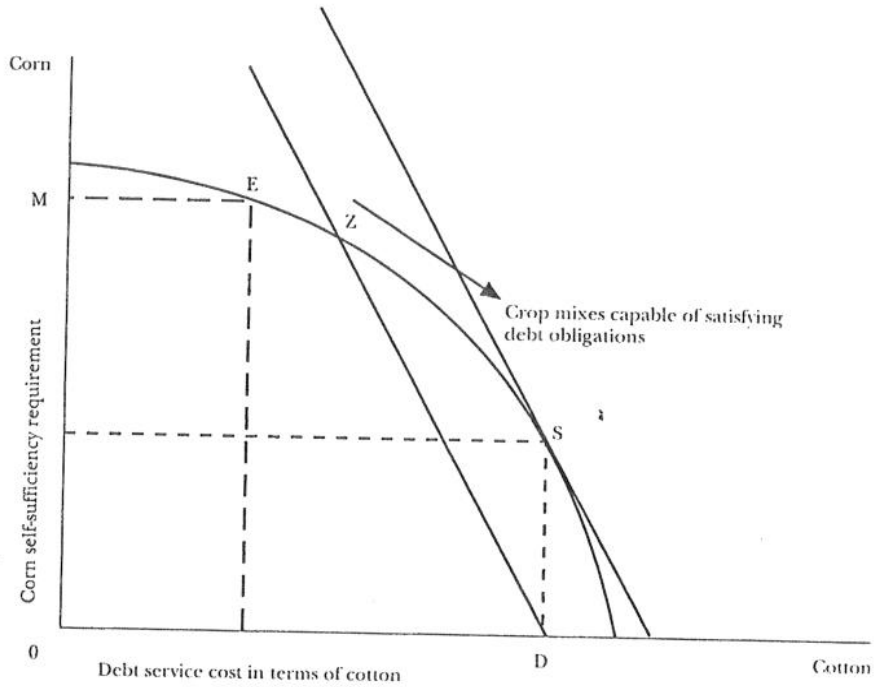
Value of Output per Acre of Cotton and Corn, 1866–1900

	Yield × Price per Acre		Cotton Yield × Price + Seed − Nonlabor Costs
	Cotton	Corn	
Alabama	$14.39	$7.99	$8.58
Arkansas	22.00	9.80	18.95
Georgia	15.24	6.71	8.88
Louisiana	21.68	9.67	16.20
Mississippi	17.98	8.82	12.52
North Carolina	18.60	6.89	11.16
South Carolina	17.37	6.88	10.39
Tennessee	18.49	8.94	15.07
Texas	21.32	11.01	18.82
Unweighted average	18.52	8.52	13.40
Weighted average	18.25	7.68	11.70

Sources: Table taken from Gavin Wright, *Old South, New South* (New York: Basic Books, 1986): 36, Table 2.6. Data from U.S. Department of Agriculture, Division of Statistics, "The Cost of Cotton Production," Misc. Series, Bulletin no. 16 (Washington, D.C.: Government Printing Office, 1899); U.S. Department of Agriculture, Agricultural Marketing Service, *Cotton and Cotton Seed*, Statistical Bulletin no. 164 (Washington, D.C.: Government Printing Office, 1955); U.S. Department of Agriculture, Bureau of Agricultural Economics, "Revised Estimates of Corn Acreage, Yield and Production 1866–1929" (mimeo, 1934); U.S. Department of Agriculture, *Prices of Farm Products Received by Producers*, Statistical Bulletin no. 16 (Washington, D.C.: Government Printing Office, 1927).

FIGURE 14.7

Crop Mix Choice under Assumptions of Self-Sufficiency and Market Involvement



stock, and implements. A farmer who wished to preserve his financial independence and avoid debt with its attendant risks of forced sale or foreclosure might opt for self-sufficiency, what Gavin Wright and Howard Kunreuther call a safety-first strategy. If self-sufficiency requires OM of corn, then the safety-first farmer would produce the basket of goods represented by E even though the expected profit-maximizing set is S. Suppose, however, that the farmer owes a debt that requires a cash income of at least OD to meet the obligation. He cannot now both achieve self-sufficiency and meet his financial obligations. As a result, the farmer is forced to grow more cotton and less corn, producing at least as much cotton as at the point Z since this just generates sufficient cash to meet the debt obligation of OD. Furthermore, since the farmer is now no longer self-sufficient, he probably has to borrow to buy corn at the inflated credit price so the family can eat until harvest. Economic necessity thus dictated crop choice.

Both the Ransom-Sutch lock-in to cotton as a condition for credit and the Wright-Kunreuther hapless-victim theory have provoked vigorous criticism in part because they eschew simple neoclassical economic theory. It seems unlikely that country stores could have exercised much monopoly power over rural credit when entry into the business was so easy or that they

were successful in their efforts since exit was so common. High interest rates may indicate the high risk of default and high transactions costs for very small loans just as easily as measuring monopoly power. Relative price shifts rather than changes in attitudes toward risk can explain why farmers chose to plant more cotton and less corn. Moreover, tenant and croppers were not free to choose their own crop mixes. This might well explain why it was these groups rather than the larger owner-operators that changed their crop mixes so dramatically. Whatever the explanation, increasing specialization in a crop with a unit elastic demand resulting in invariant income with changes in price cost the South dearly, at least partially explaining the lag in southern income growth.

Economic Efficiency and Racism in Southern Agriculture

Economists find it useful to distinguish between those kinds of discrimination that affect only personal happiness and those that affect the creation of value. Most aspects of discrimination—the right to sit at the front of the bus or buy a house in a white neighborhood, for example—are largely distributive in the sense that they mainly affect the distribution of personal happiness. Such discrimination allowed African-Americans less personal happiness while, presumably, giving whites more satisfaction. In general such discrimination does not reduce economic efficiency. It is therefore often more difficult to eradicate. There were, however, ways in which the South's denial of equal rights to former slaves may have led to allocative waste and reduced growth rates.

Job discrimination is dealt with in the chapter on labor markets. It was almost certainly an important source of waste, but it is probable that even if there had been no racial discrimination, most African-Americans who remained in the South after the war would have worked in unskilled agricultural jobs since few were literate or possessed marketable skills. Nonetheless, racism blocked the path to personal advancement: landownership. African-Americans could rarely borrow money to buy land, and even when they did amass the necessary cash, whites were often reluctant to sell to them or to tolerate them as neighbors. The failure of African-Americans to buy their own land does not itself prove discrimination, for ex-slaves were starting from the position of owning nothing while landownership is often the product of many generations' accumulated savings. Indeed, African-Americans were able to accumulate real estate rather more rapidly than whites. But whereas elsewhere and among whites tenancy was a stepping-stone to personal independence as an owner, African-Americans found it difficult to advance from cropper to share tenant, let alone to cash tenant or owner, and where African-American farmers were able to buy land, they were often still unable to acquire the necessary capital with which to work the land. Doubtless some

of the differences were accounted for by the different types and locations of land. But the value of farm implements per acre in crops on black-owned farms was little more than half that on white-owned farms; whereas 37 percent of white-owned farms purchased fertilizer, only 21 percent of African-American-owned farms did. African-Americans, moreover, had less opportunity to raise productivity by means of land-intensive farming methods. Owner-operated white farms used nearly twice the acreage per worker, allowing them to rest about double the acreage each year.[21]

Compounding this "static" allocative inefficiency was the "dynamic" long-term inefficiency created by racial barriers to investment in education and skill acquisition. The ability to read, write, and do simple arithmetic gave farmers access to information useful in raising productivity. In 1880 more than three-quarters of the black population aged ten and over was illiterate, compared with only about a fifth of the white population. Similarly, in the late nineteenth century school attendance rates among the white school-age population were perhaps 50 percent higher than among black children. The problem was not one of lack of interest in and concern with education, but poverty and the need for many hands to make light work on the black-operated farms of the rural South. Indeed, it is interesting to note that educational expenditures per pupil in the 1880s in many southern states were relatively equal for white and black students.[22] Data show that school expenditures per pupil were equal regardless of race in Alabama and North Carolina in 1890. Even where expenditures were quite different between the two groups, the ratio of expenditures per African-American pupil to expenditures per white student was relatively much more equal than it was to become in the early years of the twentieth century. In Florida, Louisiana, and Mississippi, for example, expenditures per African-American student were about half those for white students in 1890, but by 1910 Florida and Mississippi spent little more than a quarter as much per black student as they spent on white students, while Louisiana spent less than one-fifth as much on a black student as on a white.[23] These differences may overstate the difference in the quantity of education between the two groups because African-American teachers were also the victims of discrimination, being paid less than white teachers with similar qualifications. The switch in policy around the turn of the century was part of a larger movement to deny African-Americans their rights through disenfranchisement. This movement reflected envy at the remarkable gains that African-Americans had made since emancipation and increased economic competition between blacks and whites over jobs and resources.[24]

[21] Ransom and Sutch (1977).
[22] Higgs (1977); Margo (1990).
[23] Margo (1990).
[24] Higgs (1977); Kousser (1974); Margo (1990).

The Plight of the Ex-Slave

In spite of social and legal discrimination, the economic status of African-Americans surely improved with the end of slavery. By assuming that ex-slaves were able to obtain the equivalent of a competitive wage—that is, that ex-slaves were not exploited in the neoclassical sense—Ransom and Sutch calculate that the typical per capita income for an African-American sharecropping family was 43 percent higher than that for slaves. Slaves on large plantations had enjoyed more material benefits; hence they gained less from the transition to freedom—about 30 percent (see Table 14.5). Using Fogel and Engerman's computation of typical slave incomes generates somewhat different results. Their more generous estimates for plantation slaves put the material gains to freedom at a much lower level. Indeed, ex-slaves who had lived on large plantations would seem to have lost ground as a result of emancipation.

However, any possible ambiguity in the direction of change in income disappears by imputing a value to the increase in leisure time freed slaves chose to consume (see Table 14.6). The low estimate, which assumes that African-Americans reduced their average work input by 28 percent, brings per capita income equivalence to $57.75; the high estimate, based on a 37 percent labor time reduction, puts the figure at $65.91. The narrowest margin—the one between Fogel-Engerman's plantation slave and an ex-slave with an income equivalent to $57.75—suggests a gain of at least 34 percent.

Ransom and Sutch simply assume that African-American sharecroppers received the full competitive wage. But there is little doubt that landowners made every effort to strangle competition for labor, barring African-American entry into some occupations and passing vagrancy laws that restricted African-Americans from searching for alternative employment. Landowners were also guilty of behaving paternalistically—that is, dispensing nonmarket goods, such as justice and protection, to those deemed "worthy" while denying them to the "unworthy."[25]

If these policies were successful, then landless African-Americans whose market alternatives were limited by racism and overt racial hostility might have been paid real wages below those dictated by labor productivity. One test of this is to compare the share of output that would accrue to southern agricultural labor in a competitive market with sharecroppers' allotments.[26] If croppers received less than their competitive share, this could be interpreted as evidence of exploitation. The data, however, suggest that labor's share should have been between 21 percent (Texas) and 36 percent (Alabama), with an average predicted share of 31 percent for the South as a whole—well below the 50 percent specified in many sharecropping contracts. Thus it seems that landlords were unable to exploit their tenants by paying an implicit wage below the competitive market wage. Exploitation, however, may still have been possible if tenants were forced to farm very small plots of land, thus constraining labor productivity rather than pushing wage payments below their competitive level.[27]

Overall, with a century's hindsight, it seems that markets performed reasonably well, at least when they were given a chance. White political control—maintained by restrictive voting laws and terror—which limited access to education and the provision of other local services and public goods, seriously handicapped a large fraction of the population. The South's unimpressive economic performance in the first few postwar decades was almost

[25] Alston and Ferrie (forthcoming).
[26] DeCanio (1974).
[27] Wright (1986).

TABLE 14.5

Black per Capita Income (1859 dollars)

	Fogel-Engerman (1859)	Ransom-Sutch (1859)	Black Sharecroppers (1879)
Large plantations	42.99	32.12	41.39
Average	34.13	28.95	

Sources: Robert Fogel and Stanley Engerman, *Time on the Cross II* (Boston: Little, Brown, 1974): 159; Roger Ransom and Richard Sutch, *One Kind of Freedom* (Cambridge, England: Cambridge University Press, 1977): 3, 5. Reprinted by permission of Cambridge University Press.

TABLE 14.6

Black per Capita Income-Equivalent Welfare (1859 dollars)

	Large Plantations	Sharecroppers (1879)	% Change 1859–79
Material income	32.12	41.39	29
Value of additional leisure time			
Low estimate		16.34	
High estimate		24.52	
Total			
Low estimate	32.12	57.75	80
High estimate	32.12	65.91	105

Source: Roger Ransom and Richard Sutch, *One Kind of Freedom* (Cambridge, England: Cambridge University Press, 1977): 7. Reprinted by permission of Cambridge University Press.

inevitable: Free African-Americans could not be expected to work like slaves. Nor could the South control the declining fortunes of cotton in the world economy. The real failing of the southern economic system was its lack of flexibility. Land and labor remained locked into staple production, but per capita economic growth depended upon diversification and, most probably, substantial movement of labor into manufacturing or out of the region entirely. In part the continuing misery of African-Americans after emancipation is attributable to economic exploitation and to racial discrimination in everyday life. But the great portion of blame must go to the failure to provide ex-slaves with property comparable to that of landed whites or to provide access to the education and jobs vital to social mobility.

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