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# 5 The Impact of Separate-but-Equal

During the first half of the twentieth century, southern black children attended public schools that received fewer resources per pupil than public schools attended by white children. The schools were racially "separate" but were not "equal." This chapter will demonstrate that racial inequality in school resources led to racial differences in educational outcomes: school attendance, literacy rates, and standardized test scores. Had the equal part of the separate-but-equal doctrine been adhered to, racial differences in educational outcomes would have been smaller. But "equal" schools were not enough to compensate for various aspects of family background that hindered the average educational achievement of black children.

## 5.1 The Moral Dilemma of Separate-but-Equal

In 1890 the Louisiana state legislature passed the Separate Car Act requiring "equal, but separate" accommodations for blacks and whites travelling within the state on all passenger railways, except for streetcars. Violations, a misdemeanor, were punishable by a maximum fine of $25 or twenty days in jail. In 1891 a "Citizens Committee to Test the Constitutionality of the Separate Car Law" was formed in New Orleans, under the general direction of Louis Martinet, a prominent black lawyer and doctor. The committee arranged a test case in 1892. Daniel Desdunes, a black man who had purchased a first-class ticket on the Louisiana and Nashville Railroad, was arrested on February 24 after sitting in a whites-only car bound from New Orleans to Mobile, Alabama. The out-of-state destination was chosen deliberately. The Committee rested its case on the belief that the Separate Car Act, because it appeared to apply to interstate travel, violated the interstate commerce clause of the U.S. Constitution. The case never came to trial. On May 25 the Louisiana Supreme Court decided (in the unrelated case of *Abbott v. Hicks*) that the Separate Car Act did not apply to interstate passengers.

A second test case was then arranged involving travel within the state. Homer Plessy was arrested on June 7,[1] upon insisting he be allowed to board a whites-only car of the East Louisiana Railway Company, which was bound from New Orleans to Covington, Louisiana. At Plessy's arraignment in New Orleans, Judge John Ferguson rejected the arguments of James Walker, Plessy's lawyer. Walker asserted that the Separate Car Act, amongst other flaws, "establishe[d] an invidious distinction . . . based on race which . . . abridges the privileges and immunities of citizens of the United States, and the rights secured by the XIII$^{th}$ and XIV$^{th}$ amendments to the Federal Constitution" (Lofgren 1987, 48–49). Walker then petitioned the Louisiana Supreme Court, and District Attorney Lionel Adams responded on behalf of Judge Ferguson. In December the state court handed down its ruling: the Separate Car Act did not violate the Thirteenth or Fourteenth Amendments. Plessy's trial could proceed.

The stage shifted next to the U.S. Supreme Court. In January 1893 Walker filed a brief citing "manifest error" in the Louisiana proceedings. By perpetuating a racial distinction derived from slavery, the Separate Car Act violated the Thirteenth Amendment. Because railways could simply refuse to carry noncomplying passengers, and train officials were exempted from suits for damages from refusal to carry, Walker argued that the Act violated the equal protection and due process clauses of the Fourteenth Amendment. The brief also challenged Louisiana's claim that the Act was a valid expression of police power. Rather, the Act was "not in the interest of public order, peace, and comfort," but was "manifestly directed against citizens of the colored race" with the purpose "to assort and classify all passengers . . . according to race, and to make the rights and privileges of all cities of the United States dependent on said classification" (1987, 48).

After a long delay, the Supreme Court reached a verdict in May 1896. Writing for the majority was Justice Henry Billings Brown. Derided by one scholar as a "compound of bad logic, bad history, bad sociology, and bad constitutional law" (Harris 1960, 101), Brown's opinion rejected Walker's brief. "Legislation is powerless to eradicate racial instincts," Brown averred, "and the attempt to do so can only result in accentuating . . . difficulties" (Lofgren 1987, 178). Brown cited several pre-*Plessy* cases upholding racial segregation in the public schools to establish the "reasonableness" of the Separate Car Act. The lone dissenter was Justice John Marshall Harlan who, consistent with his earlier dissents in civil rights cases, sharply criticized the Louisiana law and Brown's opinion.

The import of *Plessy* was to establish firmly that "separate-but-equal was unambiguously a part of the law of the Constitution" (1987, 207).[2] In the case of public education, the legal interpretation of separate was relatively straightforward. Every ex-Confederate state, along with Missouri, Maryland and the District of Columbia, compelled separate schools by constitutional fiat or statutory authority.[3] Children who fit the legal definition of "Negro" were required to attend the schools for their race—which is not to say that various

legal definitions of Negro were without controversy. *De jure* segregation in education frequently extended beyond classroom walls, for example, to the race of school personnel. Perhaps the height of absurdity was reached when Florida school law required that "school textbooks used by one race were to be stored separately from those used by the other race" (1987, 202).

The meaning of "equal" was less clear-cut. An early definition was provided by the U.S. Supreme Court in its 1899 decision, *Cumming v. Richmond County, Georgia.*[4] Prior to 1897 the Richmond County school board had operated a black public high school in Augusta, Georgia. When faced with rapidly growing demand for the county's black elementary schools, the board closed the high school, ostensibly to shift funds to the elementary schools. Justice Harlan ruled in favor of the school board; inexplicably so, to many scholars, in light of his dissent in *Plessy* and his opinions in other nineteenth century civil rights cases. It is possible to rationalize Harlan's opinion by appealing to what one legal scholar has called "the defense of compensating inequalities" (Tushnet 1987, 24). The needs of the many younger children outweighed the needs of the few older black children who wished to go to a public high school.[5] But the Court was reluctant to interfere with "the management of [public] schools . . . except in the case of a clear and unmistakable disregard of rights secured by the supreme law of the land" (1987, 23). Further, a plaintiff would have to show that a school board had acted out of "hostility to the colored population because of their race," which, Harlan judged, was not the intent of the Richmond school board (ibid.). While the import of *Cumming* was perhaps less extreme than a literal interpretation would suggest, it was far from negligible.[6] Where they existed, schools for blacks had to be separate, but their mere existence was sometimes precarious.

From a legal point of view the defense of compensating inequalities would seem to have been rendered unavailable by the Supreme Court's 1914 decision, *McCabe v. Atchinson, Topeka, and Sante Fe Railroad.* Oklahoma's separate car statute explicitly allowed railways to deny sleeping or dining cars to black travellers, on the grounds that the demand was too small to justify the costs. If the railway had to incur the cost of providing separate cars, it would have to reduce its services elsewhere to all passengers, including whites. In rejecting Oklahoma's argument the Supreme Court established the "personal rights" doctrine: *individuals* were entitled to equal protection under the law of the land. Economic considerations might figure in the decision to provide a particular type of service, but once the service was provided, "substantial equality of treatment of persons . . . under like facilities cannot be refused" (Tushnet 1987, 24).[7] When applied to public education, *McCabe* apparently undercut the defense proferred in *Cumming*. If a black student wished to enroll in high school, the school board could not argue that it provided a vocational school instead or that the elementary schools were more important. In effect, *McCabe* compelled equal facilities to be provided "for both races, no matter what the demand for the special facilities may be" (Mangum 1940, 193).

*McCabe* notwithstanding, the law evolved in a way to make loopholes readily available and challenges to violations difficult. Mississippi's school code of 1930 specified that any separate school could be discontinued if the average monthly attendance was less than five pupils. West Virginia law required a minimum of ten pupils, except if "circumstances render[ed] it practicable to establish a separate school for a smaller number" (1940, 93–95). Problems might be resolved by permitting children to enroll in a nearby district, at the home district's expense. But what if the schools were so bad or inaccessible that fewer than five or ten pupils attended? Worse, the fact that a black child might have to travel a much longer distance to get to school (without the benefit of a school bus) would not have necessarily violated the separate-but-equal doctrine as it was commonly understood, unless the distance was "unreasonable" or the trip was physically dangerous (Risen 1935, 73).

Separate-but-nonexistent schools for blacks was a big issue at the high school level and beyond. Black teenagers wishing to attend a high school might have to travel or move to a nearby city. The gross absence of professional or postgraduate training for blacks in the South led to a celebrated set of cases brought by the NAACP, such as *Gaines v. Missouri* in 1939. In *Gaines* the Supreme Court outlawed the widespread use of state scholarships for black students to attend universities outside the South, what had been the solution for higher education analogous to the practice of permitting elementary enrollments in nearby districts. *Gaines* also provided for three remedies when blacks sought to be enrolled in state facilities: the state could close down the white school, it could integrate, or it could establish a separate black school. But if it chose the third course, the school had to have substantially equivalent facilities, and the court made it clear that makeshift arrangements would violate the separate-but-equal doctrine.[8]

Nonexistence was not the only, or even quantitatively the most important violation of separate-but-equal. The equal clause was the law when facilities were provided. If southern school boards had attempted to abide by the spirit of the law, a defense of compensating inequalities might still have been available (despite *McCabe*) because, as a practical matter, "no two facilities will be exactly the same, and the courts will inevitably recognize some defense that inequalities are reasonable" (Tushnet 1987, 25). But the point is moot because the violations of separate-but-equal were not marginal ones. Black people knew it, black newspapers reported it widely, published statistics were available.[9] Why, then, was it so long before *Brown?*

The question is one of the deepest, and most tragic, of modern American history, and I could not pretend to answer it here. The superb histories of the NAACP struggle to end *de jure* segregation make it plain that the task was immense (Kluger 1977; Tushnet 1987). Society was racist, and the legal climate was hostile. Potential plaintiffs (teachers, children and their parents) numbered in the millions, a huge geographic area was involved, the NAACP was hardly wealthy, and its staff was small. In many states the appropriate legal remedy was a *writ of mandamus,* compelling state officials to abide by

state constitutions which required equal facilities in some manner (for example, in the length of the school year). Obtaining such writs was a costly and arcane process; further, they might have to be obtained year in and year out (Tushnet 1987, 27). In most cases the information required to litigate equalization suits was enormously expensive to collect, even when the inequalities were obvious. Potential plaintiffs lost their jobs or risked bodily harm by participating. If the goal was readily identifiable, the means to achieve it were not.

From the very beginning the core of the NAACP's legal strategy was to link *de jure* segregation with discrimination, and get rid of the former by making the latter too costly to maintain. The strategy had three principal advantages *ex ante:* it was legally sound, it fit the ideology of the major NAACP participants (if not always their clients), and it was much cheaper than bringing a large number of equalization suits.[10] The opposition, of course, did not stand still. The road to *Brown* was strewn with losses as well as some unexpected victories. But the solution to the "endgame"—that *de jure* segregation imposed psychological harm on black children—was brilliant, because it made *Brown,* or a decision like it, inevitable as long as the Court was receptive to such evidence, which it was by the late 1940s.[11]

In its eventual acceptance of the NAACP's arguments, the Court laid the basis for a moral indictment of separate-but-equal in public education. Separate-but-equal was not only bad logic, bad history, bad sociology, and bad constitutional law, it was bad. Not because the equal part of separate-but-equal was poorly enforced, but because *de jure* segregation was immoral. Separate-but-equal, the Court ruled in *Brown,* is inherently unequal. For Tushnet, the struggle to end segregated schools is important in the large for what it says about the history (good and bad) of America's commitment to the values expressed in its Constitution, and it is important in the small for the blueprint it provides to public interest law and advocacy groups seeking to redress civil rights injustices of the past (1987).

While I have no disagreement with this point of view, I believe there is a further historical basis for a moral indictment of separate-but-equal. That basis is a fundamental counterfactual, put succinctly by Morgan Kousser (1980b, 40): How much would the economic "lives of black people in America" have improved "if the court had enforced equal benefits even if the schools were segregated[?]"[12] If the answer to Kousser's query is "a great deal of difference," then the failure to enforce the equal part of the separate-but-equal decision was deeply immoral, too. If the answer is "little difference," there is the added question of why, and possibly the implication that the equal part of separate-but-equal was not enough to advance black economic progress.

Previous claims that the violations of separate-but-equal affected educational and labor market outcomes rest heavily on indirect evidence and inherent plausibility (see, for example, Welch 1974). Modern studies, beginning

with Coleman's (1966) famous report, have shown how difficult it is to consistently document positive links between the characteristics of schools (e.g., per pupil expenditures) and school achievement (e.g., test scores).[13] In the 1970s the pendulum swung so far in one direction that two leading scholars in the field entitled one their articles, "Do Schools Make a Difference?" (Summers and Wolfe 1977).

But, no matter how uncertain the answer to that question may be today, it does not follow that the answer was equally uncertain in the past. By historical standards, the modern spatial variation in *measured* school characteristics is relatively small, and ferreting out the partial effect of that variation on achievement is a difficult statistical problem.[14] Compensatory and mandated programs make the problem harder, in that per pupil expenditures may be highest in areas where achievement is lowest. Given these obstacles, it is not surprising that intangible or difficult to measure aspects of schools seem much more important than interdistrict variability in per pupil expenditures. Yet the violations of separate-but-equal were so large, as was the eventual improvement over time in the quality of black schools, that "it is hard to believe that differences in school effectiveness did not narrow along with the convergence in school resources" (U.S. Commission on Civil Rights 1986, 72).

Empirical plausibility, however, is no substitute for empirical evidence. It has been suggested that differences in black-to-white earnings ratios across birth cohorts are evidence that the violations of separate-but-equal had significant consequences. Blacks born in recent decades were educated in higher quality schools; consequently the black-to-white earnings ratio should be higher initially for these cohorts, and the ratio should stay roughly constant throughout their working lives (Smith and Welch 1989). For the most part, the earnings ratios do evolve as the hypothesis predicts.[15] But the evolution of earnings ratios does not *prove* the point, because it is impossible to use aggregate data to distinguish the effects of school quality from other factors associated with particular cohorts. Other tactics have been to include a dummy variable for southern birth or measures of school characteristics in the state of birth in an earnings regression, but on the whole these attempts have not been successful.[16] Direct evidence from the pre-*Brown* era on the impact of separate-but-equal has been little studied.[17]

The remainder of the chapter presents such evidence from three case studies. The first uses data from the public use sample of the 1900 census to demonstrate that, had the black and white schools been "equal," black children would have attended school more frequently than they actually did. The second uses county-level data to show that better schools would have raised black literacy rates. The third case study also uses county-level data to show that enforcement of separate-but-equal would have improved black childrens' performance on standardized tests.

The lax enforcement of the equal part of the separate-but-equal doctrine thus had disastrous consequences for black Americans. But the case studies

also show that, even if equality in school resources had prevailed, there would still have been a racial gap in school attendance, literacy, and test scores. The likelihood that a black child attended school, for example, was not only a function of school characteristics but also depended on aspects of family background—parental literacy, for example. Early in the postbellum period, many of these aspects were direct legacies of slavery, and later on, were indirect legacies.

In his recent book, *Without Consent or Contract: The Rise and Fall of American Slavery,* Robert Fogel (1989) puts forth a moral indictment of slavery. By denying economic mobility to individuals and their children, slaveowners violated a basic human right. For the children freed by the Emancipation Proclamation, the withholding of literacy (among other skills) from parents created an intergenerational drag on economic progress that lasted well into the twentieth century. By itself, enforcement of the separate-but-equal doctrine would not have been enough to loosen the chains of illiteracy linking one generation to the next: a compensatory doctrine—"separate-plus-redistribution"—would have been necessary but, needless to say, was not possible at the time. In this way, the moral indictment of separate-but-equal forms a continuum with the moral indictment of slavery.

## 5.2 Separate-but-Equal and the Racial Gap in School Attendance

Chapter 2 demonstrated that black children in the early twentieth century South attended school less frequently at every age than did white children. Compounded over childhood, the age-specific differences in school attendance led to significant racial differences in educational attainment. In this section I examine the hypothesis that the racial attendance gap was a consequence of racial inequality in the provision of school facilities (Du Bois and Dill 1911, 137; Ransom and Sutch 1977, 28–30). Had the equal part of separate-but-equal been enforced, in other words, the racial attendance gap would have been smaller.

To investigate the hypothesis I use an econometric model of school attendance:

$$A = \beta_0 + \beta_h X_h + \beta_c X_c + \beta_s X_s + \beta_g X_g + e \tag{1}$$

The dependent variable, $A$, measures the frequency of school attendance by a child; $X_h$ is a set of family background variables; $X_c$ is various characteristics of the child; $X_s$ is a set of characteristics of the public schools; $X_g$ is geographic characteristics; and $\beta$'s are coefficients; and $e$ is a random error term.

Equation (1) can be thought of as the outcome of a bargaining problem between the parents (or head of the household) and the children, resulting in an allocation of children's time between school and other activities, such as work in the market or at home. The frequency of school attendance is a function of certain characteristics of the parent and of the child; the characteristics

**Table 5.1 Sample Means and Standard Deviations: Southern Families in 1900**

| | Black | | White | |
|---|---|---|---|---|
| | Mean | Standard Deviation | Mean | Standard Deviation |
| Head of household: | | | | |
| Occupational status | 11.9 | 5.6 | 18.3 | 17.1 |
| Percentage literate | 0.49 | 0.50 | 0.84 | 0.37 |
| Age | 44.0 | 10.7 | 43.8 | 8.1 |
| Percentage homeowner | 0.27 | 0.44 | 0.61 | 0.49 |
| Spouse: | | | | |
| Percentage literate | 0.38 | 0.48 | 0.78 | 0.41 |
| Age | 35.8 | 11.7 | 36.5 | 11.7 |
| Child: | | | | |
| Months of schooling | 1.3 | 2.2 | 2.4 | 3.0 |
| Age | 10.0 | 3.4 | 10.3 | 3.4 |
| Percentage female | 0.48 | 0.50 | 0.49 | 0.50 |
| Percentage households with child under age 5 | 0.25 | 0.42 | 0.32 | 0.46 |
| School: | | | | |
| Schools per 1,000 children (ages 5–20) | 6.9 | 2.9 | 11.9 | 4.9 |
| Length of school year (in months) | 4.1 | 1.0 | 4.4 | 1.0 |
| Teachers per 100 pupils | 2.7 | 0.8 | 3.6 | 0.9 |
| Average monthly teacher salary (in 1900 dollars) | 22.83 | 4.5 | 29.41 | 6.3 |
| Geographic: | | | | |
| Cotton acreage/improved acreage | 0.28 | 0.16 | 0.20 | 0.15 |
| Percentage living in plantation county | 0.60 | 0.49 | 0.46 | 0.50 |
| Percentage living in or near an urban area | 0.21 | 0.41 | 0.15 | 0.36 |

*Source:* Margo (1987).

of the local school; and the economic returns to schooling compared with other uses of the child's time (which may vary with the household's location). Given that most schooling during the period was at the elementary level, completed before the child left home, a household model is appropriate.[18]

To estimate equation (1) I required information on children and their parents. The sample I used consists of 2,020 southern children between the ages of 5 and 16, and was drawn from the public use sample of the 1900 census. Frequency of attendance, the dependent variable, is measured by the number of months of school the child attended in the census year.[19] Child and family background variables were constructed from the information contained in the census sample. The family's county of residence was reported, so for each family it was possible to make a link to county-level data on various school and geographic variables constructed from other sources.

The average characteristics of the sample are displayed in Table 5.1. Be-

cause the percent of children attending school at all was far less than 100, the average months attended, calculated over all children, was rather small. Black children attended fewer months of school than white children, and there were large racial differences in the characteristics of families, schools, and place of residence. Black parents were less literate than white parents, their occupational status was lower, and they had less wealth, as indicated by lower rates of homeownership.[20] Compared with the white schools, there were fewer black schools, black school terms were shorter, class sizes larger, and teacher salaries were lower. Black children were more likely to live where cotton was grown and where a form of agriculture known as the plantation system was practiced (U.S. Bureau of the Census 1916), or in or close to an urban area.

For children in the sample who did not attend school, the dependent variable equals zero. Because the frequency of zeros is large, an econometric technique known as Tobit analysis is preferable to ordinary least squares (see Maddala 1983). The Tobit coefficients are shown in Table 5.2.

Children's school attendance was a positive function of the family's economic status, as indicated by the occupational status of the head of household and by homeownership. Consistent with the findings of Chapter 2, literate parents were more likely to send their children to school. The positive effect of parent's literacy may capture variations in economic status not fully reflected by occupation and homeownership; alternatively, better-educated parents may have placed a higher value on educating their offspring. A similar explanation may account for the positive effect of mother's age on black school attendance.

As one would expect from the evidence in Chapter 2, the age of the child significantly affected the probability of school attendance. It turned out that months attended among those in school did not vary by age; thus the positive coefficient of age and the negative coefficient of age squared reflects variations in the ages of entering and leaving school. After accounting for other factors, the child's gender had no significant impact on school attendance. The presence of a child under age 5 in black families lowered school attendance among older children, possibly by increasing the amount of time they were required to spend at home watching their younger siblings.

The school variables—the number of schools per 1,000 children, the length of the school year, the teacher-pupil ratio, and the average teacher salary—measure aspects of the quality of the public schools in the family's county of residence.[21] The greater the number of schools per 1,000 children, the lower are the costs of getting to school, and school attendance should rise. Similarly, the more months schools were open, the longer a child could attend. Smaller class sizes meant that the classrooms were less crowded (seats were available), and teachers could spend more time on instruction and less on discipline. Chapter 4 showed that, within race, higher salaries were associated with better-trained teachers. Hence, within race, the average salary is a proxy for the quality of instruction. Because black teachers suffered from wage dis-

**Table 5.2** **The Determinants of Months of School Attendance: Southern Children in 1900**

| | Black | | White | |
|---|---|---|---|---|
| Variable | β | *t*-statistic | β | *t*-statistic |
| Constant | −34.50 | 10.15 | −30.09 | 14.18 |
| Head of household: | | | | |
| Occupational status × $10^{-1}$ | 0.62 | 2.03 | 0.60 | 7.62 |
| Literate | 1.58 | 3.82 | 1.46 | 3.21 |
| Age | −0.01 | −0.50 | 0.03 | 1.63 |
| Homeowner | 0.73 | 1.70 | 1.23 | 3.97 |
| Spouse: | | | | |
| Literate | 1.31 | 3.15 | 1.17 | 2.77 |
| Age | 0.04 | 2.14 | −0.02 | −1.22 |
| Child: | | | | |
| Age | 4.31 | 9.46 | 3.97 | 12.28 |
| Age squared | −0.18 | 8.66 | −0.16 | 11.01 |
| Female | 0.12 | 0.32 | 0.09 | 0.74 |
| Under age 5 | −1.33 | −2.97 | −0.17 | −0.58 |
| School: | | | | |
| Schools per 1,000 children | −0.03 | −0.34 | 0.05 | 1.40 |
| Length of school year (in months) | 0.86 | 4.08 | 0.28 | 1.46 |
| Teachers per 100 pupils | 0.76 | 2.84 | 0.44 | 2.44 |
| Average monthly teacher salary (in 1900 dollars) | 0.07 | 1.54 | 0.02 | 0.40 |
| Geographic: | | | | |
| Cotton/improved acreage | −2.53 | −1.23 | −1.71 | −1.20 |
| Plantation county | −0.24 | −0.37 | −0.07 | −0.16 |
| In urban area | 1.86 | 3.43 | 0.75 | 1.52 |
| σ | 4.17 | 92.48 | 4.18 | 134.86 |
| Log likelihood | 1,054.9 | | 1,974.0 | |
| Number of observations | 868 | | 1,152 | |

*Source:* Margo (1987).

crimination, however, the mean racial difference in average teacher salaries overstates the true difference in the quality of instruction (see below).

The coefficients of the school variables are expected to be positive, and as Table 5.2 shows, this expectation is confirmed by seven of the eight coefficients.[22] Longer school terms and smaller class sizes would have encouraged children of both races to attend school more frequently, and these effects were larger among blacks.[23] A better-trained teaching force also would have increased black school attendance.

The geographic variables, which also refer to the family's county of residence in 1900, control for variations in the returns to schooling compared with other uses of the child's time. The share of improved acreage devoted to cot-

ton and whether plantation agriculture was dominant in the county should have been negatively related to school attendance. Prior to mechanization, child labor was especially productive in cotton agriculture; as one school superintendent from Georgia explained, "Whole families are reared without ever seeing the inside of a school. They are kept at work in the cotton fields" (State of Georgia 1907, 113). Cotton cultivation was frequently associated with plantation agriculture, in which tenant farmers operated small plots under the supervision of a single landlord. According to Charles Johnson (1934, 129) "literacy was not an asset in the plantation economy." By contrast, in urban counties children had fewer productive employment opportunities (compared with cotton cultivation); additionally, nonfarm jobs that urban children might aspire to frequently required some schooling (see Chapter 6).

Cotton cultivation or residence in a plantation county was negatively associated with school attendance, but the effects were small in magnitude and statistically insignificant for both races. If, however, children between the ages of 17 and 20 are added to the sample, the coefficients of the cotton variable are much larger for both races, which suggests that the effects were concentrated among older children. Urban children attended school significantly longer than rural children, and the effect was larger among blacks.[24]

Table 5.3 gives the percentage of the mean racial difference in school attendance explained by the mean racial differences in the independent variables. The figures shown for school characteristics answer the question posed at the beginning of this section: how much smaller the racial attendance gap would have been if separate-but-equal had been enforced. Enforcement of separate-but-equal is defined to be equal average school characteristics. Figures are shown assuming equalization of all school characteristics, and of all school characteristics *except* the average teacher salary. Equalizing all school characteristics overstates the effect of separate-but-equal because, as Chapter 4 showed, most of the racial difference in average teacher salaries reflected wage discrimination against black teachers. On the other hand, equalizing all school characteristics except the average teacher salary understates the impact of separate-but-equal, because some of the racial salary gap was a consequence of racial differences in the training and experience of teachers. Thus excluding teacher salaries from the calculation produces a lower bound on the effect of separate-but-equal.

There are two ways to perform the calculations, one using the Tobit coefficients for whites, the other using the coefficients for blacks. Both are shown, but I would argue that, from an historical point of view, the calculations using the black coefficients are more appropriate ones.[25] Any hypothetical equalization would have brought the characteristics in the black schools up to the level in the white schools, and the black coefficients show how such an equalization would have affected black school attendance.[26]

Racial differences in school characteristics account for 40–77 percent of the racial attendance gap, depending on how the effect of separate-but-equal is calculated. Had the equal part of separate-but-equal been enforced, the racial

**Table 5.3 The Impact of Separate-But-Equal on School Attendance**

| | Predicted Difference in Months Attended (white minus black) | % Explained |
|---|---|---|
| At sample means | 0.93 | |
| If adult literacy equalized: | | |
| Black | 0.41 | 55.7 |
| White | 0.38 | 59.1 |
| If literacy, occupational status, homeownership equalized: | | |
| Black | 0.24 | 74.2 |
| White | 0.16 | 82.8 |
| If all school characteristics equalized: | | |
| Black | 0.22 | 76.3 |
| White | 0.44 | 52.7 |
| If all school characteristics equalized excluding teacher salary: | | |
| Black | 0.56 | 39.9 |
| White | 0.51 | 45.2 |
| If all independent variables equalized: | | |
| Black | −0.73 | |
| White | −0.39 | |
| If all independent variables equalized excluding teacher salary: | | |
| Black | −0.54 | |
| White | −0.33 | |

*Note: Predicted differences* are calculated using the Tobit coefficients and the following formula (Maddala 1983, 159): $E(m) = F(X\beta/\sigma)X\beta + f(X\beta/\sigma)\sigma$, where $E(m)$ is the predicted months attended; $F$ is the standard normal cumulative distribution; and $f$ is the standard normal density function. *Black:* calculation performed using black coefficients; *White:* calculation performed using white coefficients. *Equalized:* black sample mean equals the white sample mean; *Excluding teacher salary:* black and white sample mean teacher salaries are not equalized in the calculation (see text).

attendance gap would have been much smaller. But even if it had been enforced, black children still would have attended less frequently than white children, because of racial differences in family background. Inadequate educational opportunities were not the sole, or even quantitatively the most important reason for the racial attendance gap. Racial differences in adult literacy, occupational status, and homeownership account for 74–83 percent of the racial attendance gap; adult literacy, by itself, explains over half of the gap.[27]

The final four rows of Table 5.3 show the predicted mean racial difference in months attended (white minus black) equalizing *all* variables in the regression (that is, except for race). The predicted differences are *negative:* under these hypothetical circumstances, the black child would have attended more months of school than the white child. Thus the lower average attendance of black children cannot be attributed to a lack of interest on the part of their

parents; indeed exactly the opposite was true—black parents had a deep desire to see their children educated (Anderson 1987). It follows that the long-term narrowing of the racial gap in school attendance rates (Chapter 2) was accomplished with the aid of pure "catch-up," that is, the willingness of black parents to send their children to school despite adverse circumstances—poverty, adult illiteracy, and bad schools.

## 5.3 Separate-but-Equal and the Racial Literacy Gap in Alabama

The vast majority of southern blacks learned to read and write in separate-and-unequal public schools. It is no small matter historically if the failure to enforce the separate-but-equal doctrine slowed the long-term decline of black illiteracy in the South. I examine this question by analyzing the impact of separate-but-equal on child literacy rates in Alabama from 1920 to 1940. The Alabama data were collected as part of a state school census. To the best of my knowledge, no other southern state reported similar information between these dates. It is unclear if the data are specific to public school students, but any bias is probably small, as private school enrollments for both races were but a fraction (no more than 5 percent) of public school enrollments during the period (see Margo 1986a, 794).

Table 5.4 documents racial differences in literacy and school characteristics in Alabama between 1920 and 1940. Black children in Alabama lagged behind their white counterparts in learning to read and write. In 1920 the literacy rate of black children (ages 7–20) was 68 percent, compared with 88 percent among white children. By 1940 the black literacy rate had risen to 88 percent and the literacy gap had fallen to 8 percentage points. In 1920, instructional expenditures per pupil in the black schools equalled 29 percent of expenditures per pupil in the white schools. For every dollar of school capital per white child, black children received 34 cents. The length of the school year in the black schools averaged 93 days, two months less than the white average. A majority of black students—84 percent—attended schools taught by a single teacher, a figure 31 percentage points higher than that for whites.

By 1940, conditions in the black schools had improved for the most part. In real terms, instructional expenditures per pupil in the black schools had quadrupled since 1920 and the black-white ratio of per pupil expenditures rose to 0.47. The length of the black school year averaged 141 days, an increase of 48 days over the 1920 figure. Although the proportion of black schools with one teacher fell over the period, the decline in one-teacher schools was proportionately greater for whites. Despite a tripling in the real value of school capital per black pupil between 1920 and 1940, the increase in the value of school capital was far greater in the white schools, and the black-to-white ratio of the school capital stock was smaller by a half.

Throughout the period, black children lagged behind white children in literacy rates, but over time the racial difference in illiteracy diminished sharply. Judging by the evidence in Table 5.4, the black schools were distinctly in-

**Table 5.4 Racial Differences in Child Literacy and Public School Characteristics: Alabama Counties, 1920–1940**

| | | | |
|---|---|---|---|
| Percentage literate, ages 7–20 | | | |
| White | 0.88 | 0.93 | 0.96 |
| Black | 0.68 | 0.77 | 0.88 |
| Difference | 0.20 | 0.16 | 0.08 |
| Length of school year (in days) | | | |
| Black | 93 | 119 | 141 |
| White | 130 | 151 | 148 |
| Ratio | 0.72 | 0.79 | 0.95 |
| Expenditures per pupil, per day (in 1930 dollars) | | | |
| Black | 0.02 | 0.05 | 0.08 |
| White | 0.07 | 0.12 | 0.17 |
| Ratio | 0.29 | 0.42 | 0.47 |
| Value of school capital per pupil $\times 10^{-2}$ (in 1930 dollars) | | | |
| Black | 0.08 | 0.21 | 0.25 |
| White | 0.23 | 1.07 | 1.43 |
| Ratio | 0.35 | 0.20 | 0.17 |
| Percentage one-teacher schools | | | |
| Black | 84 | 61 | 53 |
| White | 53 | 32 | 20 |
| Ratio | 1.58 | 1.91 | 2.65 |

*Source:* Margo (1986a).

ferior to the white schools. How large was the effect of the racial inequality in school characteristics on the racial literacy gap?

To answer this question, I use an econometric model of literacy rates. The unit of observation is the county, the dependent variable is the proportion literate (ages 7–20) in the county, and the explanatory variables are county averages. The model is

$$L_{it} = \beta_0 + \beta_1 E_{it} + \beta_2 X_{it} + \beta_3 F_{it} + e_{it} \tag{2}$$

$L$ is the literacy rate in county $i$ in year $t$ (t = 1920, 1930, 1940); $E$ is a measure of student effort; $X$ is a set of public school characteristics; $F$ is a set of family background variables; the $\beta$'s are regression coefficients; and $e$ is a random error term.

Equation (2) is an "educational production function" relating educational achievement to a set of inputs. Achievement (here the average literacy rate) depends on a combination of factors: student effort, the characteristics of schools, and family background. Achievement will be higher if, holding $X$ and $F$ constant, the student puts in more effort. Holding $E$ and $F$ constant, an improvement in some aspect of school quality (e.g., a longer school year) will result in higher achievement. But achievement depends on more than student effort and school attributes; it depends, as in the analysis of school attendance, on family background. Modern studies have demonstrated conclusively that many factors, such as family income, the educational attainment of parents,

and the stability of family life, affect how well children do in school, no matter how good the schools are (Summers and Wolfe 1977; Hanushek 1986).

Effort is measured by the average daily attendance rate of pupils in grades one through six. The idea is that the literacy rate will be higher if, other things equal, students attend class more frequently, so the coefficient of the attendance rate should be positive. The school characteristics are those listed in Table 5.4. All of these should have positive coefficients, except the proportion of one-teacher schools. According to Welch (1973, 59), "discipline would have consumed a significant proportion of instructional time and energy" in one-teacher schools, which implies a negative coefficient for this variable.

The family background variables are race (separate equations were estimated by race), per capita income, and the proportion of families who owned their home. Race-specific, county-level data on incomes are not available for the period and must be estimated.[28]

The fact that the data are county averages creates certain problems. Use of county averages obscures the effects of the independent variables within counties. The large age span (7–20) covered by the literacy rate means that some children would have been out of school, and the current value of characteristics might be only weakly correlated with conditions when they did attend (if they attended at all). In this case, school characteristics are measured with error, and thus their impact on literacy rates may be understated. Because the data from the different years are pooled, a final issue concerns the method of estimating equation (2). Two methods are available, the random effects estimator and the fixed effects estimator, and the results of both are reported in Table 5.5.[29]

The most important school characteristics were the length of the school year and the amount of instructional expenditures. Both variables were economically and statistically significant determinants of literary rates, regardless of race. The value of the school capital and the percentage one-teacher schools, however, had no significant impact on literacy rates.[30] The absence of a relation between the percentage one-teacher schools and literacy is surprising in light of Welch's conjecture, but it may be that any negative effects of one-teacher schools were offset by a positive impact on younger children of mixing them with older children at higher grade levels.

Family background variables—race, per capita income, and homeownership—were important determinants of literacy rates, independent of school characteristics. The per capita income and homeownership coefficients were positive, and were larger for blacks than for whites, again indicating (as in Sec. 5.2) the close link between family background and educational outcomes in black families.

The remaining step is to calculate the impact of separate-but-equal. As in Section 5.2, I interpret enforcement of separate-but-equal as a counterfactual in which the racial gap in mean school characteristics is reduced to zero.[31] I use the coefficients to calculate what the average white and black literacy rates

**Table 5.5 Determinants of Literacy: Alabama Counties, 1920–1940**

| Variable | White | | Black | |
|---|---|---|---|---|
| | RE | FE | RE | FE |
| Constant | −0.53 | −0.43 | −1.29 | −1.23 |
| | (4.10) | (2.62) | (6.17) | (5.03) |
| Attendance rate | 0.02 | 0.01 | 0.15 | 0.13 |
| | (1.03) | (0.21) | (2.93) | (2.09) |
| Length of school year (in days) | 0.10 | 0.07 | 0.25 | 0.18 |
| | (4.25) | (2.40) | (6.62) | (3.54) |
| Expenditures per pupil, per day $\times 10^{-2}$ (in 1930 dollars) | 0.33 | 0.17 | 0.48 | 0.12 |
| | (3.52) | (1.35) | (2.32) | (0.40) |
| Value of school capital per pupil $\times 10^{-1}$ (in 1930 dollars) | 0.01 | −0.03 | −0.04 | −0.16 |
| | (0.17) | (0.55) | (0.38) | (1.53) |
| Percentage one-teacher schools | 0.003 | 0.01 | −0.03 | 0.03 |
| | (0.16) | (0.68) | (0.74) | (0.52) |
| Per capita income | 0.02 | 0.04 | 0.05 | 0.03 |
| | (1.98) | (1.32) | (2.10) | (0.40) |
| Percentage own home | 0.03 | −0.06 | 0.30 | 0.26 |
| | (1.02) | (0.95) | (3.05) | (0.76) |
| Number of observations | 201 | | 180 | |
| Mean squared error | 0.007 | 0.008 | 0.006 | 0.006 |

*Notes:* RE = random effects estimates; FE = fixed effects estimates. Absolute values of *t*-statistics in parentheses.
*Source*: Margo (1986a).

would be under such conditions, and compare the counterfactual literacy gap to the actual literacy gap. Because some of the racial difference in instructional expenditures reflected wage discrimination against black teachers, the effect of equalizing school terms is calculated separately. The calculations are shown in Table 5.6. The rows labelled White use the white coefficients and the rows labelled Black use the black coefficients.

Equalization of school term lengths and instructional expenditures would have had a significant effect on the racial literacy gap. Using the random effects coefficients, had the average length of the term in the black and white schools been the same in both years, other things equal, the racial literacy gap would have been smaller by 5–31 percent. Had separate-but-equal also been enforced with respect to instructional expenditures, the racial literacy gap would have been smaller in total by 15–55 percent. The larger reductions occur when the black coefficients are used to perform the calculations which, as previously argued, is the better way to specify the counterfactual. The fixed effects coefficients yield a smaller impact, but also support the conclusion that enforcement of separate-but-equal would have narrowed the racial literacy gap.

**Table 5.6 The Impact of Separate-But-Equal on Literacy Rates**

| | % Explained of Racial Literacy Gap | | |
|---|---|---|---|
| | 1920 | 1930 | 1940 |
| Equalize school terms | | | |
| White | | | |
| Random effects | 12.3 | 12.5 | 5.2 |
| Fixed effects | 8.6 | 8.8 | 3.6 |
| Black | | | |
| Random effects | 30.7 | 31.3 | 13.0 |
| Fixed effects | 22.1 | 22.6 | 9.4 |
| Equalize school terms and instructional expenditures | | | |
| White | | | |
| Random effects | 24.0 | 26.6 | 33.8 |
| Fixed effects | 14.6 | 16.1 | 18.3 |
| Black | | | |
| Random effects | 47.7 | 51.8 | 54.6 |
| Fixed effects | 26.3 | 27.7 | 19.8 |
| Equalize per capita income and homeownership | | | |
| White | | | |
| Random effects | 9.3 | 13.2 | 25.1 |
| Fixed effects | 9.4 | 13.8 | 27.0 |
| Black | | | |
| Random effects | 40.6 | 57.3 | 106.4 |
| Fixed effects | 30.5 | 42.5 | 79.3 |

*Source:* Margo (1986a, 798).

The Alabama data suggest that racial inequality in the length of the school year and instructional expenditures kept the racial literacy gap higher than it would have been had the equal part of separate-but-equal been reality instead of myth. But, by itself, separate-but-equal was not enough: a significant portion of the remainder of the racial literacy gap can be attributed to family background variables (per capita income and homeownership). Had incomes and wealth been equalized, the racial literacy gap would have been narrowed by even more than if separate-but-equal had been enforced.

It is likely that some of the effect of the income and wealth variables is a reflection of racial differences in adult literacy, which could not be included in the regressions due to data limitations. Illiterate parents could not substitute for inadequate schools and teach their children to read and write. A high rate of adult illiteracy hindered the spread of literacy in the next generation of black children, independent of racial inequality in school resources.[32]

## 5.4 Separate-but-Equal and Test Scores: Maryland Public Schools

Strict enforcement of the equal part of separate-but-equal would have narrowed racial differences in school attendance and in literacy rates. These edu-

cational outcomes are important to study because, as Chapters 6 and 7 will demonstrate, school attendance and literacy significantly affected labor market outcomes for black men. The modern literature on educational achievement, however, studies only the effect of school inputs on standardized test scores (see, e.g., Summers and Wolfe 1977). In theory, a standardized test measures the "output" of the educational process. School attendance is an input, not an output. Literacy is an output, but quite a crude one in comparison with a carefully designed standardized test.

Peter Orazem (1987) has recently investigated the impact of separate-but-equal on standardized test scores. For several years between 1924 and 1938, Maryland's state board of education reported county averages of test scores for its racially separate schools. Orazem analyzed the variation in test scores in the context of an econometric model of educational production similar to the one employed in the previous section. During this period the average test score in the black schools fell below the average score in the white schools, but the racial gap in test scores narrowed over time. Orazem also calculated how much higher black test scores would have been had school inputs been equalized between the races (that is, the effect of separate-but-equal).

The achievement measure used in Orazem's study is the race-specific proportion of students in the county "taking a nationally standardized test of reading skills who meet or exceed the national norm for the test" (1987, 716). The variable refers solely to children in the elementary schools. School characteristics are the length of the school year, measures of teachers' education and experience, class size, the value of the school capital stock, and the proportion of one-teacher schools. The average test score was assumed to be a linear function of the average daily attendance rate and the school inputs. Separate equations were estimated for black and white schools.[33]

An advantage of the Maryland data is that, unlike the Alabama literacy rates, the test scores are solely for children currently in school. The relation between school characteristics and educational output, thus, is apt to be closer than in my study of Alabama. It is fortunate the test was nationally normed, although without access to the actual questions, it is hard to say whether any cultural or regional bias crept in. We cannot be certain if success on the test translated into economic success but, because the test measured reading skills (literacy), it must have had some bearing. A problem with Orazem's study is the absence of any family background variables other than race (his equations are race specific).[34]

Equalizing school characteristics would have narrowed the racial gap in test scores by between 24 and 57 percent, depending on whether the white or black coefficients are used for the calculation and whether dummy variables for counties are included in Orazem's regressions.[35] The average reduction, taken over all of Orazem's regressions, is 37 percent. The average reduction in the literacy gap in Alabama (using the random effects figures in Table 5.6) is 38 percent.[36] Given the differences between Orazem's and my study, it is significant that both yield similar conclusions about the impact of separate-

but-equal. It is significant, too, that Orazem found that the length of the school year had a strong positive effect on test scores, consistent with my findings on school attendance and literacy rates.

## 5.5 Conclusion

Strict enforcement of the equal part of separate-but-equal would have narrowed racial differences in school attendance, literacy rates, and test scores. In the next two chapters I shall show that education improved the labor market outcomes of black men in the early twentieth century South. Thus the violations of separate-but-equal hindered the long-term economic progress of black Americans. However, separate-but-equal was not enough to fully equalize educational outcomes. Only a radical redistribution of school board budgets in favor of black children might have compensated for the family background effects that kept black children out of school, slowed the spread of literacy, and caused the test scores of black children to be lower than those of whites.