

# Determinants of the Level of Public School Discrimination, 1885–1930

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## ABSTRACT

The postbellum southern United States manifested three events. Blacks were steadily disenfranchised, a modern publicly financed universal school system was established, and racially separate schools were established for blacks and whites. Did the reduced voting power of blacks translate into an unequal distribution of public monies between black and white schools? As school system resources expanded, was the extra money divided equitably between black and white schools? What factors explain the amount of funds diverted from black to white schools? This paper uses financial data from county-level school reports to examine these questions.

## INTRODUCTION

In 1957, Gary Becker argued that studies of discrimination often assumed the amount of discrimination depended only on the “taste for discrimination.” He further argued that such an assumption was erroneous and that “many variables in addition to tastes play prominent roles in determining market discrimination, and indeed tastes sometimes play only a minor part.”<sup>1</sup> This paper studies a case in which the amount of discrimination was significantly determined by the costs and benefits of discrimination in combination with the amount of racial animosity.

The division of public school monies in the postbellum South has been cited as a prime example of discrimination against blacks

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1. Becker, 1957, p. 10.

and provides an ideal study case.<sup>2</sup> Three forces worked concurrently during the period. First, a system of publicly financed universal public education and the concomitant increase in resources was established. Second, black political power deteriorated significantly. The disenfranchisement of black voters and the establishment of "Jim Crow" reduced black voter participation rates from the 50 percent to 90 percent range in 1880 to around 10 percent by 1910. Third, the diversion of public school funds from black to white schools increased markedly. Between 1880 and 1910, the ratio of white to black spending per school-aged child increased from 1, indicating rough parity between the races, to 3.65.<sup>3</sup> These three forces, combined with the fact that school taxes and spending decisions were made primarily at the county level (providing a large cross sectional data sample), makes the postbellum southern public school system an ideal case study.

The idea that local school boards responded to costs and benefits is not new. Horace Bond, Louis Harlan and Gunnar Myrdahl all argued that school boards responded to the political costs of discriminating.<sup>4</sup> To state their hypothesis simply, the benefits of discrimination were directly proportional to the relative number of blacks in each school district, since the financial gain to whites was greater when there were more blacks in the district. The cost of discrimination was related to the ability of blacks to vote.<sup>5</sup>

In any given school district, the white payoff to reducing per capita expenditures on black children increased as the black portion of the school-aged population rose. In a school district that was 90 percent black, there were nine black children for each white child. In such a district, a \$1 reduction in the per capita expenditures on black children allowed a \$9 increase in school spending per white child without a change in the tax burden imposed to support the public schools. In the polar case, where a school district was 90 percent white, the same \$1 reduction in per capita spending on black children allowed only an 11 cent increase in white spending per child. As the proportion of black children in a school district rose, the white benefit to a given per capita diversion of funds from black children increased. If school boards were racist, eco-

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2. Bond, 1934 and Harlan, 1958.

3. Ng, 2001, Table 2.

4. See Margo, 1985, p. 1-3.

5. Recent research provides a limited test of these hypotheses. In his doctoral dissertation, Robert Margo tests and accepts these ideas in Louisiana and Alabama in 1890 and 1910 (Margo, 1985, p. 83-120).

nomic theory would predict that when the benefits of discrimination are greater, as measured by a larger black–white population ratio, there will be a greater level of discrimination, indicated by a smaller black–white per capita school spending ratio.

Locally elected school boards allocated public school monies between black and white schools. If blacks and whites were equally able to vote, the cost of discrimination to elected officials would be high in districts where the black proportion of the population was high. In this case, the costs of discrimination would tend to be high when the benefits to discrimination were also high, and one would expect an equilibrium where political costs and benefits equated. Therefore, the amount of fund diversion would be limited.

However, black access to the ballot box was not equal and more importantly it varied throughout the late nineteenth century. In 1880, black political power was roughly equal to blacks' representation among the voting age population. As the turn of the century approached, southern whites were able to effectively disenfranchise blacks<sup>6</sup>. As the black ability to vote waned, the costs of discrimination fell and one would expect that the degree of discrimination against blacks would have risen, all other things being equal.

#### A MODEL OF BLACK/WHITE STUDENT EXPENDITURE RATIOS

Most studies of segregated schools use data from school district annual reports. Because these reports reside in their respective state archives, the cost of retrieval is high. Therefore, most studies rely on data from a single state.<sup>7</sup> Generalizing state studies to the general experience of blacks in segregated schools has always been problematic, since economic conditions and the relative number of blacks differs across states. Seven states are represented in the data used here. For the 1885–1910 period, data has been extracted from the Kousser dataset.<sup>8</sup> This is the most comprehensive compilation of state-level school reports for the period and has not been widely exploited in the literature.<sup>9</sup> The Kousser dataset's coverage is detailed in Table 1. For the period after 1910, data collected by the Rosenwald foundation is used.<sup>10</sup> The Rosenwald data includes data for every state and county in the South for 1930.

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6. Kousser, 1974.

7. An example is Margo, 1990, p. 33-44, where Margo tests his general theories about the political economy of school spending in Louisiana.

8. See Ng, 2001 and 1992 for a more extensive discussion of the Kousser dataset.

9. See Ng, 2001, 1991, and 1993.

10. See Johnson, 1941 and Ng, 1993.

To test the relationship between the price and quantity of discrimination, a weighted least squares model is used where the weights are a county's share of the total children attending school in all counties in the sample. The specification of the model is given below.

$$\frac{y_{black/white}}{w} = a + \beta_1 \frac{x_{black/white}}{w} \quad (1)$$

where:

y = ratio of black to white per capita expenditures for attending children in county

x = ratio of black to white attending children in county

w = total black and white attending children in county (weight for WLS)

If school districts were race neutral in their expenditure decisions, then  $\beta_1 = 0$ . If school districts discriminated more when the white payoff to a given reduction in black per capita school spending was higher, the coefficient on the ratio of black to white adult males should be negative and significant.

The absolute value of  $\beta_1$  can be interpreted as a marginal propensity to discriminate. The benefit to discrimination can be measured by the amount a white child would receive from a reduction in expenditures on black children. As these benefits to discrimination increase, the absolute value of  $\beta_1$  indicates the extent of additional discrimination engaged in by whites. To see whether the marginal propensity to discriminate changed as black political power waned, separate regressions are run for each year in the Kousser dataset and for 1930. Also, the observations for all years are pooled and run as a single regression for 1885–1910.

The results are given in Table 2 and support several conclusions. First, the prevalence of blacks in a county *did* affect the amount of school fund diversion. In each year the coefficient on black–white school aged children in the county is negative and significant. This supports the conclusion that school boards discriminated more when the payoff to white children was larger. When observations were pooled for the whole period, 32 percent of the variation in the black–white expenditure ratio is explained by the benefit to discrimination.

Second, the amount of variation in school fund diversion explained by the relative benefit of a \$1 reduction in black school spending increased as black political power was reduced. Table 2 shows an increasing r-squared from 1890 to 1905. Table 3 shows voter participation rates for southern states over the same period.

TABLE 1  
NUMBER OF OBSERVATIONS BY STATE AND YEAR IN KOUSSER DATASET

Year	Alabama	Florida	Georgia	Louisiana	Mississippi	North Carolina	Virginia	Total
1885	56	0	0	55	0	79	0	190
1890	54	0	0	55	71	84	100	364
1895	0	0	0	57	71	73	0	201
1900	0	37	0	58	0	67	101	263
1905	56	37	108	58	62	87	100	508
1910	57	37	109	57	65	87	99	511

TABLE 2  
WEIGHTED LEAST SQUARES RESULTS USING THE RATIO OF BLACK TO WHITE  
EXPENDITURES PER ATTENDING CHILD AS THE DEPENDENT VARIABLE WEIGHT:  
TOTAL BLACK AND WHITE ATTENDING CHILDREN

Year	Intercept	Prob. > T	Black/White Ratio of Attending Children	Prob. > T	Adj. R- squared	Number of Observations
1930	11.636	0.0001	-3.343	0.0001	0.7	
1885-1910	0.913	0.0001	-0.365	0.0001	0.99	2037
1910	0.389	0.0001	-0.211	0.0001	0.99	511
1905	0.523	0.0001	-0.062	0.0001	0.68	508
1900	0.64	0.0001	-0.104	0.0001	0.52	263
1895	0.684	0.0001	-0.102	0.0001	0.54	201
1890	1.109	0.0001	-0.164	0.0001	0.38	364
1885	0.867	0.0344	-0.112	0.0001	0.52	190

TABLE 3  
VOTER PARTICIPATION RATES BY STATE, RACE, YEAR

		1880	1885	1890	1895	1900	1905	1910
Alabama	White	60%	63%	65%	60%	55%	54%	53%
	Black	54%	62%	69%	65%	60%	35%	10%
Arkansas	White	54%	62%	69%	65%	60%	54%	47%
	Black	70%	61%	52%	39%	25%	18%	10%
Florida	White	83%	80%	76%	67%	57%	52%	46%
	Black	82%	64%	46%	26%	5%	8%	10%
Georgia	White	53%	57%	60%	55%	49%	50%	50%
	Black	44%	39%	34%	24%	13%	12%	10%
Louisiana	White	58%	57%	57%	56%	55%	61%	67%
	Black	54%	52%	51%	49%	47%	29%	10%
Mississippi	White	71%	62%	52%	54%	55%	53%	50%
	Black	37%	27%	16%	8%	0%	5%	10%
North Carolina	White	78%	77%	75%	80%	85%	80%	74%
	Black	90%	78%	66%	59%	51%	31%	10%
Virginia	White	68%	61%	53%	47%	40%	33%	25%
	Black	73%	74%	75%	45%	15%	13%	10%
Average	White	66%	64%	63%	60%	57%	54%	51%
	Black	63%	57%	51%	39%	27%	19%	10%

Source: Ng, 2001. Voter participation rates taken as averages of rates in presidential and gubernatorial elections within five-year intervals.

Although black voter participation rates declined throughout the 1880–1910 period, the largest decreases occurred from 1890 to 1905. The timing of the fall in black voter participation corresponds roughly with the increase in the amount of variation in black–white spending explained by the benefits to a given amount of school fund diversion. This supports the hypothesis that the loss of black political power in the postbellum South affected the racial allocation of public school resources.

Further evidence supporting this hypothesis comes from the value of  $\beta_1$ . By 1930, a given increase in the opportunity for school fund diversion, measured by the black–white population ratio, resulted in a 10 times greater change in the black white spending ratio in 1930 than in 1880–1910.

#### CHANGES IN STUDENT EXPENDITURES

Greater insight into the relationship between race and public school finances can be generated by examining the relationship between changes in the number of blacks and changes in the level of black school funding. Did school boards respond to an increase in black children differently than an increase in white children?

This question can be explored with the following weighted least squares model where the dependent variable is the change in school funding and the independent variables are the change in attending children and the ratio of black–white attending children, with separate regressions for blacks and whites where the weights are a county’s share in the total attending children.

$$\begin{aligned} \frac{\Delta EXP_{white}}{w} &= a + \delta_1 \frac{\Delta ATT_{white}}{w} + \beta_2 \frac{x}{w} \\ \frac{\Delta EXP_{black}}{w} &= a + \delta_1 \frac{\Delta ATT_{black}}{w} + \beta_2 \frac{x}{w} \end{aligned} \tag{2}$$

where :

$\Delta EXP$  = change in white or black expenditures

$\Delta ATT$  = change in white or black attendance

x = ratio of black to white attendance

w = total black and white attendance (weight for WLS)

$\delta_1$  measures the response of expenditures to changes in attending children. A positive  $\delta_1$  simply means that school funding increased when the number of attending children increased. The size

of  $\delta_1$  measures how much expenditures increased for a given increase in attending children.  $\beta_2$  measures the benefit to whites from discrimination as in equation 1. For either the black or white regressions, if  $\beta_2$  is negative then a given increase in school attendance produced a smaller increase in school resources in counties that were more heavily black.

The model can be used to illuminate three issues. First, did an increase in black and white children trigger an equal increase in school funding? If each additional child, black or white, generated equal increases in funding, then  $\delta_1$  should be the same for blacks and whites.

Second, did the existence of a large potential black school population limit general public school funding. In other words, did race play a role in the low quality of southern vs. northern public schools? In a predominantly white county, increasing public school taxes redistributes resources within the white community. In a typical southern county with a large black population in the postbellum South, increasing public school taxes takes resources predominantly from whites and distributes them among whites and blacks. Even a small increase in per capita black school spending in a heavily black county will constitute a significant drain on white per capita spending.

In the latter case, one would expect political support for generally increasing public school resources to be diluted by white discomfort with schemes redistributing white resources to blacks in more equitable manner. Thus, whites voters, who were over-represented at the polls due to black disenfranchisement, would vote against increased taxes to fund education, causing  $\beta_2$  to be negative for both blacks and whites.

Third, within a dynamic framework, did postbellum southern school boards use the increased enrollments and increased funding to further increase the diversion of school funds from black to white schools? It is politically more difficult to take away government support once its existence has been long established and enjoyed. It is more politically feasible to take an increase in government resources and divert funds to or away from specific groups. In the postbellum South and the rest of the United States, ideological, political, and financial support for a publicly funded system of universal education increased dramatically. Did white-dominated school boards take the increased funding and divide it with a constant degree of racial inequity? Or did white-dominated school boards use the creative accounting possibilities extant in new funding to further increase the diversion from black to white schools?

The estimation of the model is given in Table 4. Separate re-



TABLE 4  
WEIGHTED LEAST SQUARES RESULTS FOR CHANGE IN EXPENDITURES REGRESSED ON CHANGE IN THE SCHOOL ATTENDANCE AND THE BLACK/WHITE SCHOOL ATTENDANCE RATIO BY RACE. WEIGHT: TOTAL BLACK AND WHITE SCHOOL ATTENDANCE

	Intercept	Prob. >T	Change in Black School Attendance	Prob. >T	Black/White Attendance Ratio	Prob. >T	Adj. R-squared	N
Black	3654	0.0001	2.034	0.0001	-593.5	0.0004	0.19	1142
White	26896	0.0001	27.58	0.0001	-6551	0.0003	0.27	1142

gressions are estimated for black and white for the 1800–1910 period. Each observation measures changes in county-level spending over a five-year period.

First, the data indicate that changes in the level of expenditures were related to changes in the number of school children.  $\delta_1$  for black and white children is positive and significant. This indicates that increases in the school population, both black and white, led to increases in black and white school budgets—an increase in children attending school led to increased school funding.

Second, an increase in black or white children did not produce equal increases in school resources. At a 1 percent error level, T-tests reject the hypothesis that  $\delta_1$  for blacks and  $\delta_1$  for whites were equal. The values are dramatically different by race. This indicates that school boards funded increases in the black and white school population differentially. An increase in white school attendance increased school spending more than 13 times more than an equivalent increase in black school attendance.<sup>11</sup>

Third, in both the black and white regressions, the ratio of black to white attending children was negatively related to the response of spending to changes in the school population. This is consistent with the theory that, because of racism, a large black population retarded the general growth and development of a modern universal public school system.

$\delta_1$  and  $\beta_2$  support a complex view of the political economy of

11. This result is not surprising given that black per capita spending was lower than white per capita spending. If school boards increased total school budgets to keep per capita spending constant in the face of increasing enrollment, the lower level of black per capita school spending would produce a smaller increase in the total school budget as a result of an increase in the black school population compared to an identical increase in the white school population.

the postbellum South. At one extreme, the postbellum South has been depicted as a type of racist concentration camp where whites controlled the government free from black influence and ruled with no regard for black welfare. The positive coefficient on black  $\delta_1$  supports the idea there was a limit on the amount of discrimination that could take place against blacks. Black spending increased when the number of black children attending school increased. The negative  $\beta_2$  also supports the idea that blacks were politically weakened by disenfranchisement but exercised limited political influence. Blacks were involved, albeit slightly, in political decisions and there were limits (albeit extreme limits) on the levels of discrimination white-dominated school boards were able to impose.

$\delta_1$  also supports one historical view of school spending discrimination. This explanation goes as follows: Whites viewed blacks as a separate community entitled only to tax revenues generated within that community. Segregated and unequal public schools were justified under a "fairness" argument. Since the public schools were predominately supported by property taxes, perhaps white voters felt that blacks were entitled to no more than the share of property taxes that were paid by black landowners. Because blacks usually owned little property, in this view, black children were only "entitled" to lower levels of per capita school spending. If whites held this view, and if whites controlled the allocation of tax money between black and white schools, and if blacks migrating into a county were not property owners, black school spending would not increase when black school enrollments increased. The difference in  $\delta_1$  for blacks and whites supports this view.

#### CONCLUSION

The disparity in educational spending between black and white children in the southern states after the U.S. Civil War provides an ideal situation for examining the economics of discrimination. Whites enjoyed an economic benefit from discriminating against blacks in the public school system, since every dollar that was withheld from a black student would then be available for a white student. Our results show that the level of discrimination against blacks was greater in counties where the proportion of blacks was higher. A higher ratio of black to white students means there would have to be a higher level of money that would have to be spent on black, rather than white students, if the money was distributed equally per student. Thus, the higher the ratio of black to white students, the more economic incentive white school boards had to discriminate against blacks. A secondary result shows that as black voter participation fell, the ratio of black to white students explained a greater

proportion of the black–white per capita student expenditures. This result indicates that as blacks became disenfranchised from the political process, racial discrimination played a larger role in determining educational expenditures.

In a second model that examines changes in education spending over time, the empirical results show that as the public school system expanded and the amount of resources available to support public education increased, white-dominated school boards increased funding for black and white schools unequally. Increases in black and white enrollments were not met by equal increases in school budgets. An additional white student increased school spending more than a black student. Our results show that, at least for educational spending in the U.S. South after the Civil War, economic incentives strongly influenced racial discrimination.

## END NOTES

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