

This PDF is a selection from an out-of-print volume from the National Bureau of Economic Research

Volume Title: Race and Schooling in the South, 1880-1950: An Economic History

Volume Author/Editor: Robert A. Margo

Volume Publisher: University of Chicago Press, 1990

Volume ISBN: 0-226-50510-3

Volume URL: <http://www.nber.org/books/marg90-1>

Conference Date: n/a

Publication Date: January 1990

Chapter Title: Race and Schooling in the South: A Review of the Evidence

Chapter Author: Robert A. Margo

Chapter URL: <http://www.nber.org/chapters/c8792>

Chapter pages in book: (p. 6 - 32)

2 Race and Schooling in the South: A Review of the Evidence

In the South before 1950, racial differences existed in the “quantity” of schooling, as indicated by literacy, school attendance, and educational attainment. Differences also existed in the “quality” of schooling, as measured by the nominal characteristics of public schools, such as per pupil expenditures, class sizes, and the length of the school year. Although racial differences in illiteracy and school attendance declined steadily over time, racial differences in educational attainment remained persistently large, declining only towards the end of the period. Racial differences in the quality of schooling followed an inverted U-shaped pattern, increasing around the turn of the century, and then diminishing in the 1940s.

2.1 Illiteracy in the South Before 1950

Prior to 1940 the U.S. Bureau of the Census collected information on illiteracy—in essence, whether a person could read or write, at all, in any language. Panel A of Table 2.1 shows race-specific illiteracy rates in the South from 1880 to 1950 derived from the published census volumes, for all persons aged 10 and over, and for adult males ages 20 to 64. The figures for 1940 and 1950, and all of the adult figures, were computed from the census public use samples. In 1940 the census inquired about years of schooling (highest grade completed) instead of illiteracy. To make long-term comparisons it is necessary to convert the 1940 and 1950 data on years of schooling into illiteracy rates. Because the conversion procedure is an inexact one, a plausible range of figures is given.

In 1880, 76 percent of southern blacks (age 10 and over) were illiterate, a rate 55 percentage points greater than that for southern whites. The huge racial difference could hardly have been otherwise. On the eve of the Civil War the overwhelming majority of slaves were illiterate. During the late antebellum

Table 2.1 **Illiteracy in the South^a****A. By Race**

	Ages 10 and Over			Males, Ages 20 to 64		
	Black	White	Dif	Black	White	Dif
1880	76.2%	21.5%	54.7			
1890	60.7	14.9	45.8			
1900	48.0	11.7	36.3	50.0%	11.9%	38.1
1910	33.3	8.0	25.3	40.4	9.4	31.0
1920	26.0	5.7	20.3			
1930	19.7	3.8	15.9			
1940	10.7–15.1	3.8–5.0	6.9–10.1	12.0–16.7	4.0–5.0	8.0–11.7
1950	8.9–12.0	2.4–3.3	6.5–8.7	9.6–13.3	2.5–3.3	7.1–10.0

B. For Blacks, by Age and Sex

	Age					
	10–14	15–24	25–34	35–44	45–54	55–64
Males						
1880	71.3					
1890	44.3	49.6	54.3	65.7	79.2	86.7
1900	35.6	39.5	40.2	47.9	63.7	77.6
1910	23.2	27.9	28.1	31.7	43.0	59.8
1920	14.5	21.7	23.9	26.9	34.5	47.5
1930	7.4	16.6	20.5	22.9	28.4	36.1
Females						
1880	69.1					
1890	40.0	48.8	69.3	84.9	91.1	93.4
1900	28.7	33.6	47.8	66.6	82.8	88.8
1910	17.3	20.6	28.2	41.9	62.0	77.2
1920	10.4	13.9	20.2	29.1	45.4	64.6

^aSouth: Delaware, District of Columbia, Maryland, West Virginia, Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma (1910–), Texas.

Notes: **Panel A:** figures in Black and White columns are percent illiterate; figures in Dif columns are differences between black and white illiteracy rates, in percentage points.

Sources: **Panel A: AGES 10 AND OVER**—1880, U.S. Census Office (1883, 919–25); 1890, U.S. Census Office (1897, 218–19); 1900, U.S. Census Office (1902, 436–37); 1910, U.S. Bureau of the Census (1914, 1203); 1920, U.S. Bureau of the Census (1922, 1159); 1930, U.S. Bureau of the Census (1935, 235); 1940, calculated from 5% random sample, 1940 public use sample. (A range is given. The lower bound assumes that 87.9% of persons reporting zero years of schooling and 82.5% of persons reporting one year of school were illiterate; the upper bound adds to the lower bound 52.8% of persons reporting two years of schooling. All other persons are assumed to be literate. The conversion factors between years of schooling and illiteracy were taken from U.S. Bureau of the Census 1948); 1950, calculated from public use samples. Assumes same conversion factors between years of schooling and illiteracy as in 1940. **MALES, AGES 20–64**—1900, 1910, calculated from public use samples; 1940, calculated from 5% random sample, 1940 public use sample; 1950, calculated from 10% random sample, 1950 public use sample. **Panel B:** 1880, U.S. Census Office (1883, 1651); 1890, U.S. Census Office (1897, 112–13, 218–19); 1900, U.S. Census Office (1904); 1910–1930, U.S. Bureau of the Census (1918, 412; 1935).

period it was generally illegal to teach slaves to read and write. Even if it had been legal, it is doubtful that slave literacy rates would have been very high. Only a small percentage of slaves were involved in making economic decisions in which literacy would have been an asset to the slave owner.¹ A literate slave was presumed to be discontent chattel—or worse, a potential troublemaker or runaway.

In the immediate aftermath of the Civil War the Freedmen's Bureau was established to ease the adjustment of ex-slaves to freedom. Historians have written extensively about the Bureau's educational programs (Morris 1981; Jones 1980). Northern teachers—the "Soldiers of Light and Love"—went South as part of these efforts. At the peak of operations in 1869, some 150,000 students were enrolled in Bureau schools. The educational impact of the Freedmen's Bureau, however, was less than often supposed. Its schools were primarily located in towns and cities, not in the countryside where the majority of southern blacks lived. Few adults benefited from Bureau schools (Ransom and Sutch 1977).

Some progress in combating adult black illiteracy came in the 1880s. Black illiteracy stood at 61 percent in 1890, down 15 percentage points from the 1880 figure. By 1900, slightly more than half of southern blacks claimed to be literate, a remarkable achievement in light of conditions a generation earlier. The postbellum decline in illiteracy was larger among blacks than whites. Nevertheless, the racial literacy gap in 1900 was still considerable (36 percentage points).

The black illiteracy rate continued to fall during the first half of the twentieth century, dropping to slightly more than 25 percent in 1920. By 1950, I estimate that between 88 and 91 percent of southern blacks were literate, as measured by the census.

Southern white illiteracy, too, declined between 1900 and 1950 but at a slower pace than black illiteracy. Consequently the racial literacy gap fell steadily. In 1910 the racial literacy gap stood at 25 percentage points. By 1950, the gap had decreased to 7–9 percentage points.

Literacy rates of adult males followed a path similar to that of the population aged 10 and over. Using the 1900 census sample, half of the adult black males in the South were illiterate, compared with 12 percent of the adult white males. In the 1940 sample between 12 and 17 percent of adult black men are classified as illiterate. By 1950 the racial literacy gap among adult men was 7–10 percentage points, slightly higher than among the population aged 10 and over.

Panel B of Table 2.1 displays literacy rates of southern blacks arrayed by age group and sex. Moving down a column gives the literacy rate of a particular age group in each census year. For ages 15 and over, moving along a diagonal shows how the literacy rate evolved for a birth cohort.² For example, 48 percent of black males aged 35–44 were illiterate in 1900; moving ahead ten years, 43 percent of black men aged 45–54 were illiterate in 1910.

The long-term decline in black illiteracy was achieved by a succession of literate younger cohorts replacing illiterate older ones. Fully 71 percent of black male children ages 10 to 14 were illiterate in 1880. Illiteracy among this age group was cut in half by the turn of the century (to 36 percent) and by another 29 percentage points by 1930.

Among older blacks illiteracy rates were extremely high during the immediate postbellum period and remained high as these cohorts aged. In 1890, for example, 66 percent of black men aged 35 to 44 (virtually all of whom had been enslaved at birth) were illiterate. In 1900 the illiteracy rate of this cohort, now aged 45 to 54, was 64 percent, virtually unchanged over the intervening decade. A black man (or woman) who reached adulthood illiterate was very unlikely to learn to read or write later in life: "The idea that after slavery was abolished large numbers of adult blacks successfully acquired, on their own, elementary reading or writing skills is a myth" (Smith 1984, 691).

Among black children, females had higher literacy rates than males. For example, 83 percent of females in 1910 could read and write, compared with 77 percent of males. In the late nineteenth and early twentieth centuries the gender difference in literacy rates was opposite in sign among older age groups. Among 35- to 44-year-olds in 1900, the female illiteracy rate exceeded that for males by 19 percentage points. Eventually, the gender difference in literacy among older blacks declined as younger black females, who had higher literacy rates than younger males, replaced the older age groups in the population.

The high rates of adult illiteracy inherited from slavery had serious consequences for black economic progress. Later I shall demonstrate that schooling expanded a black man's economic options by increasing his probability of holding a nonfarm job in the South or moving from the South. Illiterates had fewer options, and most were condemned to a life of very low incomes. Illiterates were less likely to accumulate wealth than were literates (Higgs 1982; Margo 1984a). The negative effects of adult illiteracy were felt across generations; as I shall demonstrate, children of illiterate parents were less likely to attend school than were children whose parents could read and write.

2.2 School Attendance in the South, 1880–1950

The spread of literacy among southern blacks was a consequence of the acquisition of literacy by the young. Because high rates of adult black illiteracy persisted into the twentieth century, it is implausible that the majority of black children learned to read and write at home. Rather, as will be shown, school attendance rates of black children rose over time. Further, the racial gap in school attendance that existed after the Civil War narrowed over time as well.

Table 2.2 shows race-specific school attendance rates, by sex and age group. The rates were calculated from data collected by the U.S. Bureau of

Table 2.2 School Attendance Rates in the South

	Ages			
	5-9	10-14	15-20	5-20
Black Males				
1880				21.1% ^a
1890	22.4%	48.6%	17.1%	29.5
1900	21.6	49.7	14.9	28.5
1910	38.5	63.7	23.7	41.8
1920	50.8	75.8	26.8	51.6
1930	58.2	86.4	31.4	57.6
1940	64.7	88.6	34.2	61.3
1950	69.2	93.5	45.4	69.3
Black Females				
1880				21.1 ^a
1890	23.2	53.1	18.4	31.1
1900	22.6	56.2	19.7	31.9
1910	40.6	70.0	29.2	45.6
1920	52.3	79.4	31.5	53.7
1930	60.3	89.1	35.3	59.6
1940	66.4	91.5	39.1	63.7
1950	70.3	94.6	45.0	69.0
White Males				
1890	38.4	79.4	33.9	49.6
1900	35.0	74.3	32.0	46.4
1910	52.5	84.8	40.6	58.5
1920	61.3	89.8	37.2	62.8
1930	64.4	93.6	42.5	66.6
1940	64.5	93.4	45.3	66.5
1950	69.9	93.2	53.5	71.6
White Females				
1890	38.4	76.6	30.1	47.6
1900	35.0	77.3	31.5	47.0
1910	51.9	85.8	39.2	57.8
1920	61.4	89.9	42.0	63.2
1930	65.3	94.4	42.7	66.2
1940	65.6	94.0	43.8	66.1
1950	71.0	96.5	49.1	71.2

Notes: Figures are total number of children attending school divided by the population aged 5 to 20. **Black Children:** 1890, 1900, adjusted for nonreporting bias, see Appendix to this chapter; 1950, attendance rates for Delaware were estimated by (1) estimating ratio of attendance rates, Delaware/Maryland in 1940, (2) multiplying ratio by attendance rates for Maryland in 1950, and (3) estimating numbers of black children in Delaware in 1950, using 1940 ratio of Delaware to other states. **White Children:** 1890, 1900, adjusted for underreporting (see Appendix to this chapter); 1940, adjusted for underreporting in Kentucky; 1950, attendance rates for Delaware were estimated using procedure described above for black children.

^aTo estimate the black attendance rate in 1880, a state-level logit regression of the child literacy rate for ages 10-14 (LIT) on the attendance rate for ages 10-14 (ATT) was estimated using data for 1910. The results (with *t*-statistics in parentheses) were:

$$\text{logit (LIT)} = -3.56 + 7.63 \text{ ATT} \quad N = 17, R^2 = 0.75$$

(5.14) (8.01)

Next, I used the regression to estimate ATT (ages 10-14) in 1880 (LIT is known in 1880). I then multiplied ATT by the ratio of attendance for ages 5-20 to attendance for ages 10-14 in 1890.

Sources: 1890-1940, U.S. Bureau of the Census (1943). 1950, U.S. Bureau of the Census (1952) for black children, and for white children the figures were estimated from a 25% random sample of the 1950 public use tape.

the Census.³ Like the literacy question, the census question on school attendance was a minimal indicator; in general, a person was counted as having attended school provided she attended at least one day during a specific period prior to the date the census was taken.⁴ In 1890 and 1900, however, the question pertained to the number of months children attended school. It has been suggested that the question on months attended led to an undercount of black children enrolled in school (Smith 1986). The Appendix to the chapter considers this question at length, concluding that small upward adjustments to the original data are warranted. These adjustments are included in Table 2.2.

In 1880 about 20 percent of black children (ages 5 to 20) attended school, and attendance climbed to about 30 percent in 1900. From 1900 to 1950 the attendance rate rose continuously, increasing by 22 percentage points between 1900 and 1920. By 1950 69 percent of southern black children attended school in the previous year, more than double the proportion fifty years earlier.

In the late nineteenth and early twentieth century school attendance rates of southern white children exceeded those of black children by a considerable margin. In 1890, for example, the white attendance rate (ages 5 to 20) was 48 percent, 18 percentage points higher than the rate for blacks. By 1920 63 percent of white children were attending school at some point during the census year, about 10 percentage points higher than the black attendance rate. Growth in white attendance continued during the 1920s, slowed during the Great Depression, and then rebounded again in the 1940s. In 1950 about 71 percent of southern white children were attending school. This was, however, only 2 percentage points greater than the black attendance rate in 1950. Thus, like racial differences in literacy rates, racial differences in school attendance declined over time, with the bulk of the decline occurring after 1910.

Consistent with the gender differences in literacy rates, black female children attended school more frequently than black male children. The gender difference was larger among children over the age of 10 than among younger children. The gender difference declined over time as school attendance became a universal phenomenon among black children. Attendance followed an inverted U-shaped pattern with respect to age. Rates of attendance were lowest among the age groups 5–9 and 15–20, peaking in the age group 10–14. In 1900, for example, about half of black male children aged 10–14 attended school, compared with 22 percent of 5- to 9-year-olds and 15 percent of 15- to 20-year-olds. But the growth in attendance over time was greater in the younger and older age groups than in the middle. The inverted U flattened as the century progressed.

Except in 1920, the overall attendance rate of white female children was slightly less than that of white male children, reflecting slightly lower female attendance in the older age group. Attendance rates of white children peaked in the age group 10–14, and over time, the inverted U-shaped pattern flattened. Growth in white attendance was greater among the younger and older age groups than among children between the ages of 10 and 14.

Despite the long-term narrowing, it is clear from Table 2.2 that a significant racial gap in school attendance existed prior to 1940. Earlier I suggested that high rates of adult black illiteracy may have contributed to keeping the gap wide. The reasons for a negative relationship between adult illiteracy and school attendance are complex: Illiterate parents had lower incomes and wealth—they needed their children to work, on the family farm or in the market; illiterate parents were more likely to live in rural, predominantly black counties (the “black belt”) where educational opportunities were most limited; and illiterate parents could not help their children learn to read and write. The quantitative significance of the relationship between adult literacy and school attendance of children is explored in more detail in Chapter 5. My goal here is to establish that a relationship existed.

Panel A of Table 2.3 shows the relationship between the school attendance of southern black children and the literacy status of their parents, using a sample drawn from the 1910 census tape. The data refer to two-parent families, but the substantive findings would not change if single-parent households were included. A majority of children (64 percent) lived in families in which one or both of the parents was illiterate. Both parents of about 34 percent of the children were illiterate. Consistent with the gender differences in adult literacy discussed earlier, in 16 percent of the cases the father was literate and the mother illiterate, while a smaller fraction (14 percent) had literate mothers and illiterate fathers.

It is clear that school attendance was correlated with the literacy of the parents. In households with both parents illiterate, 36.8 percent of the children attended school, compared with 56.8 percent in households in which both parents were literate, or a difference of 20 percentage points. Attendance was higher, as well, in households in which at least one parent was literate. The effect was slightly greater if the mother, rather than the father, was the literate parent.

Panel B of Table 2.3 reports a regression of census data on black school attendance rates from 1910 to 1930. The data are state aggregates: the independent variables are dummy variables for gender, age group, decade, whether the state had a compulsory schooling law, and the illiteracy rate of adults, ages 35 to 44. The dummy variable for compulsory school legislation was included to see if such laws had their intended positive effect on school attendance.

The results confirm the existence of an economically and statistically significant relationship between adult literacy and school attendance. Holding constant other factors, a reduction of 10 percentage points in adult illiteracy increased the school attendance rate by 4.2 percentage points. The coefficient of the compulsory schooling dummy is positive and significant at the 10 percent level but it is small in magnitude, consistent with other studies showing that such legislation had only a minor impact on school attendance (Landes and Solmon 1972).

Table 2.3 School Attendance and Parental Illiteracy: Southern Black Children, Ages 5 to 20

A. 1910 Census Sample

	Number of Observations	Attending School (%)
Both parents illiterate	2,147	36.8
Father literate, mother illiterate	1,046	45.1
Father illiterate, mother literate	909	45.5
Both parents literate	2,308	56.8

B. Regressions of School Attendance

	Without State Dummies		With State Dummies	
	β	<i>t</i> -statistic	β	<i>t</i> -statistic
Constant	0.552	23.65	0.665	10.22
Female	0.036	5.11	0.038	6.11
Age group:				
10-14	0.273	31.04	0.272	37.29
15-20	-0.207	-24.56	-0.207	-28.91
Adult illiteracy rate, ages 35-44	-0.420	-8.21	-0.692	-4.87
Compulsory schooling law	0.027	1.91	0.011	0.82
Decade:				
1920	0.029	2.39	0.015	1.02
1930	0.076	5.98	0.046	2.17
Number of observations		306		306
R^2	0.918		0.948	

Notes: **Panel A:** Sample is from the public use tape of the 1910 census and consists of all black children residing in the South in 1910, both parents present. **Panel B:** Dependent variable is age- and sex-specific school attendance rate of black children, in state j in year t ($=$ 1910, 1920, 1930), from Table 2.2 and Landes and Solmon (1972).

2.3 Years of Schooling

National data on educational attainment, or "years of schooling," were first collected by the Bureau of the Census in 1940. For persons born since 1915, census data provide a reliable time series of the average educational attainment of the adult population. For persons born before 1915, the data must be arranged by age group (or birth cohort) to get at the long-term trend. When the data are so arranged, they measure the average educational attainment of persons who *survived* to at least 1940 (i.e., survived to answer the census question; see below).

Figures 2.1 and 2.2 chart race-specific estimates of average years of schooling by birth cohort, for persons born in the South, and for the entire male population, regardless of place of birth. The average educational attainment of southern blacks born before the Civil War was only 2.4 years of schooling.

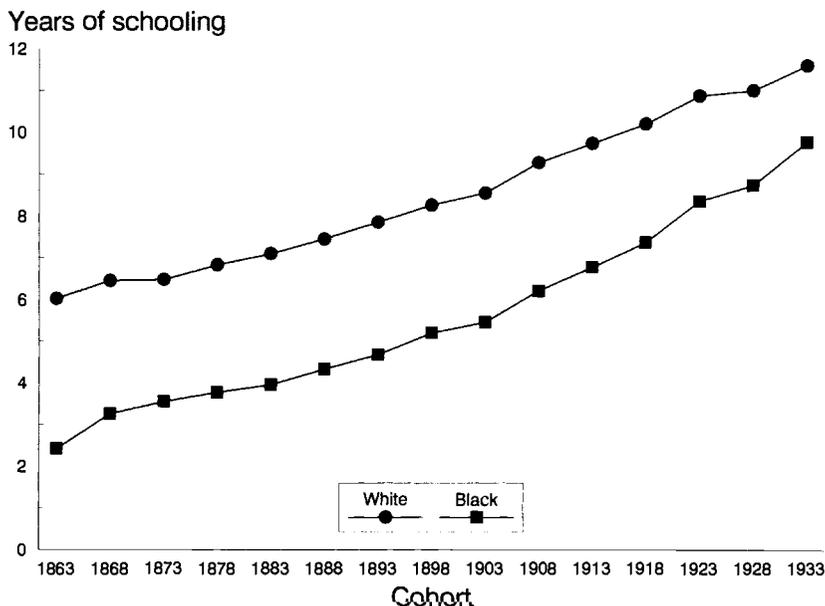


Figure 2.1 Mean Years of Schooling: Born in the South

Notes: Cohort is midpoint of five-year birth cohort, for example, 1913 refers to the birth cohort 1913–18; 1863: born before 1865.

Source: Smith (1986, 1227).

Years of schooling rose to more than double the pre-Civil War level for cohorts born at the end of the nineteenth century. Still, it is clear that the average educational attainment of the southern black population was extremely low in the late nineteenth and early twentieth centuries, absolutely and compared with southern whites.

Black educational attainment rose with each successive birth cohort. The average educational attainment of southern blacks born between 1916 and 1920 was 7.4 years, a full three years longer than the average among those born between 1886 and 1890. Mean years of schooling increased to 8.75 years—an elementary school education—among southern blacks born between 1926 and 1930, and to 10.4 years—some high school—among those born in the late 1930s.

Average years of schooling among southern whites born before the end of the Civil War was 6.0 years, 3.6 years longer than for southern blacks. Among white cohorts born after the war but before 1880—that is, during Reconstruction—average years of schooling rose but at a slower pace than among southern blacks, and the mean racial schooling gap declined, to about 3 years. The gap then remained stable among cohorts born between 1876 and 1915.

The cohort of southern whites born just after World War One was the first

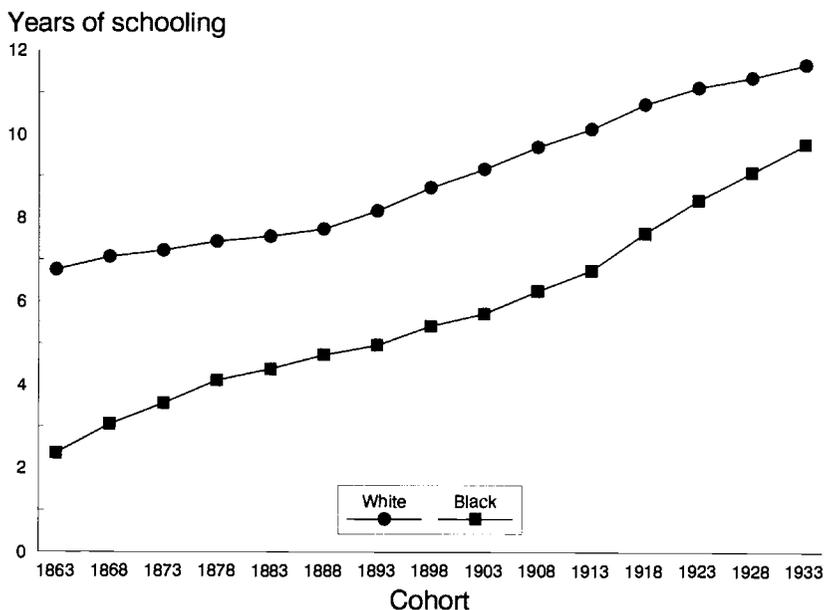


Figure 2.2 Mean Years of Schooling: Males, U.S. Average

Notes: Cohort is midpoint of five-year birth cohort; 1863: born before 1865.

Source: Smith (1984, 687)

to complete, on average, a substantial amount of high school. Mean years of schooling among whites born between 1916 and 1920 was 10.2 years. Average years of schooling for southern whites continued to increase among cohorts born in the next twenty years, to nearly 12 years for those born in the late 1930s. The growth in white educational attainment was slower than for blacks, however, and the racial schooling gap once again began to decline. The racial gap stood at 2.5 years among those born in the early 1920s, falling to 1.6 years among those born between 1936 and 1940.

The national data (Figure 2.2) show that, for both black and white males, average educational attainment was far lower in the South than elsewhere in the country. The national data also indicate that the racial gap in educational attainment widened for male cohorts born between 1886 and 1915. After 1915 the gap declined continuously, as it did in the South.

Cohorts born between 1880 and 1915 formed the bulk of the labor force during the first half of the twentieth century (Smith 1984). Thus census data imply that racial differences in educational attainment were persistently large among persons in the labor force in the South prior to 1950. In the nation as a whole, this conclusion holds a fortiori because the racial schooling gap appears to have increased for cohorts born between 1880 and World War One.

The persistently large racial gap in educational attainment may seem para-

doxical in light of the pronounced declines over time in the racial gaps in literacy and school attendance. Literacy and school attendance, however, are very crude indicators of schooling. Two persons can be “literate” according to the census definition and have vastly different educational backgrounds—a fourth grade education, for example, versus a high school diploma. A school attendance rate measures the fraction of the population attending school in a particular year, not their educational level.

More fundamentally, a school attendance rate does not reveal whether attendance behavior was “homogeneous” or “heterogeneous.” In 1890 the average school attendance rate of southern black children ages 5 to 20 was 29.5 percent (Table 2.2). This could mean that *every* black male attended school for 29.5 percent of his childhood years, a total of 4.7 years (0.295×16 years).⁵ Or it could mean that 29.5 percent of black male children achieved a fairly high level of educational attainment while the rest never attended school at all, or attended only rarely. The former is what is meant by “homogeneous” behavior, the latter by “heterogeneous” behavior.

Black school attendance in the late nineteenth century South was far from homogeneous because, if it had been, the literacy rate of black children (ages 10 to 14) would have been much higher than it actually was (56.7 percent in 1890; see Table 2.1).⁶ Between 1880 and 1920 it became much more likely that a southern black child would attend a sufficient amount of school to be considered “literate” according to the census definition. Black attendance behavior was more homogeneous in this sense, but it was not until the cohorts born after World War One that black children began to stay in school long enough, on average, to narrow the racial gap in years of schooling. Even then, black attendance in the 1920s and 1930s was still very heterogeneous, as indicated by a skewed distribution of enrollments by grade. In the early 1930s 34 percent of all southern black children enrolled in elementary or secondary schools attended kindergarten or the first grade; fully 72 percent were enrolled in grade four or below (Blöse and Caliver 1935, 23). By 1950, 20 percent of southern black enrollments were in kindergarten or the first grade; 14.1 percent of those enrolled attended high school compared with 5.8 percent in 1931–32 (U.S. Department of Health, Education, and Welfare 1954, 102; Blöse and Caliver 1935, 23).

Thus a portion of the persistent racial gap in years of schooling can be attributed to the initial heterogeneity of black school attendance. Over time *some* school attendance became universal, but average black educational attainment as a result increased more slowly *across* cohorts than either literacy or school attendance rates.⁷

Not all of the persistence, however, can be explained in this manner. The underlying census data are not above suspicion. As pointed out earlier, the data on educational attainment are retrospective—persons had to survive at least until 1940 in order to report their educational attainment to the census. Educational attainment and life expectancy, however, are positively corre-

lated: those who survive longer tend to be better educated than the average member of their birth cohort. Another problem is the potential for educational “creep” or “self-promotion.” As educational norms rise, individuals may exaggerate their schooling accomplishments as they age. Making generous allowances for mortality and creep bias, however, does not change the conclusion that the racial gap in years of schooling remained persistently large early in the century (see Margo 1986c, 195–97).

There is another reason, however, to suspect that the meaning of “years of schooling” differed between blacks and whites. The length of the school year in southern black schools was less than in the region’s white schools (see Section 2.4). The average length of the school year in the South, black or white, was shorter than in the nation as a whole. Such differences would not necessarily result in biases. A black pupil attending school for four months of the year for eight years would finish, at most, half the grades completed by a white attending eight months for eight years. However, the wording of the census question apparently caused years of schooling to be overstated for many blacks. Although the question was phrased in terms of grades completed, the Bureau of the Census knew that many respondents had been educated in “ungraded” schools. If a person attended an ungraded school—a school without formal age-grade distinctions, although the students would be differentiated by their level of progress—census enumerators were supposed to “enter the approximate equivalent grade . . . or, if this cannot readily be determined, the number of years the person attended school” (U.S. Bureau of the Census 1943, 178). How many enumerators actually followed these instructions is not known, nor is the meaning of “number” certain. But an obvious interpretation of “number” is the literal one. A child attending school from age 8 to age 14 would report her educational attainment as 6 “years,” which would then be tabulated (by the census) as the sixth “grade.” Ungraded-school bias is a serious problem because most black schools in the late nineteenth century South were ungraded. In Texas, for example, fully 89 percent of the black schools were ungraded in 1900 (Margo 1986c, 196). Graded schools were more common in cities and towns, because the division of students into grades was a function of economies of scale. Urban schools were larger schools, and thus could accommodate a greater division of labor among teachers specializing in certain grades or subjects.

Circumstantial evidence of ungraded school bias among blacks is shown in Table 2.4. The column labelled Years of Schooling is an alternative estimate of educational attainment, giving the average number of *years* spent in school. The column labelled Highest Grade Completed gives the census attainment data. Using the Years of Schooling column, the racial gap in educational attainment shows a decline over time, in contrast to the trend in Figure 2.2.

Dividing years of schooling by highest grade completed provides an estimate of the average number of years necessary to complete a grade. If ungraded school bias were important for blacks, one would expect to find years

Table 2.4 The Bias in Educational Attainment: Black Cohorts

Cohort	Years of Schooling	Highest Grade Completed
1886–90	4.9	4.7
1891–95	5.5	5.0
1896–1900	6.4	5.4
1901–5	7.2	5.7
1906–10	8.0	6.3

Note: Figures are national, cohort-specific averages.

Source: *Years of schooling*, Margo (1986b, 1222); *Highest Grade Completed*, Smith (1984).

per grade to be close to one. Among black males born between 1886 and 1890 it is 1.05. A similarly constructed estimate for white males in the same cohort group is 1.1 years per grade (Margo 1986b, 1222).⁸ In the absence of bias, it is implausible for the white estimate to exceed the black estimate: the black schools were inferior in quality to the white schools, which hampered black educational achievement (Chapter 5).

Over time the black school year increased in length and graded schools replaced ungraded ones. The timing of the replacement cannot be determined with certainty because no state kept adequate records. It is clear, however, that the shift was substantially underway by World War One. Reasonably good national data on the distribution of southern black enrollments by grade level first appeared in 1918. The shift from ungraded to graded schools makes the average educational attainment of blacks appear to increase more slowly over time than it actually did.

Some studies have used the apparent widening of the racial gap in educational attainment to explain the stability of the aggregate black-to-white income ratio before World War Two (Smith 1984). My findings suggest, however, that the widening of the attainment gap was partly an artifact of the way census data were collected. It does *not* follow, however, that racial differences in schooling were unimportant determinants of racial differences in labor market outcomes prior to World War Two; Chapters 6 and 7 will demonstrate that they were. The existence of ungraded school bias is itself a manifestation of large racial differences in the quality of schooling, which are discussed in the next section. No matter how carefully it is measured, the average educational attainment of black people fell well below that of whites during the first half of the twentieth century.

2.4 The Quality of Schooling: The Racial Division of Public School Expenditures in the South, 1890 to 1950

In 1917 the U.S. Bureau of Education published “Negro Education: A Study of the Private and Higher Schools for Colored People in the United States” (Bulletin nos. 38 and 39). Written by Thomas Jesse Jones, the two

volumes chronicled conditions in the nation's black schools to a degree far beyond what the title implied. In Jones's view, conditions in private black schools, the majority of which were located in the South, were inextricably tied to conditions in the *de jure* segregated public schools of the South. For example, that there were few public high schools for blacks meant that "[high] schools for Negroes [were] dependent on private aid" (Jones 1917, 7). Jones collected pertinent statistics on the public schools from published state reports, surveys of school superintendents, and personal correspondence, interpreted these carefully, and made numerous policy recommendations. His report was (and is) the most comprehensive survey of segregated schools for its time.

The picture Jones painted was a grim one. Great progress had been made in improving the South's schools for white children since the turn of the century. Teacher salaries had been increased, school terms lengthened, inefficient one-teacher schools consolidated and replaced by multiroom, modern buildings, and public high schools had multiplied enormously. But little of the educational awakening had trickled down to the black schools. "Inadequacy and poverty," Jones lamented, "are the outstanding characteristics of every type . . . of education for Negroes in the United States. No form of education is satisfactorily equipped or supported" (1917, 9).

Statistics on expenditures revealed a shocking indifference to the educational needs of black children. Jones concentrated his attention on expenditures on instruction (teacher salaries), which were the most reliable and widely available figures. For every dollar spent on teacher salaries per white child ages 6 to 14, 29 cents was spent per black child.⁹ The lower level of expenditures in black schools was the direct consequence of a shorter school year, classroom overcrowding (a higher teacher-pupil ratio), and lower pay for black teachers.

Geographic variations in conditions in the black public schools received Jones's attention. The situation was worse in the Deep South than in the upper South. In Alabama the black-to-white ratio of state averages of per pupil expenditures was 0.19. In Maryland the ratio was 0.46 (1917, 23). Interstate differences, however, were smaller than differences between counties. In counties in which the black population constituted between 10 and 25 percent of the population (29 percent of white children and 12 percent of black children lived in such counties), 58 cents was spent per black pupil for every dollar spent per white pupil. In counties in which the black population share ranged from 50 to 75 percent (where 10 percent of white children and 37 percent of black children resided), the black-to-white ratio was a meager 0.14—14 cents per black pupil for every dollar spent per white pupil (28).

Expenditures on teacher salaries were not the only important difference between the black and white public schools. Many of the black schools were in privately owned buildings (churches, lodges, or rural cabins) donated to local school boards and pressed into service. The exterior surroundings "varied

from untidy to positively filthy. Ash heaps often adorned the front yards, . . . at barely respectable distances leaned ugly outhouses in unscreened and shameful impudence” (1917, 32). School equipment (books, blackboards, chalk, maps, globes) was undersupplied or nonexistent. Many teachers labored valiantly against the odds, but others were “utterly incapable of any responsibility” (34). An adequate supply of well-trained educators was impossible because “public provision for training colored teachers [was] negligible” (34).

It was at the high school level that the differences were most pronounced. In the entire South there were only sixty-four public high schools for black children.¹⁰ A southern black child wishing a post-elementary education had to seek it in one of the region’s private schools or else leave the region. Because most of the private schools were located in towns or cities while the black population was heavily rural, a black child’s opportunities for a secondary education were severely circumscribed. Inadequate facilities at the secondary level compounded the difficulties of the elementary schools, because the high schools were a chief supplier of the students who might eventually become teachers.

With conditions like these, it was hardly surprising that black children, on average, attended school less frequently than white children. “The low attendance in colored schools,” Jones declared, “is the first great problem to be solved” (1917, 32). He laid the blame squarely on the “poor and unattractive” schools and the “low economic status” of the black community (38).

Jones was well aware that the huge divergence between the black and white schools was a phenomenon of comparatively recent origin at that time. Table 2.5 pieces together race-specific estimates of per pupil expenditures on teachers salaries (in 1950 dollars) for various southern states from 1890 to 1950. Racial differences in instructional expenditures were smaller than in the value of school capital or in expenditures on ancillary services, such as transportation. Nevertheless, available data on these other aspects of school quality suggest that the trends in teacher salaries faithfully summarize the general trend in the relative (black-to-white) quality of the black schools.

Around 1890 the public schools of the southern states could be charitably described as backward. It had been so since antebellum days (Kaestle 1983). The North experienced its “common school revival” long before the South did, and was on the verge of mass high school education at the turn of the century, which the South was not. Despite considerable improvement during the postbellum period, southern public schools lagged far behind. In 1890, per pupil expenditures in southern public schools equalled only 43 percent of the average outside the region. The average length of the school year was ninety-two days, two months shorter than the average elsewhere.¹¹

When pressed, southerners justified their region’s indifference to education by appealing to economic and social constraints. The South was a poor, agricultural region—wealth per adult male was lower than the national average

**Table 2.5 Per Pupil Expenditures on Instruction: Selected Southern States
(in 1950 dollars)**

	c. 1890	c. 1910	c. 1935	c. 1950
Alabama				
Black	8.80	10.39	17.50	67.66
White	8.89	33.51	53.18	89.50
Ratio	0.99	0.31	0.33	0.76
Arkansas				
Black	NA	15.48	17.71	46.46
White	NA	37.13	39.80	74.45
Ratio	NA	0.42	0.45	0.62
Delaware				
Black	NA	31.48	129.51	116.12
White	NA	41.80	129.50	133.65
Ratio	NA	0.75	1.00	0.87
Florida				
Black	13.12	9.95	34.66	107.11
White	26.66	36.05	84.74	134.57
Ratio	0.49	0.28	0.41	0.80
Georgia				
Black	NA	8.74	15.12	59.80
White	NA	29.84	55.59	89.59
Ratio	NA	0.29	0.27	0.68
Louisiana				
Black	8.29	9.03	19.91	86.48
White	16.57	53.76	74.60	139.04
Ratio	0.50	0.17	0.27	0.62
Maryland				
Black	27.88	27.88	80.63	134.86
White	42.82	47.34	102.84	142.71
Ratio	0.65	0.59	0.78	0.95
Mississippi				
Black	9.27	7.67	13.36	22.29
White	18.62	27.88	58.61	71.00
Ratio	0.50	0.28	0.23	0.31
North Carolina				
Black	7.75	9.28	32.92	92.84
White	7.67	17.25	51.43	100.37
Ratio	1.01	0.54	0.64	0.93
South Carolina				
Black	NA	6.13	18.62	58.82
White	NA	32.43	67.74	91.77
Ratio	NA	0.19	0.28	0.64
Tennessee				
Black	NA	13.24	32.68	50.67
White	NA	19.76	57.24	73.41
Ratio	NA	0.67	0.57	0.69
Texas				
Black	NA	22.19	42.84	114.32
White	NA	35.06	85.68	137.22
Ratio	NA	0.63	0.50	0.83

(continued)

Table 2.5 (continued)

	c. 1890	c. 1910	c. 1935	c. 1950
Virginia				
Black	13.82	13.64	33.05	82.06
White	19.90	32.79	63.81	93.61
Ratio	0.69	0.42	0.52	0.88

Notes: Figures are expenditures on teacher salaries per pupil in average daily attendance and pertain to public schools only. Price index is Warren-Pearson wholesale price index (U.S. Bureau of the Census 1975). NA: not available. Sources: 1890, Margo (1985); 1910, Jones (1917); 1935, Blose and Caliver (1938); 1950, U.S. Department of Health, Education, and Welfare (1954).

and children were needed on the farm, particularly in cotton cultivation. Fertility was high: there were far more children to be educated, per adult, than elsewhere in the country. Population density was low, which drove up school costs on a per pupil basis. Last but not least, the South had the added expense of maintaining a dual system of *de jure* racially segregated public schools.

At the time Jones's study was published, the "added expense" excuse was a poor one. It was somewhat more plausible in 1890. In five of the eight states represented in Table 2.5, per pupil expenditures in 1890 were higher in the white schools than in black schools. Of these, three states—Florida, Louisiana, and Mississippi—recorded the lowest levels of the black-to-white spending ratio, all well less than one. Yet in the other states in the table (Alabama, Kentucky, and North Carolina), per pupil expenditures did not differ much between the races. The dual school systems were certainly not equal, but they were more equal (as measured by per pupil expenditures) than at any time prior to the Supreme Court's 1954 school desegregation case, *Brown v. Board of Education*.

Comments by state school superintendents reprinted by the U.S. Bureau of Education in its annual report for 1890 provide insights into how school funds were distributed in the late nineteenth century. Arkansas is not one of the states represented in the table but, judging by the testimony of Josiah Shinn, the state's superintendent of public instruction, it seems that equal provision was reasonably well adhered to:

The law apportiones to all children irrespective of color. Each child in Arkansas, black and white, . . . receives the same amount of money by State apportionment. Each county in the State, irrespective of color, gets an amount of money equal to the sum of the amounts given to its children of school age . . . [each] district gets . . . a sum of money . . . equal to the multiple formed by the pro rata into the number of children in the district. (U.S. Bureau of Education 1893, 1077)

The total amount of school funds available to be distributed at the district level consisted of the state school fund, county poll taxes, and any property

tax voted by the taxpayers of the school district. "Up to this point in our financial management," Shinn continued, "no [racial] distinction whatever has been made." The school fund was to be distributed between the races by local school "directors" (the school board) and "if any discrimination is made . . . the fault will lie with the directors." But there was "no restriction upon the black man's right to hold the office of school director. In eastern Arkansas in a large majority of the districts the [directors are] black" (1893, 1077).

Two types of distribution schemes were generally followed. In the first, money was allocated "to hold a three months' school for each race." If any funds were left over, they were distributed "by taking the ratio of the black and white children of school age, respectively, to the whole number of children." In Shinn's opinion the way in which additional funds were distributed was "always more favorable to the colored race than to the white" because the fraction of black children of school age who were attending school was lower than the white fraction. The second scheme, which held "schools of equal length" regardless of the relative proportions of white and black children, was "on the broadest basis of fairness, and reaches the widest stretch of justice. . . . It would be unjust . . . not to say further that the greater majority of our school directors follow the second plan." Shinn concluded by listing twenty-one cities and towns in which the "terms and all the other arrangements" were equal between the races (1893, 1077).

Alabama's state superintendent of education noted that state law required the state school fund be "apportioned among the townships and districts according to the number of children of school age, the fund of each race being kept separate." Poll taxes, also part of the school fund, were kept separate as well. This method of distributing school funds, the superintendent added, "has caused much dissatisfaction" (1893, 1075), presumably for the same reasons as in Arkansas.

By 1910 school officials no longer divided school budgets relatively equally between the races. Table 2.5 shows that the black-to-white ratio of per pupil expenditures declined in every state between 1890 and 1910. In some states (Florida, Mississippi, Virginia, Louisiana), expenditures per black pupil actually fell in constant dollars. In the others, expenditures per black pupil stayed the same or else grew at a much slower rate than spending per white pupil.

The fall over time in the black-to-white ratio of per pupil expenditures at the state level was not the only change of importance between 1890 and 1910. The negative relationship between the percentage of blacks and the black-to-white ratio of per pupil expenditures became more pronounced over the twenty-year period (Margo 1985).

Fundamentally an optimist, Jones believed the black public schools would eventually improve, even though he had little cause to do so at the time. Subsequent events proved he was right. In 1938 the U.S. Office of Education

published "Statistics of the Education of Negroes, 1933-34 and 1935-36" (Bulletin no. 13), written by David Blose and Ambrose Caliver. The fifth such report since Jones's landmark study, it contained an abundance of data on enrollments, attendance, class sizes, expenditures, the value of school property, and other aspects of the schools.

Blose and Caliver (1938, 1) pointed with pride to the "remarkable progress" that had been made "in the education of Negroes . . . during the preceding two decades. . . . Many of the Southern States have more [black] public high schools now . . . than all the Southern States combined had 20 years ago. . . . Public support of education for Negroes had grown at a rapid rate." The overall proportion of black children enrolled in school had increased by 26 percentage points. The school term was lengthened, and children tended to stay in school for more years than they had previously. In 1915 teachers' salaries in the black schools equalled almost \$6 million. By 1935 the sum had grown to \$35 million. To Blose and Caliver, the trends indicated that "more schools of all types [were] being provided Negroes," as well as "a growing appreciation of Negroes as to the value of education in the solution of many problems which confront them" (2).

But in other respects Blose and Caliver's assessment was as gloomy as was Jones's. Despite the gains for blacks, "the divergence between the two races [had] not lessened" (1938, 2). In the quarter-century from 1910 to 1935, the white schools had not stood still. Spending per white pupil had grown tremendously. In relative terms (black-to-white), the black schools had generally held their ground, but the absolute differentials were larger than in 1910. "Great progress in the education of Negroes" had been made, but there still was "considerable inadequacy of educational facilities and opportunities" (*ibid.*).

Moreover, the progress had been highly uneven geographically. In terms of instructional expenditures, black schools in Mississippi or South Carolina lagged behind those in Virginia or Maryland. Great disparity was still evident at the county level. A study by the sociologist Charles Johnson (1941) using 1930 data revealed a negative correlation between the black-to-white spending ratio and the percentage of the population that was black, similar to the one Jones had observed earlier. Johnson's investigation also uncovered variations associated with the local economy, or what he called "county types." In counties in which cotton was the dominant crop and "plantation" agriculture was practiced, and in which few blacks held nonfarm jobs, far fewer resources were devoted to the black schools than in counties in more urban settings.¹²

Relative (black-to-white) improvement in the black schools finally occurred during the 1940s and early 1950s. In the South as a whole, real per pupil expenditures on instruction in the black schools were 288 percent higher in 1954 than in 1940. Spending per white pupil also increased, but at a slower pace (38 percent between 1940 and 1954). Consequently the black-to-white

Black-to-white ratio of per pupil expenditures

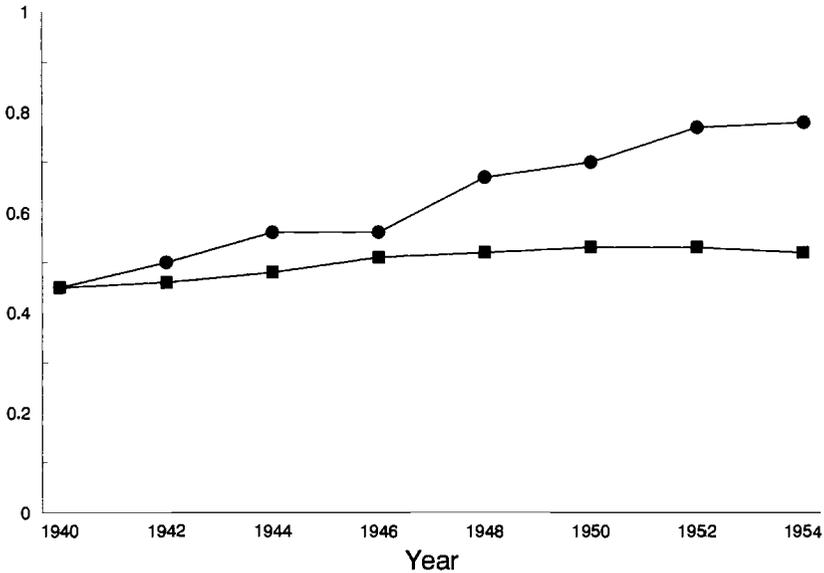


Figure 2.3 Black-to-White Ratio of Per Pupil Expenditures: The South, 1940 to 1954

Notes: A circle indicates the actual black-to-white ratio; a square indicates the hypothetical black-to-white ratio assuming no change in the black-to-white ratio of teacher salaries (see text).

Source: Calculated from data in Federal Security Agency, U.S. Office of Education (1942, 1947, 1949–51) and U.S. Department of Health, Education and Welfare (1954, 1957, 1959).

ratio of per pupil expenditures rose from 0.45 in 1940 to 0.78 in 1954 (Figure 2.3)¹³

The data on expenditures suggest two important findings. First, in real terms per pupil expenditures in the *de jure* segregated black public schools of the South increased over time: each successive generation of black children received more school resources. Second, racial differences in the quality of southern public schools followed an inverted U-shaped pattern, first decreasing around the turn of the century, and then narrowing in the 1940s.

It might be argued, however, that per pupil expenditures provide misleading evidence on the relative quality of black schools.¹⁴ Per pupil expenditures on teacher salaries are (approximately) the product of the average monthly wage of teachers, the length of the school year, and the number of teachers per pupil (class size). The U-shaped pattern might be primarily a consequence of changes over time in the relative (black-to-white) wages of black teachers. Racial differences in teachers' pay, however, may mainly reflect wage discrimination against black teachers, not differences in the quality of instruction.

Table 2.6 Length of the School Year in Days: Selected Southern States

	c. 1890	c. 1910	c. 1935	c. 1950
Alabama				
Black	75	97	127	177
White	70	131	144	176
Ratio	1.07	0.74	0.88	1.01
Florida				
Black	100	91	168	180
White	100	112	174	180
Ratio	1.00	0.81	0.97	1.00
Louisiana				
Black	90	75	128	178
White	87	153	175	180
Ratio	1.03	0.49	0.73	0.99
Mississippi				
Black	76	104	119	141
White	70	114	145	163
Ratio	1.09	0.91	0.82	0.87
North Carolina				
Black	63	96	161	180
White	61	107	161	180
Ratio	1.03	0.90	1.00	1.00
South Carolina				
Black	NA	75	127	174
White	NA	117	173	180
Ratio	NA	0.64	0.73	0.97
Virginia				
Black	124	124	165	180
White	115	139	170	180
Ratio	1.08	0.89	0.97	1.00

Notes: Figures give average length of school year in elementary and secondary public schools. NA: not available.

Source: 1890, 1910, Margo (1985); 1935, Blose and Caliver (1938); 1950, U.S. Department of Health, Education, and Welfare (1954).

Adjusted for wage discrimination, the patterns in school quality might look very different (Welch 1973; Donohue and Heckman 1989).

Tables 2.6 and 2.7 report evidence on the length of the school year and average class sizes. Between 1890 and 1910 the average school term in black schools fell relative to the length of the term in white schools. After 1910 the school term in black schools increased significantly. Racial differences in length of the term began to diminish earlier than did racial differences in per pupil expenditures, but it was not until the 1940s that the gap narrowed substantially. Class sizes, too, generally followed a U-shaped pattern. In the late nineteenth century, class sizes were larger in the black schools than in the white schools, and the gap widened between 1890 and 1910.¹⁵ The gap remained roughly stable until the mid-1930s, at which point it began to narrow.

Table 2.7 Class Sizes: Selected Southern States

	c. 1890	c. 1910	c. 1935	c. 1950
Alabama				
Black	33.3	39.7	36.7	28.1
White	26.3	27.3	26.1	24.7
Ratio	1.27	1.45	1.41	1.14
Arkansas				
Black	29.8	33.1	35.2	30.5
White	27.5	25.2	27.2	25.5
Ratio	1.08	1.31	1.29	1.20
Florida				
Black	29.4	41.7	27.6	24.7
White	18.9	20.8	23.9	22.7
Ratio	1.55	2.00	1.15	1.09
Louisiana				
Black	43.5	42.5	39.8	28.8
White	25.0	25.6	24.5	23.2
Ratio	1.74	1.66	1.62	1.24
Mississippi				
Black	32.3	38.7	36.5	34.1
White	21.7	18.3	26.3	26.5
Ratio	1.49	2.11	1.39	1.29
North Carolina				
Black	27.0	34.0	28.9	29.3
White	29.4	28.0	30.9	26.7
Ratio	0.92	1.22	0.94	1.10
South Carolina				
Black	48.1	49.4	31.9	25.8
White	25.0	26.4	23.8	23.4
Ratio	1.92	1.87	1.34	1.10
Tennessee				
Black	37.3	38.5	31.2	28.5
White	39.9	34.7	25.9	25.9
Ratio	0.93	1.11	1.20	1.10
Virginia				
Black	34.5	30.2	28.5	27.1
White	23.8	23.2	27.8	24.5
Ratio	1.45	1.30	1.03	1.11

Note: Figures are ratio of pupils in average daily attendance to teachers.

Source: 1890, 1910, Margo (1985), U.S. Bureau of Education (1893); 1935, Blöse and Caliver (1938); 1950, U.S. Department of Health, Education, and Welfare (1954).

The U-shaped pattern in per pupil expenditures was not solely a reflection of changes over time in the relative wages of black teachers. However, it is also clear that the U-shaped patterns in the length of the school year and in average class sizes were less pronounced than that in per pupil expenditures, which implies that changes in relative teachers' pay occurred. Such changes were especially important in the 1940s, as Figure 2.3 shows. Had the black-

to-white ratio of teachers' wage rates stayed constant at its 1940 level, the black-to-white ratio of per pupil expenditures would have increased by 7 percentage points between 1940 and 1950, compared with an actual increase of 22 percentage points. In Chapter 4 I study the determinants of racial differences in teacher salaries, concluding that changes in wage discrimination played an important role in generating the U-shaped pattern in school expenditures.

2.5 Summary

In this chapter I have reviewed evidence on racial differences in the quantity and quality of schooling in the South during the first half of the twentieth century. Although racial differences in literacy and school attendance decreased in successive cohorts, the racial gap in average educational attainment remained persistently large. And, although successive cohorts of black children were educated in better and better schools, racial differences in the quality of schooling followed a U-shaped pattern over time. The next two chapters are studies of the political, social, and economic elements that gave rise to the U-shaped pattern in the quality of schooling.

Appendix

Census Data on School Attendance in 1900

In 1890 and 1900 the U.S. Bureau of the Census collected information on the number of months of school attended by all persons of school age. The school attendance rate in both years is calculated to be the percentage of children reporting a positive number of months attended. In 1910 and subsequently, the census asked whether a person attended school at all during some specified period prior to the census date. It has been suggested that the census question on months attended led to an underenumeration of black school attendance in 1890 and 1900 and, consequently, to too large an increase in the black school attendance rate between 1900 and 1910 (Smith 1986).

The Bureau was well aware of the underenumeration problem in 1890 and 1900. In U.S. Bureau of the Census (1918, 377) it was noted that "some of the apparent improvement [between 1900 and 1910] may be attributed to a change in the form of the schedule inquiry which, it is believed, was more favorable to securing correct answers in 1910 than in 1900." In U.S. Bureau of the Census (1935, 208) the blame was laid on the possibility that "in some instances the person from whom the enumerator obtained his information would not know though he knew the child had attended school. In a few of these cases the enumerator probably made no report at all with respect to

school attendance. The returns for 1890 and 1900 are therefore doubtless less complete than those for subsequent censuses and perhaps less complete than those for earlier censuses." The 1935 census report, thus, suggests that if black school attendance was underenumerated, the reason was ignorance on the part of the individual answering the enumerator.

The extent of underenumeration of black school attendance can be investigated using the public use sample of the 1900 census. It is impossible to investigate underenumeration in 1890, because the census manuscripts were destroyed in a fire. However, it is unlikely that results would be different for 1890, because the school attendance question was the same in both years and because the black school attendance rate, as measured by the census, was nearly identical in 1890 and 1900. The public use sample contains a separate code ("99") if the school attendance question went unanswered, but those who answered zero months were coded as "0"—no attendance during the previous year. By examining the correlation between various other answers and the answer to the school attendance question, the extent of underenumeration can be estimated.

I begin by examining the instructions to enumerators of the 1900 census. The instructions regarding school attendance were as follows:¹⁶

224. Column 21. Attended school (in months). For all persons attending school during the year ending June 1, 1900, enter the number of months (or parts of months) of school attendance, as 9, 8, ½, etc. If a person of school age did not attend school at all during the year, write "0." For all other persons to whom the inquiry is not applicable, leave the column blank.

The instructions seem clear, but two problems are suggested on reflection. What should the enumerator have done if the person answering the question did not know how many months a child attended school? Further ambiguity arose with the interpretation of "school age," and "not applicable." If a child was not of "school age," the question was "not applicable" and the column should have been left blank. But the meaning of "school age" was not necessarily the same for the enumerator and the respondent. In its published volumes the census considered "school age" to be "ages 5 to 20," which was a larger range than the legal range (for public school) in most states, and certainly much larger than was the norm in the South.

Table 2A.1 shows the distribution of nonresponse ("99") and zero months ("0") by age groups (ages 5–9, 10–14, 15–20) for southern blacks, southern whites, and children outside the South. Blank columns were common throughout the country, not just the South, so common that it is not credible to claim that large numbers of those coded as "99" should be recoded as having attended school (Smith 1986).

The extent of nonresponse varied by age. The nonresponse rate was much higher for young children (ages 5–9) and teenagers (ages 15–20) than in the prime school-age population (ages 10–14). The age pattern of nonresponse

Table 2A.1 The Pattern of Nonresponse and Zero Months, School Attendance, 1900: By Age Group, Race, and Region

	Number of Observations	% "99"	% "0"
Ages 5-9			
Southern black	1,437	69.0	10.5
Southern white	2,695	59.5	6.7
Non-southern	7,197	41.2	2.1
Ages 10-14			
Southern black	1,293	39.5	9.8
Southern white	2,673	19.8	7.1
Non-southern	6,563	13.2	1.1
Ages 15-20			
Southern black	1,435	72.6	10.8
Southern white	2,902	58.1	10.4
Non-southern	7,521	70.3	4.0

Notes: Author's calculations from 1900 census public use sample. % "99": percentage leaving school attendance question blank (coded as "99"); % "0": percentage answering zero months of school attendance.

suggests that the column was left blank because either the enumerator or the person answering the enumerator's questions thought the question was "not applicable"—that is, the child was not of "school age" as defined by the state or by local norms. In regions with low overall attendance, such as the South, law and custom affected the type of response given to the school attendance question. Nevertheless, the high overall rate of nonresponse still leaves open the possibility that, in the case of southern blacks, *some* of the 99's should be recoded to positive months attended, thereby increasing the black attendance rate in 1890 and 1900.

Insight into the recoding problem can be gleaned by examining the instructions to enumerators regarding gainful occupations. Enumerators were to "report a student who supports himself by some occupation, according to the occupation, if more time is given to that, but as a student, if more time is given to study." Under the heading "Nongainful Pursuits," the enumerator was instructed that "if a person is attending school write 'at school'." By examining the cross classification of school attendance and occupation, two pieces of information are derived. Children whose school attendance was coded as "99" or "0" but whose occupations were coded as "at school" are cases of underenumeration, and these children were added to the total attendance figures.¹⁷ It is possible to estimate the percentage of such cases in the population (and the standard error of the fraction), so the probable range of error can be established. The cross classification also yields estimates of the percentage of children with a gainful occupation and the percentage at home without a gainful occupation. If school attendance was underenumerated, one would expect a lower labor force participation rate and a higher percentage living at home

Table 2A.2 Labor Force Participation by Age Group and Schooling, Southern Black Children in 1900

	School Attendance		
	"99"	0 months	>0 months
Ages 5-9			
In labor force	0.4%	—	—
At home	99.0	94.7%	36.9%
Student	0.6	4.6	63.1
Number of observations	991	151	295
Ages 10-14			
In labor force	59.1%	52.0%	22.4%
At home	37.8	47.2	20.0
Student	3.1	0.8	57.6
Number of observations	511	127	655
Ages 15-20			
In labor force	71.6%	70.3%	37.4%
At home	28.3	27.7	16.8
Student	0.1	1.9	45.8
Number of observations	1,042	155	238

Note: Figures (%) are column percentages.

Source: Author's calculations from 1900 census public use sample.

among children whose school attendance response was "99" than among children whose response was "0."

Table 2A.2 shows the cross classification of labor force participation and school attendance among southern black children. Because the census was not required to collect information on occupations for children under age 10, the vast majority of such children either reported no occupation or else the occupation of student. However, thirteen of the 1,142 children who either failed to respond to the school attendance question or who answered "0" months reported an occupation of "student." Thus the estimate of underenumeration of school attendance in the age group 5-9 is 1.1 percent ($= \frac{13}{1,142}$).

Among the 511 children ages 10 to 14 coded as "99" on the school attendance question, fully 59 percent reported a gainful occupation while another 38 percent were living at home. A larger fraction (3.1 percent) than in the younger age group reported their occupation as "at school" even though they left the school attendance column blank. Among those who gave an answer of "0" months, fully 52 percent were in the labor force and another 47 percent were living at home. Only 1 child gave an occupation of "student" but reported "0" months of attendance. Thus in the age group 10-14 the underenumeration rate is estimated to be 2.7 percent ($= \frac{1}{38}$).

In the oldest group (ages 15 to 20) underenumeration was very small. Among those not responding to the school attendance question or giving an answer of "0" months, only 4 children, or 0.4 percent, reported their occupa-

tion as “at school.” The overwhelming majority of those answering “99” or “0” were in the labor force or at home. By contrast those who attended school were much less likely to report a gainful occupation (37 percent) or live at home (17 percent).

Overall, underenumeration of black school attendance is estimated to have been 1.2 percent in 1900, with a standard error of 0.2 percentage points. The estimate of underenumeration is statistically significant, but not economically so.¹⁸ Were the upward adjustment not included in Table 2.2, the black attendance rate in 1900 would have been 21 percent instead of 22 percent. The similarity between the labor force participation rates of children coded as “0” and children coded as “99” indicates that, with respect to the use of time, both groups of children were statistically indistinguishable. Nonresponse to the school attendance question was common because, in the vast majority of such cases, the children did not attend school. Leaving the column blank seems to have been an easy way for enumerators to avoid writing large numbers of zeros.