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The Efficiency of Southern Tenant Plantations, 1900–1945

NANCY VIRTS

The continued importance of tenant plantations in some areas of the South since the Civil War suggests that there was some advantage to large-scale agriculture. One source of economies of scale was in the marketing of high-quality cotton.

Although it is well known that landownership remained concentrated in the South after the Civil War, the existing literature on postbellum agriculture concentrates on issues relating to small tenant farms with only minimal reference to the larger holdings of which many tenants were a part.¹ It is widely believed that no significant economies of scale were possible on these large landholdings, commonly referred to as “tenant plantations.” The existing literature on the postbellum plantation sector has focused on the market and political power that owners of large amounts of land allegedly exercised, identifying it as a source of inefficiency.²

I argue that the continued importance of tenant plantations in some areas of the South suggests that the traditional view of these organizations as inefficient is not correct. Given the high supervision costs associated with agricultural labor, it is unlikely that tenant plantations would have persisted if there had been no advantage to large-scale production. I suggest that economies of scale in the marketing of high-quality cotton was a likely source of such an advantage. Empirical tests show that areas where the plantation system dominated in 1945 were also those where high-quality cotton was grown.

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¹ Some exceptions are Lee Alston and Robert Higgs, who suggested that the size of landholdings might have influenced the preferred form of contract, and Joseph Reid, who suggested that the high percentage of acres devoted to cotton on tenant farms was caused by the organization of the larger unit of which they were a part. Lee J. Alston and Robert Higgs, “Contractual Mix in Southern Agriculture since the Civil War: Facts, Hypotheses, and Tests,” this *JOURNAL*, 42 (June 1982), pp. 327–53; and Joseph Reid, “White Land, Black Labor, and Agricultural Stagnation: The Causes and Effects of Sharecropping in the Postbellum South,” *Explorations in Economic History*, 16 (Jan. 1979), pp. 31–55.

² For examples, see Roger Shugg, “Survival of the Plantation System in Louisiana,” *Journal of Southern History*, 3 (Aug. 1937), pp. 311–25; Jonathon Weiner, “Planter-Merchant Conflict in Alabama,” *Past and Present*, 68 (Apr. 1975), pp. 72–94; and Jay R. Mandle, *The Roots Of Black Poverty: The Southern Plantation Economy After The Civil War* (Durham, 1978).

TENANT PLANTATIONS, 1900–1945

I define a “tenant plantation” as a landholding with at least five tenants, managed and operated as a single unit.³ The average size of a plantation with five to nine tenants was 577 total acres and 289 improved acres in 1910 and 574 total acres and 211 acres of crops harvested in 1945. With the typical family size between five and six persons, the average labor supply on a plantation with five tenants would have been between 18 and 21 from tenant families, plus whatever wage labor was hired from outside the plantation.⁴

Tenants on these plantations were not independent operators, they were closely supervised and directed by the owner who provided important physical and managerial inputs into the production process. T. J. Woofter, coordinator of rural research for the Division of Social Research of the Works Progress Administration, wrote in the 1930s: “The landlord or plantation operator has certain duties upon which the success of the operation depends. . . . These duties include crop planning, finance of operations, management of labor and animal power, supervision of cultivation and harvest, marketing, and management of such processing enterprises as may be adjunct of the plantation. . . .”⁵ Others who studied the plantation system before and after Woofter came to similar conclusions.⁶

Not all large landholdings worked by tenant labor were tenant plantations. Those where the landowner’s interest was limited to collecting rent would not satisfy my definition regardless of size. On tenant plantations, the owner or his agent performed administrative functions, making decisions on pest control, fertilization, marketing, and financial arrangements as though operating a single, large farm.

³ This definition follows that used by most of those who studied the plantation system of agricultural production in the early twentieth century. See C. O. Brannen, “Relation of Land Tenure to Plantation Organization” (USDA Bulletin No. 1269, Oct. 1924), pp. 9–11; and Robert Brooks, “The Agrarian Revolution in Georgia” (University of Wisconsin Bulletin No. 639, 1914).

⁴ This calculation assumes that all family members over the age of 10 worked on the farm and that the average family size and age structure was that of the black population of 1880. Neither changed much between 1880 and 1910. By 1945 the average household size for the United States had decreased to 3.67 (race-specific figures are not available), and the percent of black population over nine increased to 80 percent, implying a labor force size between 12 and 16. Wage workers provided extra labor during harvest and also worked the land that remained under the owner’s direct control. In 1910 almost 25 percent of the improved acres on tenant plantations in the cotton-growing states were cultivated by wage workers, and in 1945 wage laborers worked almost 40 percent of crop acres harvested. See Nancy Virts, “The Southern Plantation System, 1900–1945” (Unpublished Manuscript, California State University at Northridge, Apr. 1990).

⁵ T. J. Woofter, *Landlord and Tenant on the Cotton Plantation* (Washington, DC, 1936), p. 26.

⁶ See Brannen, “Relation of Land Tenure”; Brooks, “The Agrarian Revolution in Georgia”; Frank Welch, “The Plantation Land Tenure System in Mississippi” (Mississippi Agricultural Experiment Station Bulletin No. 385, June 1943); and Harold Woodman, “Postbellum Social Change And Its Effects On Marketing The South’s Cotton Crop,” *Agricultural History*, 56 (Jan. 1982), pp. 215–30.

Because the owner provided such services for his entire holding, economies of scale were obviously possible.

The decennial agricultural censuses provide no information on the extent of plantations because each tenant farm was classified as an independent farm regardless of whether it was part of a larger landholding. Although there are some estimates of the importance of plantations in specific areas, the Census of 1900 is the earliest source of data for the South as a whole.⁷ The special censuses of plantations taken in 1910 and 1945 are the only other available sources of data. Because the majority of tenant plantations specialized in the production of cotton, data are available for the five most important cotton-producing states in the South: Alabama, Georgia, Louisiana, Mississippi, and South Carolina.⁸

Table 1 reports the percentage of acres on tenant plantations by size of holding.⁹ From 1900 to 1910 tenant plantations increased their share of acreage in the five southern states from 19 to 24 percent. The actual increase was probably larger because the 1900 figures include all landholdings with five or more tenants, rather than only those supervised as one unit.¹⁰ The size of the tenant plantation sector increased in all states. Between 1910 and 1945 the plantation sector's share in the five states decreased from 24 to 19 percent, but the changes varied from state to state. In Alabama the share fell from 26 to 13 percent, while in Mississippi it increased from 28 to 30 percent.

Improved acres or acreage harvested would provide a better estimate of the relative size of tenant plantations because large landholdings often included considerable acreage not used to produce crops. Unfortunately, no information on either was reported in 1900, while for 1910 only statistics on improved acres were reported and for 1945 only the amount of acres harvested was reported (see Table 2). In 1910, 28 percent of the improved land in the five states was in tenant plantations. Among the individual states the share varied from 23 percent in Georgia to 35 percent in Mississippi. In 1945, 23 percent of the crop land

⁷ Using data from tax records, Roger Shugg found that the number of plantations in selected parishes in Louisiana increased by 286 percent between 1860 and 1880 (*Origins of Class Struggle in Louisiana* [Baton Rouge, 1966], pp. 239-41). See also E. L. Langsford and B. H. Thibodeaux, "Plantation Organization and Operation in the Yazoo Mississippi Delta Areas" (USDA Technical Bulletin No. 682, May 1939).

⁸ Brannen's study in 1920 found 405,435 acres on cotton plantations, 102,852 acres on rice plantations, and 10,254 acres on tobacco plantations in "Relation of Land Tenure," pp. 52-54.

⁹ The 1900 Census of Agriculture reported only the amount of acreage rented out by the landowner. The amount of land operated directly by the owner was estimated by assuming that each owner living in the same county as his rented farms operated a farm of the same average size reported in the 1910 plantation census. For a more detailed account, see Virts, "The Southern Plantation System."

¹⁰ The 1900 and 1945 data are available for all counties in the five states. In 1910 data were tabulated for only a subset of the counties. If the counties for which results were not tabulated in 1910 contained significant numbers of plantations, the size of the plantation sector may be underestimated.

TABLE 1
TENANT PLANTATIONS' SHARES OF ALL FARMLAND, BY SIZE OF HOLDINGS

	Number of Tenants			All Tenant Plantations
	5-9	10-19	Over 19	
1900:				
Alabama	10%	6%	5%	21%
Georgia	10	5	3	18
Louisiana	7	5	6	18
Mississippi	10	6	6	22
South Carolina	12	6	3	21
Five States	10	5	4	19
1910:				
Alabama	11	8	6	26
Georgia	10	6	3	19
Louisiana	7	8	6	21
Mississippi	10	8	10	28
South Carolina	15	8	3	26
Five States	11	8	6	24
1945:				
Alabama	7	4	3	13
Georgia	10	4	1	15
Louisiana	8	5	7	20
Mississippi	11	8	11	30
South Carolina	13	5	1	20
Five States	9	5	5	19

Sources: U.S. Bureau of the Census, *Twelfth Census of the United States*, "Agriculture" (Washington, DC, 1902); U.S. Bureau of the Census, *Plantation Farming in the United States* (Washington, DC, 1916); and U.S. Bureau of the Census, *Special Report of Multiple Unit Operations in Selected Areas of Southern States* (Washington, DC, 1947).

harvested was in tenant plantations, ranging from a high of 41 percent in Mississippi to a low of only 12 percent in Alabama.

Because plantations specialized in the production of cotton, the statistics on improved acres and acres harvested understate their importance in cotton production. In 1945, when bales of cotton pro-

TABLE 2
TENANT PLANTATIONS' SHARES OF IMPROVED ACRES OR ACRES HARVESTED

State	1910: Shares of Improved Acres			1945: Shares of Acres Harvested		
	5-9 Tenants	10-19 Tenants	All Tenant Plantations	5-9 Tenants	10-19 Tenants	All Tenant Plantations
Alabama	13%	10%	31%	7%	3%	12%
Georgia	13	7	23	11	5	18
Louisiana	8	7	23	8	5	20
Mississippi	12	10	35	11	10	41
South Carolina	15	8	27	14	6	21
Five States	13	9	28	10	6	23

Note: The difference between the share of all tenant plantations and share of plantations with 5-9 tenants and 10-19 tenants is the share of tenant plantations with over 19 tenants.

Sources: U.S. Bureau of the Census, *Plantation Farming in the United States*; and U.S. Bureau of the Census, *Special Report of Multiple Unit Operations*.

duced were reported, plantations with five or more tenants produced 36 percent of the cotton grown in the five states. In Mississippi, tenant plantations produced 56 percent of the cotton grown.¹¹ In that state, the tenant plantation was more important in 1945 than it had been in 1900, and one agricultural economist suggested that the plantation was more important in the 1940s in the Delta region of Mississippi than it had been during the period of slavery.¹²

SOURCES OF ECONOMIES OF SCALE

The persistence of tenant plantations in some areas of the South suggests that there was some advantage to large-scale production and raises the related question of what the sources of this advantage were. Although it is likely that there were several sources of economies of scale, marketing of cotton seems to have been important, so much so that small cotton farmers were regularly encouraged to join marketing cooperatives.¹³ To the extent that the cost savings were only a function of the amount of cotton marketed, however, the same advantage could have been realized by cooperatives or country store merchants who marketed the cotton of a similar number of small farms as easily as large farms. The advantage of plantations was not the result of size alone, but also because their control of the production process allowed them to internalize certain externalities in the marketing of high-quality cotton. This can be better understood by examining the marketing of cotton in some detail.

Before cotton could be used by textile mills it had to be ginned, sampled, classified, and assembled into lots of similar quality. In order to operate efficiently, textile mills required cotton of uniform quality. Because differences in the color, amount of foreign material, length, and strength of the staple directly affected the value of cotton to textile mills, the price of cotton varied with its quality.¹⁴

For small farmers the first step of the marketing process was the sale of their cotton (usually immediately after it was ginned) to local buyers

¹¹ Computed from the U.S. Bureau of the Census, *Special Report Of Multiple Unit Operations In Selected Areas Of Southern States* (Washington, DC, 1947), pp. 384, 421, 448, 469, 502. See Virts, "The Southern Plantation System," for further details.

¹² Welch, "The Plantation Land Tenure System," p. 20.

¹³ Joseph Knapp and Sheldon Clement, "North Carolina Farm Prices of Cotton in Relation to Grade and Staple Length" (North Carolina Agricultural Experiment Station Bulletin No. 289, Apr. 1934), pp. 36-38; and Michael Schwartz, *Radical Protest and Social Structure: The Southern Farmers' Alliance and Cotton Tenancy, 1880-1890* (New York, 1976), pp. 217-68.

¹⁴ See L. D. Howell and Leonard Watson, "Cotton Prices in Relation to Cotton Classification Service and to Quality Improvement" (USDA Technical Bulletin No. 699, Nov. 1939), pp. 4-5; William Faught and Chester Wells, Jr., "Marketing Mississippi Delta Cotton" (Mississippi Agricultural Experiment Station Bulletin No. 484, Sept. 1951), p. 170; and Joseph Knapp, "The Home Market for North Carolina Cotton" (North Carolina Agricultural Experiment Station Bulletin No. 284, Mar. 1933), pp. 35-36.

in the closest town.¹⁵ Although these buyers were sometimes representatives of large cotton merchants, more often they were ginners, country store merchants, or small independent buyers who then assembled cotton into mixed lots for sale at one of the larger markets or cotton exchanges. The volume of cotton sold in these markets was often relatively low and the number of buyers few.¹⁶

Early in the twentieth century it was often the case that cotton sold in local markets was not classified, and the price was based on the average quality of cotton produced in an area. When the demand for higher-quality cotton increased after World War I, it became more common to classify individual bales of cotton. Studies by the United States Department of Agriculture (USDA) continued to find, however, that although the average prices paid in local markets were positively correlated with the average quality of the cotton, the premiums and discounts paid for individual bales of different quality were considerably lower in local markets than in central ones. Most of the difference was due to the lack of accuracy in the classification done in local markets.¹⁷

Buyers and sellers in larger markets who were specialists in trading cotton were required to belong to an exchange that regulated trading practices. Plantation owners with larger cotton crops bypassed the local markets by hiring a factor to sell their crop in the larger exchanges.¹⁸ The factor sampled and graded the cotton and displayed the samples at the exchange for prospective buyers to view. Buyers usually bought large mixed lots as a unit. That is, they did not determine the price and quality of individual bales but paid a price that reflected the average quality of the lot.¹⁹ Buyers then combined cotton into "even running lots" of 100 bales of similar-quality cotton for sale to mills, either

¹⁵ Independent buyers in local markets became important in the postbellum period because of improvements in communications and transportation and the growth of futures markets. The telegraph made it possible for these buyers to have the latest price information from major exchanges in New Orleans, Memphis, and Liverpool. The growth of futures trading reduced the risk of buying cotton to the point that banks were willing to extend credit to these buyers. See U.S. Senate, Committee on Agriculture and Forestry, *Report on the Condition of Cotton Growers in the United States* (Washington, DC, 1895), pp. 37–38, 213–43 (hereafter cited as the George Report). Also Harold D. Woodman, *King Cotton and His Retainers: Financing and Marketing the Cotton Crop of the South, 1800–1925* (Lexington, 1968), pp. 269–94.

¹⁶ L. D. Howell, "Cotton Prices in Spot and Futures Markets" (USDA Technical Bulletin No. 685, June 1939), p. 30; and the George Report, pp. 166–82.

¹⁷ See L. D. Howell and John Burgess, "Farm Prices of Cotton as Related to its Grade and Staple Length in the United States, 1928–29 to 1932–33" (USDA Technical Bulletin No. 493, Jan. 1936); and Alston Hill Garside, *Cotton Goes To Market* (New York, 1935), pp. 181–83.

¹⁸ Testimony before the Senate Committee on Agriculture and Forestry in 1893 confirmed that the majority of large planters sold their crops through factors in the major exchanges (see the George Report, p. 115). In 1950 over half of the cotton produced in the Mississippi Delta was handled by factors. Faught and Wells, "Marketing Mississippi Delta Cotton," p. 4. See also W. Hustace Hubbard, *Cotton and the Cotton Market* (New York, 1925), pp. 136–38.

¹⁹ James Boyle, *Cotton and the New Orleans Cotton Exchange* (Garden City, 1934), p. 83; and Hubbard, *Cotton and the Cotton Market*, pp. 138–39.

directly or through brokers in so-called spinners' markets.²⁰ Some mills also bought cotton directly from plantation owners.²¹

Determining the quality of cotton was one of the most important and controversial steps in the marketing process. The process of classifying cotton, known as classing, was considered an art rather than a science.²² A sample was taken from the bale and evaluated on the basis of three characteristics: grade, staple length, and character. The individual evaluating the sample, who was called a classer, had to determine its grade on the basis of its color, the amount of waste material, and ginning preparation required; estimate the average length of the staple to within 1/32 of an inch; and specify its character on the basis of the fineness and strength of its fiber.²³ It took a long period of training and experience to become an expert classer, and most classers worked directly for mills or large cotton merchants whose profits directly depended on their ability to properly class and value cotton. Even among experts, classification of cotton was often a matter of controversy.²⁴ Sellers and buyers of cotton continued to argue vigorously about classing even after the establishment of federal standards for grade and staple length.²⁵

The accuracy of classification also depended on the conditions under which the cotton was examined. Poor lighting conditions, excess humidity, or heat had a significant impact on the classification of the sample. In central markets quality was determined in specially designed rooms where both heat and humidity were monitored. In local markets, on the other hand, cotton was often examined in the open under less than ideal conditions.

In light of these difficulties, it is not surprising that the average farmer usually had only a vague idea about the quality of his cotton and that the classification done in local markets was not as accurate as that done in larger markets.²⁶ Although buyers in local markets had access to information on the prices paid for cotton of different quality in central markets, they did not have the expertise or the facilities to determine

²⁰ Chester S. Wells Jr. and James Beaird, "Cotton Marketing In The Upland Area Of Mississippi" (Mississippi State College Agricultural Experiment Station Bulletin No. 517, May 1954), pp. 10-12.

²¹ The large Mississippi plantation described in this article sold 80 percent of its cotton directly to mills. See "Biggest Cotton Plantation," *Fortune* (Mar. 1937), p. 158.

²² T. S. Miller, *The American Cotton System* (Austin, 1909), p. 36.

²³ See Knapp, "The Home Market," pp. 36-37; and D. Gary Miley, "Commercial Agricultural Production and Marketing Methods and Facilities in Mississippi" (Mississippi Agricultural Experiment Station Bulletin No. 394, Oct. 1943), p. 20.

²⁴ Miley, "Commercial Agricultural Production," pp. 20-21.

²⁵ See Garside, *Cotton Goes To Market*, pp. 54-55; and David Cohn, *The Life and Times of King Cotton* (New York, 1956), pp. 187-90.

²⁶ Hubbard, *Cotton and the Cotton Market*, p. 26; and Howell and Burgess, "Farm Prices of Cotton," pp. 3-4.

quality with the same degree of accuracy as buyers in those markets.²⁷ It is not clear that it would have been efficient for them to do so.

Classing was costly and the return to greater accuracy varied with the quality of the cotton. Accuracy had its highest return for long-staple cotton because of the large size of the premiums, especially after World War I. In 1937 the misclassification of middling 15/16-inch cotton by 1/16 of an inch in either direction would have caused on average a 4.4 percent increase or decrease in the price. The same miscalculation with middling 18/16-inch cotton would have caused the price to vary up or down by an average of about 13 percent.²⁸ Producers of long-staple cotton clearly had a greater incentive to sell their cotton in central markets where it could be accurately classed.

The selling costs in central markets placed small producers at a disadvantage. In addition to the transportation and storage costs, a factor had to be hired to sell the cotton. A farmer with only a few bales of cotton to sell usually could not afford such costs. If a group of small farmers marketed their crops cooperatively, they spread out the costs but still had to contend with the problem of quality control. Unless each farmer's cotton were priced individually, each would have an incentive to produce below-average-quality cotton and free-ride on the quality of that produced by the rest of the group.²⁹ The only way to avoid this problem was to class and price each farmer's cotton individually, which increased the marketing cost substantially over that of tenant plantations.

Large planters sold their cotton in central markets as a unit. Although each bale was usually sampled, bales were not priced individually. Instead, a price was quoted for the lot based on the average quality, which still provided the planter with an incentive to produce the highest quality he could profitably sell. Even though one plantation's cotton might be produced by many sharecroppers, the plantation owner maintained control of the production process and could prevent tenants from free-riding on the plantation's reputation for producing high-quality cotton by selecting the seed planted and the methods of cultivation used.

Small producers were also at a disadvantage in these markets because

²⁷ See Howell and Burgess, "Farm Prices of Cotton," pp. 24-29; and Howell and Watson, "Cotton Prices," p. 16.

²⁸ "Cotton Quality Statistics United States 1948-1949" (USDA Technical Bulletin No. 86, 1950), p. 168.

²⁹ The free-rider problem appears to have been the downfall of at least one such cooperative in North Carolina. The cooperative was formed by members of the local seed association who made arrangements with a cotton firm in Charlotte to take cotton grown from certified seed at a premium over the average price in the local market. The arrangement was discontinued after two seasons because the group was unable to maintain the quality of the cotton. See J. W. Wright, G. R. Smith, and J. A. Shankin, "The Cotton Marketing Situation in the Salisbury Area of North Carolina" (North Carolina Agricultural Experiment Station Bulletin No. 317, Dec. 1937), p. 20.

cotton was sold on the basis of sample only. Buyers of large amounts of cotton did not always examine a sample from each bale in the lot, much less the actual cotton before the sale was made. Selling in this way was very much dependent on the reputations of those involved, and became more so as the railroad and local warehouse system developed and cotton was shipped directly from the planter to the buyer after the sale was made.³⁰ This process was facilitated by long-term relationships between planters and factors, factors and large cotton merchants, and cotton merchants and mills.³¹ Small farmers could not easily duplicate the type of long-term relationship necessary to sell on the basis of sample.

EMPIRICAL TESTS

The discussion above implies that large plantations should have been strongest in areas where high-quality cotton was grown. Anecdotal evidence suggests that this was the case. One of the correspondents to Eugene Hilgard's report on cotton production for the 1880 Census of Agriculture noted: "Improved staples have been produced, and are profitably cultivated by the larger planters who ship it themselves to the North or to Europe. Smaller farmers confined to the home markets cannot sell such staple to advantage, and therefore neglect it."³² The Delta area of Mississippi was also known for both the size of its plantations and the quality of the cotton produced there.

This proposition is difficult to test rigorously. The census did not publish statistics on tenant plantations regularly, while the USDA did not publish those on cotton quality until 1928. Because of this lack of data, it is not possible to test the extent to which changes in the size of the plantation sector from 1900 to 1945 were related to changes in the quality of cotton grown. Statistics are available, however, showing the amount of cotton grown on tenant plantations in 1945 and cotton quality in 1946, making it possible to test whether there is a correlation between the importance of tenant plantations and cotton quality.

Cotton quality has a number of dimensions. The measure used here, staple length, was chosen because it was the aspect of quality most directly controlled by the farmer through his choice of the variety of cotton seed planted. Pure seed of any variety produces cotton of a specific staple length. Although each fiber will not be exactly the same length, the variation will be limited if the seed is pure. Seed from the

³⁰ The potential for fraud was high. In one common type of fraud, a small amount of high-quality cotton was ginned before a large quantity of lower-quality cotton to produce a bale of low-quality cotton with a layer of high-quality cotton on the outside. Hubbard, *Cotton and the Cotton Market*, p. 113.

³¹ Knapp, "The Home Market," p. 27; and the George Report, p. 100.

³² Eugene Hilgard, *Report on Cotton Production in the United States* (Washington, DC, 1884), p. 56.

TABLE 3
COTTON QUALITY AND THE PLANTATION SYSTEM, 1945

State	Gin District	Percent of Cotton with Long-Staple Length	Percent of Cotton Grown on Tenant Plantations
Alabama	1	9	11
	2	22	19
	3	15	17
Georgia	1	18	14
	2	7	37
	3	6	25
Louisiana	1 and 2	31	43
	3	70	57
	4	57	10
Mississippi	1	94	83
	2 and 3	50	35
	4	18	23
South Carolina	1	36	22
	2	26	33
	3	19	28

Notes: Long-staple cotton is that greater than or equal to 17/16 inches. A tenant plantation is a landholding with five or more tenants.

Sources: U.S. Bureau of the Census, *Special Report of Multiple Unit Operations*. The gin districts are defined in "Cotton Quality Statistics United States 1948-1949" (USDA Technical Bulletin No. 86, 1950), pp. 45-51.

local cotton gin, commonly referred to as gin-run seed, was a mixture of all the varieties ginned there and produced cotton of uneven staple length.³³

Statistics on staple length were collected by the USDA and reported by state and gin district.³⁴ The importance of long-staple cotton is measured by the percentage of cotton in the area greater than or equal to 17/16 of an inch. The importance of the plantation system is measured by the percentage of cotton produced on farms with five or more tenants. Information on the amount of cotton grown on tenant plantations is taken from the 1945 census on plantations and is available by state and by type of farming areas as determined by the census.³⁵ The type of farming areas could be combined to correspond to the gin districts in most cases.³⁶ The data are summarized in Table 3. There is a strong positive correlation between the measure of cotton quality, staple length, and the proportion of cotton grown on tenant plantations.

³³ J. H. Moore, "Relation of the Quality of Cotton Planting Seed to Length of Staple (North Carolina Agricultural Experiment Station Bulletin No. 295, Feb. 1934); and Rupert Vance, *Human Geography Of The South* (New York, 1968), p. 445.

³⁴ "Cotton Quality Statistics," pp. 44-50.

³⁵ See U.S. Bureau of the Census, *Special Report of Multiple Unit Operations in Selected Areas of Southern States* (Washington, DC, 1947), pp. 3, 77, 163, 193, 317, for the definition of the types of farming areas.

³⁶ In two cases the types of farming areas were defined in such a way that gin districts had to be combined. See Table 3.

The correlation coefficient is 0.71, indicating that plantations persisted in areas most suitable to growing long-staple cotton.

CONCLUSION

The evidence presented in this article suggests strongly that tenant plantations in the South were able to take advantage of scale economies in the postbellum period. Tenant plantations expanded in many areas of the South between 1900 and 1910 and were still important in 1945. The chief source of their advantage seems to have been the ability of tenant plantations to market high-quality cotton at a lower cost than small farms. Accurate classification was more valuable for cotton of longer staple lengths. Large farmers were better able to market their cotton in central markets where accurate classification was possible. The evidence from 1945 shows there was a strong correlation between the importance of long-staple cotton and the importance of the tenant plantation in cotton production.

Marketing of high-quality cotton was not the only source of economies of scale. Owners of tenant plantations made decisions on many other aspects of the production process, including pest control, fertilization, and financial arrangements. The fact that the plantations were distributed more uniformly throughout the five cotton states in 1900 and 1910 than in 1945 suggests that these other sources of scale advantage played a role. The evidence from 1945 suggests, however, that marketing had become a more important source of scale advantage by that time.³⁷

³⁷ I am indebted to Joseph Ferrie for this point.