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# *Estimating the Importance of the Plantation System to Southern Agriculture in 1880*

NANCY VIRTS

Although the importance of the plantation system to antebellum southern agriculture is widely acknowledged, there is less consensus on the role of the plantation system after the Civil War. Roger Ransom and Richard Sutch conclude in their work on postbellum southern agriculture, *One Kind of Freedom*, that even though landownership remained concentrated and large landowners continued to exercise economic and political power, by 1880 the plantation system had "ceased to exist."<sup>1</sup> They estimate that large farms (farms with more than 200 acres) dependent on wage labor made up less than 1 percent of all farms in the Cotton South.<sup>2</sup> Using their data, their methods, and a sample of the 1880 census manuscripts of population and agriculture, I estimate that these farms produced about 14 percent of the cotton grown in the Cotton South. In 1860 plantations with greater than 50 slaves were about 4 percent of the farms in the South and produced about 32 percent of the South's cotton.<sup>3</sup> The apparent decline in importance of large cotton-producing farms after emancipation supports the theory that economies of scale on slave plantations were associated with slavery rather than methods of large-scale production and could not be duplicated with free labor.

While my results indicate that the importance of large farms dependent on wage labor was limited in the postbellum South, it is misleading to conclude on this basis alone that the plantation system had ceased to exist by 1880. Many large landholdings in the cotton-growing areas after the Civil War were worked by tenant not wage labor. These landholdings, commonly known as tenant plantations, were managed as a single unit even though actual cultivation was done by tenants, most of whom were sharecroppers. The similarities between management and production methods used on tenant plantations and antebellum slave plantations suggest that tenant plantations should be included in measures of the plantation system. Landowners were actively involved in cultivating their land, supervising the planting, and harvesting and marketing the crop.<sup>4</sup>

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<sup>1</sup> Roger Ransom and Richard Sutch, *One Kind of Freedom: The Economic Consequences of Emancipation* (Cambridge, Mass., 1977), p. 56.

<sup>2</sup> Ransom and Sutch define a plantation as a farm reporting 200 acres or more in crops, greater than 98 weeks of hired labor and relying on hired labor for at least 60 percent of the labor requirements. See Ransom and Sutch, *ibid.*, p. 68, appendix G.

<sup>3</sup> The five cotton states are Mississippi, Louisiana, Georgia, South Carolina and Alabama. Ransom and Sutch, *ibid.*, p. 74.

<sup>4</sup> For descriptions of the administration of tenant plantations see Robert Brooks, "The Agrarian Revolution in Georgia," University of Wisconsin, *Bulletin*, No. 639 (Madison, 1914) pp. 1-77; C. O. Brannen, "Relation of Land Tenure to Plantation Organization," U. S. Department of Agriculture, *Bulletin*, No. 1269 (Oct. 1924); and T. J. Wooster, *Landlord and Tenant on the Cotton Plantation*, (Washington D.C., 1936).

Tenants on these plantations sometimes worked jointly under the direction of the owner or his agent. It was not uncommon for plantations, even as late as 1880, to be worked by squads of laborers larger than family groups.<sup>5</sup> On some plantations the entire tenant labor force sometimes worked jointly for certain activities in a system known as "through-and-through."<sup>6</sup>

No statistics on tenant plantations were collected by the Office of the Census in 1880. Census enumerators in 1880 were instructed to report each tenant farm as an independent unit even if it was part of a larger unit. Therefore, Ransom and Sutch's estimate of the number of large farms dependent on wage labor is acceptable only as a lower-bound estimate of the importance of the plantation system.

I will establish that the method Ransom and Sutch used to "clean" the sample of farms biases their estimate of the importance of the plantation system downward. Their procedure removed a significant percentage of the large farms in the sample. Before estimating the distribution of farms by size, Ransom and Sutch deleted from the sample those farms with missing or ambiguous information on variables such as the race of the farm operator and tenure of the farm, and those farms where the labor input appeared inadequate. The reported amount of labor was judged inadequate if no labor was reported or if the ratio of land in crops to labor was greater than 200 acres.<sup>7</sup> The impact of Ransom and Sutch's restrictions on the data set as a whole and for large farms (200 acres and above) is shown in Table 1.

Although the effect on the data set as a whole is not large, the effect on large farms is considerable. Their procedure deletes only 11 percent of the total number of observations in the sample, and the structure of the data set with respect to race and tenure is unchanged. In contrast, over 40 percent of the large farms in the total sample fail to meet the imposed restrictions. In the Cotton South, 47 percent of the farms with greater than 200 acres were deleted by Ransom and Sutch's procedure. Over half of the farms were omitted because of inadequate labor input. While this procedure can be justified when the major interest is estimating labor productivity, it will bias any estimate of the importance of a particular size of farm.

Given the number of large farms affected, the source of these problems is a matter of interest. It is possible that a disproportionate number of large farms were deleted from the sample because of problems with the reporting of hired labor. Census enumerators in 1880 experienced so much difficulty collecting information on hired labor that the data were not compiled in the aggregate census report.<sup>8</sup> Enumerators were instructed to collect information on the total wage bill, the man-weeks of white labor hired, and the man-weeks of "colored" labor hired, but these instructions were frequently not carried out. At times enumerators failed to record any information on hired labor. More often the wage bill appears to have been correctly recorded while the weeks of labor hired were not.<sup>9</sup>

<sup>5</sup> For a more detailed description of the squad system see Ralph Shlomowitz, *Transition From Slave to Freedman: Labor Arrangements in Southern Agriculture, 1865-1870* (Ph.D. dissertation, University of Chicago, 1979); and Ralph Shlomowitz, "Origins of Southern Sharecropping," *Agricultural History*, 53 (July 1979), pp. 557-75.

<sup>6</sup> See Brooks "Agrarian Revolution," p. 66. Merle Prunty, "The Renaissance of the Southern Plantation," *Geographical Review*, 45 (Oct. 1955), p. 468. Other references to the through-and-through system in Mississippi are Frank Welch, "The Plantation Land Tenure System in Mississippi," Mississippi Agricultural Experiment Station, *Bulletin*, No. 385 (June 1943), p. 49; and Harold Pederson and Arthur Raper, "The Cotton Plantation in Transition," Mississippi Agricultural Experiment Station, *Bulletin*, No. 508 (Jan. 1954), p. 16. Welch notes that some Mississippi plantations had been worked on the through-and-through system for long periods of time.

<sup>7</sup> This procedure is described in Ransom and Sutch, *One Kind of Freedom*, appendix G.

<sup>8</sup> *Ibid.*, fn. 18, p. 370.

<sup>9</sup> Enumerators often recorded the number of weeks during which labor was hired instead of the

TABLE 1  
FARMS WITH MISSING INFORMATION FOR SELECTED VARIABLES IN THE  
RANSOM AND SUTCH SAMPLE

	Total Sample		Farms with Greater than 200 Acres in Crops	
	Number	Percent	Number	Percent
No Labor	535	5%	0	0%
More than 200 acres per worker	157	1	47	25
Missing information on				
Operator <sup>a</sup>	363	3	26	14
Tenure	80	1	1	1
Labor <sup>b</sup>	360	3	2	1
Total deleted <sup>c</sup>	1,211	11	76	41
Total farms	11,202	100	185	100

<sup>a</sup> Includes cases where racial information was missing and cases where farm owners could not be located in the population census.

<sup>b</sup> Includes cases where operator was listed as operating more than one farm and cases where operator resided on a farm other than the one he operated.

<sup>c</sup> The total deleted does not equal the sum of each column because some observations have multiple errors.

Source: Computed from the Roger Ransom and Richard Sutch sample, *One Kind of Freedom: The Economic Consequences of Emancipation* (Cambridge, Mass., 1977), appendix G.

It is possible that farms with high land-to-labor ratios may have used hired labor which was not counted because of the carelessness of enumerators or their misunderstanding the instructions. But there is evidence to suggest that the absence of labor on large farms was due to other factors. As shown in Table 2, the percentage of farms greater than 200 acres with a land-to-labor ratio greater than 200 acres was almost twice as high in the Cotton South than in the rest of the South.

Because almost the same percentage of farms in both areas were in districts where the wage data were classified as reliable by Ransom and Sutch, it seems that the quality of enumerators did not vary greatly among areas.<sup>10</sup> None of the rice and sugar plantations in the sample was deleted as a result of insufficient labor even though these crops were more labor intensive than cotton.<sup>11</sup> Thus it seems likely that the underreporting of labor

total number of weeks of hired labor. After examining the data Ransom and Sutch concluded that enumerators were in general consistent in the way they recorded wage data. They classified enumeration districts as either reliable or unreliable based on the average weekly wage obtained by dividing wage bill by man-weeks of labor hired. Districts where the average weekly wage was greater than \$4 were classified as unreliable. However, even in cases where only the wage bill was reliably recorded it is possible to estimate the amount of labor hired. To estimate the amount of labor hired in these cases, average weekly wage rates by county were calculated using those districts coded as reliable. For farms in districts coded reliable and with information on weeks of hired labor, labor was recorded as the sum of man weeks of white and black labor divided by 52. For farms with only the wage bill recorded labor was estimated as the total wage bill divided by the average weekly wage for that county divided by 52. For more detailed description see Ransom and Sutch, *One Kind of Freedom*, appendix G.

<sup>10</sup> For farms greater than 200 acres in the Cotton South 58 percent were in enumeration districts coded reliable; in the rest of the South 53 percent of the farms were in enumeration districts coded reliable.

<sup>11</sup> See Lewis C. Gray et al., "Farm Ownership and Tenancy," U. S. Department of Agriculture, *Yearbook 1923* (Washington D.C., 1924), pp. 530-32.

TABLE 2  
CLASSIFICATION OF FARMS WITH OVER 200 ACRES IN THE RANSOM AND  
SUTCH SAMPLE

	Cotton South		Rest of South	
	Number	Percent	Number	Percent
Plantations	46	38%	39	61%
Excluded from plantation category because of labor composition <sup>a</sup>	19	16	5	8
Excluded from sample				
More than 200 acres per worker	37	31	10	16
Missing information on operator <sup>b</sup>	17	14	9	14
Ambiguous information on tenure <sup>c</sup>	0	0	9	14
Other	2	2	0	0

<sup>a</sup> Farms were excluded from the plantation category because they hired less than 98 weeks of labor or less than 60 percent of their work force was hired.

<sup>b</sup> Farms where racial information was illegible and where farm owners could not be located in the population census.

<sup>c</sup> Farms where the operator was listed as operating more than one farm or where the operator resided on a farm other than the one he was listed as operating.

Source: Computed from the Roger Ransom and Richard Sutch sample, *One Kind of Freedom: The Economic Consequences of Emancipation* (Cambridge, Mass., 1977), appendix G.

was somehow related to the production of cotton. While some enumerators probably did miscount labor, the systematic nature of their errors supports the notion that the primary factor was the confusing interdependence of production among tenants.

These landholdings were often managed as a single unit even though the labor was supplied by tenants. On some plantations tenants worked together under the landlord's direction to perform certain tasks. Because landlords were actively directing cultivation on many tenant plantations, it is possible that some enumerators were reluctant to treat tenant plots as individually operated farms.

One enumerator noted on the census manuscripts that he recorded the total amount of capital, livestock, acreage, and land value for tenant plantations in his entry for the owner-cultivator's farm. Entries for tenants working the plantation contained only the name of the tenant farmer, his tenure status, and crop acreage.<sup>12</sup> Large owner-cultivated farms in this district appear to have insufficient labor because they were worked with tenant, not wage labor. Other statements by census officials and the geographical pattern of large farms on which labor was underreported in the Ransom and Sutch sample suggest that other enumerators followed similar procedures when reporting tenant plantations.

These results suggest that one can get a better idea of the quantitative importance of the plantation system by estimating cotton production by the size of farm without reference to type or amount of labor used. If only those farms with no production information are deleted, all farms over 200 acres remain in the sample. Some of these farms may have been tenant plantations. These results are presented in Table 3.

Farms with 200 or more acres account for 24 percent of cotton produced in 1880, about 75 percent of the share of cotton produced by large slave plantations in the antebellum period. This figure should be considered a lower-bound estimate of the cotton produced by the plantation system because some enumerators did follow

<sup>12</sup> For example see the records of enumerators from Concordia Parish Louisiana.

TABLE 3  
COTTON PRODUCTION BY FARM SIZE, 1880

Farm Size	Tenure		
	Own	Rent	Share
50 acres or less	19%	6%	15%
51 to 100 acres	15	3	4
101 to 199 acres	11	1	1
200 acres or more	23	1	0
Total	68	11	20

Source: Computed from the Roger Ransom and Richard Sutch sample, *One Kind of Freedom: The Economic Consequences of Emancipation* (Cambridge, Mass., 1977), appendix G.

instructions and reported the output of tenant plantations on tenant farms. Part of the output of tenant plantations was reported with the output of renters and sharecroppers.

By adding the percentage of cotton produced on large farms to that produced on small sharecropped farms it is possible to get an upper-bound estimate of the importance of the plantation system. The upward bias caused by including the production of sharecroppers who were not part of plantations is partially compensated for by not including the production of renters who were part of plantations. Although the majority of plantation tenants were sharecroppers, renters were substantial minorities on some plantations.

The actual percentage of cotton produced by the plantation system in 1880 was presumably between the 24 percent produced on farms with 200 or more acres and 39 percent, the percentage of cotton produced on these large farms and sharecropped farms with 50 acres or less. Both figures are substantially higher than the 14 percent estimated by Ransom and Sutch to have been produced on cotton farms operated with wage labor. The amount of cotton produced on tenant plantations in the postbellum period was lower than the percentage of cotton produced on slave plantations of similar size in the antebellum period. But the plantation system and the large-scale cultivation of cotton were still important factors in 1880.