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FROM BROWN TO BUSING

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ABSTRACT

An extensive literature debates the causes and consequences of the desegregation of American schools in the twentieth century. Despite the social importance of desegregation and the magnitude of the literature, we have lacked a comprehensive accounting of the basic facts of school desegregation. This paper uses newly assembled data to document when and how Southern school districts desegregated as well as the extent of court involvement in the desegregation process over the two full decades after Brown. We also examine heterogeneity in the path to desegregation by district characteristics. The results suggest that the existing quantitative literature, which generally either begins in 1968 and focuses on the role of federal courts in larger urban districts or relies on highly aggregated data, often tells an incomplete story of desegregation.

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I. Introduction

In 1954, the Supreme Court ruled in *Brown v. Board of Education*[1] that schools racially segregated by law were unconstitutional. Over the next two decades, federal legislation and case law continued to clarify requirements for desegregation, and Southern[2] school districts dismantled their dual school systems—by the early 1970s, schools in the South were more integrated than in any other region. Despite the vast body of literature on the patterns, causes, and consequences of school desegregation, studies in this area have been limited by data availability, relying on samples that are either highly aggregated or not representative of the typical Southern district, and that often begin only in the late 1960s. In this paper, we *comprehensively* document basic facts of when which types of Southern school districts desegregated, and whether the courts were involved, from *Brown* through the bulk of desegregation activity. To do so, we have assembled new district-level panel data which include nearly the universe of Southern districts, cover more years, and contain information on court supervision as well as more measures of segregation than data used in the existing literature.

The literature does agree that very little happened immediately after the *Brown* and *Brown II*[3] rulings, which were far from clear on the matter of a remedy and left lower federal courts to desegregate the South on a district-by-district basis. Our data indicate that in 1960, only 3.2 percent of Southern districts had *any* blacks in school with whites, and even in desegregated districts, more than 98 percent of blacks were attending all-black schools. If Southern school districts did not desegregate immediately following *Brown*, when *did* they desegregate, and why? For a decade, policy was little changed, but in 1964, the Civil Rights

[1] *Brown v. Board of Education of Topeka Kansas*, 347 U.S. 483 (1954)
[2] In this paper, we refer to the states of the former Confederacy as the South.
[3] 349 U.S. 294 (1955)

Act (CRA) gave the Justice Department authority to bring lawsuits against school districts and required non-discrimination by entities receiving federal funding; one year later, Title I of the Elementary and Secondary Education Act (ESEA) dramatically increased federal funding for public schools. The Supreme Court then strengthened desegregation requirements, first requiring districts to take affirmative steps toward eliminating the dual system, rather than relying on blacks' exercise of "free choice" to attend identifiably white schools (*Green v. New Kent County*, 1968[4]), and later sanctioning the use of busing to achieve racial balance (*Swann v. Charlotte-Mecklenburg*, 1971[5]).

This paper demonstrates how districts desegregated alongside these policy developments. We observe not only how the racial composition of each district's schools changed over time, but also when districts came under court supervision, if ever. This allows us to document the extent to which districts desegregated voluntarily or with direct court oversight, which previously has not been possible due to data limitations. Because our analysis is based on district-level data, we are able to construct a variety of segregation measures and examine the ones most relevant to a given period. We also observe district demographics prior to most desegregation activity, allowing us to describe heterogeneity in the paths to desegregation by district characteristics.[6]

Our analysis both confirms some existing findings from other data sources, and brings to light less-noticed facts about school desegregation. First, most Southern school districts desegregated at least to some extent before the 1968 *Green* decision (viewed by many as the start of "real" desegregation), especially between 1964 and 1966. Second, most of the

[4] 391 U.S. 430
[5] 401 U.S. 1
[6] Giles (1975a, 1975b) examines heterogeneity in desegregation patterns, but limits his analysis to 1968 and 1970. Several other papers attempt do the same for earlier years, but these are either limited to districts (or counties) in only a few states (Pettigrew, 1957; Pettigrew and Cramer, 1959) or use state-level aggregate data (Harris, 1968; Vanfossen, 1968); each of these papers (obviously) cover fewer years than the present study, and none measure district characteristics before they might be affected by the desegregation process.

desegregation observed between 1956 and 1976 was complete by 1970, suggesting the *Swann* ruling may not have been as important, at least in the South, as has been previously suggested. Third, while supervision by the courts was not uncommon, just under half of districts were never under court supervision by 1976, and all of them had desegregated, at least to some extent, before then.

Finally, Southern school districts did not all desegregate at the same time or in the same fashion. In particular, controlling for other factors, larger districts were more likely to be under court supervision both early and ever; over time the enrollment threshold for court supervision fell. The results also point to a role for the financial incentives provided by CRA and ESEA after 1964: Poorer districts—which had larger federal grants on the line—were particularly likely to desegregate between 1964 and 1968. Black enrollment share did not impede "token" desegregation, but was an important predictor of resistance to more intensive desegregation, as well as of being under court order in later years. This pattern is consistent with wanting to avoid exposure to blacks being more important to whites than caring about the principle of maintaining separate schools. While we do not establish causal relationships between specific federal policies and desegregation outcomes in this paper, these findings suggest the existing literature on school desegregation is incomplete and further investigation into the causes and consequences of school desegregation in the South is warranted.

II. Background

In this section, we provide further detail on key policies and federal court decisions during the period covered by our sample, 1956 to 1976. Due to space constraints, this discussion is limited.[7]

A. From Brown to the Civil Rights Act

Though clearly unconstitutional, state laws in the South requiring segregation by race generally were not repealed after *Brown*. Few Southern school districts desegregated shortly after the ruling, in some cases as a result of litigation, with suits filed by families of black children seeking admission to white schools. The NAACP Legal Defense Fund (LDF) was able to assist local counsel in some of these suits, and at times it sought out plaintiffs, but the organization's limited resources and the costs of serving as plaintiff meant few districts were under court order when the Civil Rights Act was signed into law. By 1964, a full decade after *Brown*, the NAACP had assisted in bringing only 30 cases (Rosenberg, 1991), and only 7 percent of Southern school districts had court-ordered desegregation plans. Another 19 percent of districts had desegregated voluntarily, leaving nearly 75 percent of districts without any blacks in school with whites. In those districts that did desegregate, plans required only token desegregation in specified grades.

We expect that districts desegregated voluntarily when school boards perceived the benefit of doing so to be greater than the cost. The main benefit of desegregation before the passage of ESEA was protection from litigation (including both actual suits and the threat of suits[8]), but during this period, so few districts were litigated that the benefit to school

[7] We refer the reader to Patterson (2001) for an excellent comprehensive overview. Kluger (2004) and Orfield (1969) focus on earlier aspects of school desegregation.

[8] Anecdotal evidence (e.g. Peltason, 1971) suggests that, at least in the South, school districts did not perceive a significant threat from litigation, particularly given the extensive use of legal tactics to delay meaningful integration even among districts under court order (p. 45). Peltason suggests that in many cases even if a school

districts of desegregating was arguably small (the "price" of segregation was low). We therefore expect variation in voluntary desegregation during this period to be driven primarily by variation in costs, which depend on preferences for segregation.

Variation in court orders and resulting desegregation depends in large part on how the LDF and others supporting litigation in the region chose which districts to sue. They might have considered a variety of factors: the probability of winning (which likely depended on the extent of resistance in the district as well as legal factors and the judge), the number of children affected conditional on winning, the availability of an effective plaintiff[9], and the potential effect on future cases (getting good precedent and avoiding bad precedent). Being under court order during this period is less an indicator of being particularly resistant to desegregation that an indicator that LDF considered the district a good target for other reasons.[10]

B. Bureaucratic and Judicial Desegregation Policy after CRA

Enforcement of the Civil Rights Act was arguably at its peak during Johnson's presidency.[11] In 1965, the Department of Health, Education, and Welfare (HEW) issued its first desegregation guidelines for receipt of federal funds, requiring school districts to submit a court order, a voluntary plan, or an "assurance" that no plan was needed (either because the district was uni-racial or had already desegregated) as evidence of non-discrimination.[12]

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board did want to comply with *Brown* immediately, it would await a court order to do so in order to satisfy segregationist constituencies (p. 96-99).

[9] The LDF did not have standing to sue a district on its own until the passage of the Civil Rights Act. Although nearly all districts blatantly failed to comply with *Brown* in the early years, plaintiffs were often difficult to find, as intimidation by segregationists of blacks asserting their rights was widespread and many blacks "discovered that 'to get along, go along.'" (Peltason, 1971, p. 101). Patterson (2001, p. 26) suggests that areas with a higher share of blacks provided a more supportive environment to plaintiffs: "In those communities where blacks were in the majority, they could and sometimes did come together and stay together."

[10] In fact, LDF may have originally litigated in districts with weaker preferences for segregation because plaintiffs would be less intimidated and in order to establish favorable legal precedents early.

[11] For discussions of the history of CRA enforcement, see Halpern (1995) and Orfield (2000).

[12] At about the same time, the Voting Rights Act of 1965 may also have contributed to changes in how school boards viewed desegregation by changing who voted, potentially prompting "grassroots" efforts to change the

While limited resources made it difficult for HEW to confirm desegregation in practice, the agency did terminate funds to districts that failed to submit a plan for the 1965-66 year, and funding cutoffs for unacceptable plans became more common over time. The amount of funding on the line was substantial; using data from our sample, we calculate that the median Southern district stood to gain about 20 percent of its pre-existing level of current expenditures by complying.

HEW compliance standards—how much desegregation was required to receive federal funds—also became more demanding between 1965 and 1968. In 1965, HEW guidelines were set consistent with existing court orders, requiring plans to move a handful of black children into white schools; by 1968, districts were required to devise plans to eliminate racially identifiable schools completely by no later than fall 1969.[13] While some court orders over this period were more lenient than the HEW standards (Orfield, 1969 and Orfield, 2000, citing the 1967 U.S. Commission on Civil Rights), the 1966 Fifth Circuit decision in *Jefferson*[14] and the 1968 Supreme Court decision in *Green* toughened the requirements for court-ordered plans. The *Green* decision, like the 1968 HEW guidelines, emphasized outcomes, arguing that simply having a desegregation *plan* was not enough—it had to "promise realistically to convert promptly to a system without a 'white' school and a 'Negro' school, but just schools."

Nixon backed off of using funds termination to enforce CRA, and during his Presidency desegregation requirements grew stronger mainly as a result of Supreme Court

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assignment policies of school boards by holding board members accountable to racially diverse constituencies and by changing the racial composition of school boards themselves.

[13] Through 1968, districts could be in full compliance with the law by submitting freedom-of-choice plans, which allowed students in a district to apply to any school. The small number of blacks that applied to white schools were often denied admission on supposedly race-blind criteria, and these plans resulted in few black transfers to whites school (and no white transfers to black schools).

[14] *U.S. v. Jefferson County Board of Education* (372 F. 2d 836, 876 (1966))

rulings. Most important, in 1971 (*Swann v. Charlotte-Mecklenburg*), the Court reaffirmed *Green* and upheld the use of busing to achieve racial balance in a district's schools.

The combination of CRA and ESEA clearly increased the benefit to a district of desegregating—at least enough to satisfy the requirements for CRA compliance. Thus, the "price" of segregation increased after 1965, although not uniformly across districts; districts with large numbers of poor children had more federal funding on the line under ESEA and, all else equal, should have been more likely to desegregate. As the incentives changed and more districts desegregated voluntarily after 1964, LDF and the Department of Justice shifted their strategy towards suing districts that failed to desegregate sufficiently on their own. So a district might have ended up under court order either because it was sued early, or later, because it was particularly resistant to substantial integration.[15]

C. Previous Research on Desegregation

Different strands of the literature have emphasized different aspects of this history.[16] In his memoir, Jack Greenberg, a lawyer working for the NAACP LDF exemplifies the view that legislation and funding—not courts—were important: "HEW, operating at wholesale, got more blacks into school with whites than our retail lawsuits." (1994, p. 381). Rosenberg (1991) has been the primary proponent of the view that courts were ineffective in the academic literature, noting the difficulty of achieving desegregation with district-by-district

[15] Districts were rarely, released from court supervision within our sample period.

[16] In fact, the courts-versus-legislation view is not so dichotomous, and time-series changes in desegregation cannot straightforwardly be attributed to one or the other source. There may be important interactions among the courts, the executive and the legislature. For example, Klarman (2004) argues that *Brown* energized the Civil Right Movement, helping to make the Civil Rights Act possible. Others have noted that HEW Guidelines for CRA compliance may have strengthened the courts' hand in toughening requirements for districts under their supervision.

lawsuits.[17] Economists also have noted the possibility that CRA and ESEA might have been important in desegregation,[18] but all of these studies have relied on relatively limited data.

On the other hand, a large quantitative literature—much of it focused on whether desegregation caused "white flight"—tends to emphasize the role of the courts, especially the *Green* and *Swann* decisions. For example, Rossell and Armor (1996) write that before *Green*, "…substantial majorities of both Black and White students were enrolled in predominantly one-race schools… However, this *began* to change after *Green*, and the changes accelerated with *Swann v. Charlotte-Mecklenberg* in 1971," (emphasis added, p. 271). Others, for example Farley, Richards, and Wurdock (1980), suggest that busing—and therefore *Swann*—was necessary to achieve meaningful integration.[19] It is perhaps not surprising that research focused on this later period emphasizes the role of the courts, as it covers a period when the courts got tougher while the Nixon Administration got weaker on CRA enforcement.[20]

While the literature on school desegregation is large and debates about the causes and effects of desegregation are extensive, we are not aware of work that comprehensively documents how school desegregation and court supervision evolved over the two decades following *Brown*. We attribute this hole in the literature to the difficulty of bringing together all the relevant data sources, which we discuss next.

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[17] For more on the debate among legal scholars and political scientist about the relative importance of litigation and legislation, see Tushnet (2004) and Klarman (2004).

[18] See, for example, Boozer, Krueger, and Wolkon (1992), Clotfelter (2004), Ashenfelter, Collins, and Yoon (2006), and Reber (2007).

[19] They write, "Within large cities, the residential isolation of blacks from whites prevented integration. Thus in 1970 a federal judge ordered that the enrollment in each of Charlotte's schools be approximately 71 percent white and 29 percent black and that busing be used to obtain such ratios. The Supreme Court unanimously upheld this order [in *Swann*]… As a result, substantial reductions in segregation were achieved within many southern districts." (p. 123).

[20] Other examples of quantitative studies emphasizing the courts include Guryan (2004), Reber (2005), Welch and Light (1987), Lutz (2005), and Coleman, Kelly, and Moore (1975).

III. Data

Our empirical analysis draws on many sources; these sources, the sample, and, in a few cases, how we impute missing data are discussed in detail in Appendix A. Here, we briefly summarize our data sources and key variables related to desegregation and plan type and review these descriptive statistics. We refer the reader to Appendix A for information on our demographic and enrollment variables.

A. Data on Desegregation and Court Involvement

As noted above, a key contribution of this research is that we observe whether a district was desegregating under court order or voluntarily. Our data on court supervision were originally collected by different organizations to monitor desegregation activity after *Brown*. From 1956 to 1964, the Southern Education Reporting Service (SERS)—an organization of Southern newspaper editors funded by the Ford Foundation—compiled lists annually on school districts that had a desegregation policy and whether that policy was court-imposed. In later years, we observe how districts complied with CRA in data collected by HEW (in 1966) and by the Office for Civil Rights (in 1968, 1970, 1972, and 1976). While these data provide no information on the contents of a court-ordered plan – this would be strongly tied to the desegregation requirements of the time – they are sufficient to construct an indicator for being under court supervision (*COURTORDER*).[21]

Our desegregation data come from essentially the same sources. Through 1964, SERS collected data on the number of blacks enrolled with whites for districts that had *any* desegregation activity. In 1966, SERS reported these data (mainly collected by the federal

[21] We would like to have information on the way in which students were reassigned (e.g., through magnet schools, re-zoning, and the like), but such data are not consistently available for our sample. Where such data are available, they are either for larger districts (e.g., Welch and Light, 1987) or start well after the beginning of our sample period and are based on surveys with some non-response (e.g., U.S. Commission on Civil Rights, 1977; Rossell and Armor, 1996).

Office of Education) for most, but not all, districts. For 1968, 1970, 1972, and 1976, we use school-level data on enrollment by race from the OCR surveys cited above. We construct three measures of desegregation from these sources. The indicator variable *DESEG* measures the extensive margin of desegregation, i.e., whether any blacks were in school with any whites in the district. We then construct two measures of desegregation on the intensive margin: the fraction of blacks attending all-black schools (*FRACALLBLACKSCH*) and the dissimilarity index (*DISSIM*), which indicates the share of students in a district who would need to change schools in order for each of the district's schools to have the same racial composition.[22]

The variables collected by SERS and OCR were generally the ones that captured the relevant desegregation margins of the time, so the fact that we lack the necessary school-level data to calculate the dissimilarity index prior to 1968—while the fraction of blacks in all-black schools captures much activity—is not a major limitation. The dissimilarity index does have some drawbacks[23], but on balance is the most appropriate measure for later years of this analysis. Other segregation indices, such as the exposure index, are mechanically related to district fraction black, one of our key explanatory variables. The dissimilarity index also more closely matches the margins of desegregation the courts considered after 1968, as busing and other court-sanctioned remedies often sought to achieve racial balance across a district's schools.

B. Sample Characteristics

[22] The formula for the dissimilarity index is provided in Appendix A.

[23] For example, if white enrollment share is low or falling in a district, measured segregation could be low according to the dissimilarity index even though blacks have little exposure to whites. The exposure index captures this effect, but is subject to more important limitations discussed below.

Our analysis focuses on the states of the former Confederacy (the "South"). The Border region[24] also had a history of dual schools, but states and school districts there had a different response to *Brown*. Official policy in Border states was pro-integration soon after *Brown*, and desegregation proceeded more quickly there. Unfortunately, segregation data for the Border region are incomplete, so a full comparison of the two regions is not possible. Based on Census data, Table 1 shows that in 1960, 58 percent of black school-aged children lived in the South, while less than 10 percent lived in the Border region. Our sample excludes Mississippi and Texas due to data limitations, but still covers 80 percent of black school-aged children in the South and 45 percent in the United States, and is demographically similar to the universe of Southern states.[25]

Table 2 reports the characteristics of school districts in our sample. Because school district boundaries are not constant over time, we aggregate to the smallest unit that is consistently observed over the whole period. This process yields 1,322 districts in the sampled states each year, less than 8 percent of which experienced boundary changes. We exclude 208 districts from the sample because the key explanatory variables—average black enrollment share from in the early 1960s, average total enrollment over the same period, poverty rate in 1959 (used to calculate Title I ESEA allocations beginning in 1965) and urbanicity in 1969—are not observed. Districts for which we do not have segregation measures for at least one even year after 1965 are also excluded (53 of the remaining districts). Finally, we exclude districts with average black share in enrollment in 1960 to 1963 less than 3 percent (128 of the remaining districts),[26] or with students of only one race in any

[24] The Border region includes Delaware, Kentucky, Maryland, Missouri, Oklahoma, and West Virginia.
[25] Our sample includes school districts in Alabama, Arkansas, Florida, Georgia, Louisiana, North Carolina, South Carolina, Tennessee, and Virginia.
[26] Such districts raise difficulties in calculating some of the segregation measures; although this excludes a relatively large number of districts, it does not substantially reduce the sample's coverage of black students.

year in the sample (6 of the remaining districts). Despite these sample restrictions, the typical district in our sample looks very similar to the typical district in the region (see Appendix Table A1).

As shown in the upper panel of Table 2, the average district in our sample enrolled 7,444 students in the early 1960s, and was 36 percent black and 33 percent poor. One-third of the sampled districts were majority urban. The size and urbanicity of the districts in our sample are notably different from the districts used in much of the existing quantitative literature on school desegregation, which has focused on larger and more often urban districts. Below, we show that the timeline of school desegregation for such large districts was different from that for districts in the region overall.

The bottom panel of Table 2 shows summary statistics on several segregation measures in selected years. Note that the sample size varies somewhat depending on the year and outcome. This is mainly due to the fact that the OCR did not survey all districts; rather, the OCR surveys covered all districts that were supervised by courts or "of interest" to HEW and a sample of other districts, with the probability of being sampled decreasing with size.[27] This means that the sample in later years is somewhat biased towards larger districts and districts that were more resistant to desegregation. Even so, using the sampling weights does not substantially alter the observed trends in segregation, so the sample appears representative of districts with more than 300 students, and the characteristics of districts reporting in each year are quite similar (see Appendix Table A1). We use all the available districts in each year, not a balanced panel, in order to retain a sample as large and representative of Southern districts as possible.

[27] We are also occasionally missing data on some outcomes because not all consolidation partners of a district are observed in the raw data. See Appendix A.

IV. Aggregate Trends in Desegregation and Court Supervision

Figure 1 shows trends in desegregation and court supervision for districts in our sample. In 1956, two years after *Brown*, there was virtually no desegregation in Southern school districts. Only one district had any desegregation[28]; no district had a court-ordered desegregation plan.[29] By 1976, all districts had established at least some mixed-race schools, only three percent of blacks were in all-black schools in the average district, and just over half of all districts were under the supervision of the courts. How did these changes evolve?

No Southern district desegregated immediately after *Brown*, and Figure 1 shows no spike in litigation and court-ordered plans in the following decade. The share of districts with court-ordered desegregation plans grew slowly between *Brown* and the passage of CRA in 1964, most likely due to resource constraints on the part of would-be litigants. The mid-1960s through the early 1970s saw large increases in the rate of court supervision, particularly between 1964 and 1966 (after passage of CRA and ESEA) and again between 1970 and 1972 (after *Swann*). As noted above, the circumstances under which districts were placed under court supervision varied over time, with early court orders reflecting that the district had been singled out as a good case for litigation and later court orders indicating that desegregation progress in the district was significantly delayed.

The share of districts with any desegregation—both initiated under court order and voluntarily—grew slowly through 1964 then jumped from 26 percent in 1964 to 99 percent in 1966. The increase in court supervision between 1964 and 1966 was not nearly so large; together these facts indicate that the period of CRA and ESEA implementation was also a time of significant voluntary desegregation. A sizable gap between the share desegregated

[28] This was Hot Springs, Arkansas, where less than one percent of blacks there attended school with any whites.
[29] The standoff at Little Rock High was not until 1957.

and the share under court order persisted, pointing to the importance of voluntary desegregation throughout the entire sample period.[30] Desegregation on the extensive margin was nearly complete before court-ordered plans were toughened by *Green* in 1968.

Once desegregated on the extensive margin, districts rarely went back; nearly 100 percent of districts were desegregated from 1966 through 1976, so the intensive margins of desegregation are more relevant for these years. The share of blacks in all-black schools was just below one through 1964, indicating that those districts that did desegregate on the extensive margin by 1964 generally had only token efforts. The all-black school all but disappeared between 1964 and 1970, with the share of blacks attending such schools falling from 99 to 5 percent. About half of that decline took place pre-*Green*.

After the virtual elimination of all-black schools, the dissimilarity index still registers changes in racial composition and becomes our most relevant desegregation measure for 1970 and later years. It also shows substantial declines in segregation between 1968 (the first year available) and 1970. In 1968, in the average district 72 percent of black students would have had to been reassigned to another school in order to replicate the racial composition of the district as a whole in each school; by 1970, that figure had fallen to 25 percent. While all measures show continued progress toward integration between 1970 and 1976, Figure 1 shows that these changes were small in comparison to those achieved between 1968 and 1970—notably, before *Swann* and more widespread use of busing.

Figure 2 highlights the differences between our full sample and a subsample of relatively large districts that is similar to the samples employed in some of the existing

[30] We find (results not shown) that court orders were quite effective at ensuring desegregation on the extensive margin and therefore the gap between the fraction of districts with any desegregation and the fraction of districts with court supervision can be interpreted as the fraction of districts which desegregated voluntarily.

quantitative literature on school desegregation.[31] While trends are broadly similar for the two groups, a few differences are quite notable. Large districts were significantly more likely to be under court order. Large districts desegregated on the extensive margin more gradually in the early 1960s, whereas overall this activity is heavily concentrated between 1964 and 1966 in the full sample; segregation in larger districts also declined noticeably after 1970 relative to the full sample, perhaps reflecting the larger impact of *Swann* among this group. Still, much desegregation had been achieved even in these districts by 1970.

Aggregate trends in desegregation in the South for this period have been previously reported in the literature. However, to our knowledge, we are the first to incorporate information on whether courts were involved in the desegregation process. We are also the first to calculate desegregation trends using disaggregated data on a representative sample of Southern school districts. Previous research has relied on published state aggregates of the data used here (e.g., Rosenberg, 1991; Orfield, 2000) or constructed regional segregation statistics from a small individual-level survey (e.g., Boozer, Krueger, and Wolkon, 1992; Ashenfelter, Collins, and Yoon, 2006).[32] Using district-level data, we are able to examine formally how other district characteristics, in addition to enrollment, were related to different desegregation trends within the South.

V. Heterogeneity in Desegregation over Time

A. Methods

[31] We follow Welch and Light (1987) in defining large districts those with at least 15,000 students. (Welch and Light use 1968 enrollment, apply additional criteria and only *sample* districts between 15,000 and 50,000 enrollment, leaving only 42 districts in the South; we include all 71 Southern districts with more than 15,000 enrollment in the early 1960s.) The Welch and Light (1987) sample has been frequently used by economists (Gurvan, 2004; Reber, 2005; Weiner, Lutz, and Ludwig, 2007). Other researchers have employed different sampling criteria but most of the literature excludes smaller districts, in many cases limiting the sample to metropolitan districts since 1968.

[32] This survey is called the National Survey of Black Americans (NSBA). The NSBA is small, with fewer than 100 respondents observed per year, and the question about the racial composition of schools retrospective. As a result, estimates of year-to-year changes in the extent of school segregation based on the NSBA may be subject to substantial error. The survey is also not necessarily representative of southern school districts.

To see which district characteristics predict desegregation outcomes over time, we estimate OLS regressions with these characteristics as independent variables, one year at a time. The most basic regression specification is given by equation (1), where *d* indexes district and *t* indexes year (all years refer to the fall of the school year):

$$\begin{aligned} \text{OUTCOME}_{d,t} = a_t + \beta_t \text{FRACBLACK}_{d,pre} + \gamma_t \text{LNENROLL}_{d,pre} + \delta_t \text{FRACPOOR}_{d,pre} \\ + \eta_t \text{URBAN}_{d,1969} + \varepsilon_{d,t} \end{aligned} \quad (1)$$

OUTCOME represents *COURTORDER*, *DESEG*, *FRACALLBLACKSCH*, or *DISSIM*, depending on the year under consideration (see below). There are four explanatory variables of interest: the share of enrollment that is black (*FRACBLACK*), (the natural log of) total enrollment (*LNENROLL*), the poverty rate (*FRACPOOR*), and urbanicity (*URBAN*). As noted above, most of these measures are from 1963 and earlier; we therefore consider these variables exogenous or pre-determined with respect to subsequent desegregation outcomes (hence the "pre" subscript).[33]

We would have liked to include controls for residential segregation and direct measures of attitudes towards race, both of which are likely to have important effects on school desegregation. The more residentially segregated a district is, the more costly and difficult it will be to achieve any given level of desegregation in its schools. To the extent that HEW and the courts take these costs into account when designing and approving desegregation plans, more residentially segregated areas may desegregate their schools slower and ultimately less than other areas. Unfortunately, such variables are unavailable at the school district level, and are thus incorporated into the error term, $\varepsilon_{d,t}$. The characteristics we do observe may partially proxy for these omitted characteristics in some cases. Urban areas

[33] The only variable that is not pre-determined is urbanicity, which is measured in 1969. However, because urbanicity is a dichotomous variable equal to 1 if more than half the district is urban, changes in this variable over the 1960s are likely to be minimal.

are typically more residentially segregated than rural areas, so urbanicity in particular may partially proxy for residential segregation.

In some cases, the specification in equation (1) misses important non-linearities in the relationship between the dependent and independent variables; in most of the reported results, therefore, we specify *FRACBLACK* and enrollment in deciles, as in Equation (2):[34]

$$\begin{aligned} \text{OUTCOME}_{d,t} = {} & \widetilde{\alpha}_t + \text{BLACK\_DEC}_{d,pre}\widetilde{\beta}_t + \text{ENROLL\_DEC}_{d,pre}\widetilde{\gamma}_t \\ & + \widetilde{\delta}_t \text{FRACPOOR}_{d,pre} + \widetilde{\eta}_t \text{URBAN}_{d,1969} + \widetilde{\varepsilon}_{d,t} \end{aligned} \tag{2}$$

Here, *BLACK_DEC* and *ENROLL_DEC* are vectors of dummy variables for deciles two through ten of *FRACBLACK* and *ENROLL*, respectively. We omit the first decile of each to identify the model. The minimum and maximum values of these deciles are in Appendix Table B. Equation (2) is the most parsimonious specification that captures the relevant non-linearities in poverty and enrollment across years and outcomes.[35]

For expositional clarity, we do not present results for every year for which we have data, but choose years surrounding key pieces of legislation and court cases. The set of dependent variables considered is not the same in all years; instead, we focus on the outcomes that were of greatest relevance at the time. Specifically, we present results for *COURTORDER* for all years and for *DESEG* only for years before 1968, because 99.0 percent of districts were desegregated by then. For measures of the intensive margin of desegregation, we consider *FRACALLBLACKSCH* in all years and *DISSIM* only after 1966.

Because all of the explanatory variables are time-invariant, the *change* in the coefficient on a particular characteristic over time indicates the extent to which that

[34] The relationship between the outcomes and *FRACPOOR*, on the other hand, is reasonably well-captured by the linear specification, so we do not specify the poverty rate in deciles. Linearity in poverty deciles is rejected at the 5 percent level for only one of the regressions presented below and reported in Table 3 and Appendix Tables C1 through C5. Results are also similar when poverty decile indicators, rather than *FRACPOOR*, are included in the regression.

[35] We also experimented with interactions among different categories of poverty, percent black, and enrollment. These were not consistently substantively or statistically significant, so we do not report the results.

characteristic predicts *changes* in the outcome variable for the same period.[36] The results show that there are substantial changes in these coefficients over time, indicating that districts with different characteristics changed their behavior during different periods. In order to test the statistical significance of changes in coefficients over time, we also estimate a "stacked" version of equation (2), including all years in a single regression fully interacting all of the explanatory variables with year indicators (and including a full set of year dummies). Because this regression yields the same coefficient estimates as the year-by-year regressions,[37] we do not report the results separately; we do note substantively and statistically significant changes in coefficients of interest in the text.

B. Results

In the 1950s, there was so little desegregation activity (see Figure 1) that there is little heterogeneity to explain. We therefore begin our analysis of heterogeneity in 1961.[38] The results for 1961 are presented in Table 3 and in the top row of Figure 2. To familiarize the reader with the graphical presentation of the regression coefficients, we discuss the results for 1961 in some detail before turning to subsequent years.

The first three columns of Table 3 report the results for equation (1) for *COURTORDER, DESEG,* and *FRACALLBLACKSCH*; columns (4) through (6) report results of estimating equation (2) for the same outcomes. Comparing columns (1) and (4) illustrates the utility of the nonlinear specifications in the latter three columns: in column

[36] With a constant sample and time-invariant x, regressing the change in y on the change in x yields a coefficient equal to the coefficient on x in period 2 less the coefficient on x in period 1. In our case, the sample of districts is not exactly the same in every year, but has the same average characteristics.

[37] In the stacked model, standard errors account for arbitrary correlation over time within districts.

[38] In 1961 only, district characteristics are current rather than pre-existing. However, so few districts were desegregated by 1961 and the level of desegregation was so low that it is highly unlikely that major demographic shifts occurred in response to the desegregation process. In 1958, only 0.4 percent of districts were under court order and 0.6 percent were desegregated. The pattern observed in 1961 begins to emerge by 1958, with urbanicity and the top decile of enrollment predicting both court order and desegregation; few coefficients are significant, however.

(1), we control for log enrollment linearly and find it to be statistically significant and positive, but column (4) reveals that the coefficient in the log-linear specification is driven solely by districts in the top decile of enrollment. While this particular regression could have been more parsimonious—for example, including only a top-decile dummy—we include indicators for each decile to be consistent in the specification across outcomes and years.

To ease the interpretation of the large number of coefficients in equation (2), we present the coefficients on the percent black and enrollment deciles graphically. The top row of Figure 3 plots rescaled versions of the coefficients on the fraction black and enrollment deciles shown in columns (4) through (6) of Table 3. The upper-left panel corresponds to column (4), showing the results for the regression with *COURTORDER* as the dependent variable; the solid line shows the pattern of coefficients on deciles of fraction black while the dashed line shows the pattern of coefficients on deciles of enrollment. Because any of the deciles could have been omitted, the level of the coefficients is not identified; our discussion therefore focuses on the pattern of coefficients across deciles.[39] To facilitate comparisons of the average level of the outcome across years—in addition to differential changes by fraction black and enrollment deciles—we rescale the coefficients so that the average coefficient across all deciles corresponds to the average level of the outcome that year.[40]

The graphs thus reflect the relatively low rates of court order (Panel A.1) and desegregation on the extensive margin (Panel A.2) already shown for 1961 in Figure 1. Districts in the top decile of enrollment were significantly more likely to be under court order and to have desegregated. About 2.5 percent of districts had desegregated voluntarily

[39] Standard errors are given in Appendix Tables C1 through C5 for later years; we focus our discussion only on significant differences across deciles.

[40] This is achieved by adding a constant equal to the average outcome in the data less the average of all the coefficients (including zero for decile 1) to all the coefficients. Note that the *difference* between the coefficients on each decile is maintained. Also note that while the scaled coefficients are plotted in the figures, the original coefficients are reported in the tables.

(the difference between the share desegregated and the share under court supervision[41]); districts in the top two deciles of enrollment were most likely to desegregate voluntarily (Table 3, columns (4) and (5) and Figure 3, Panels A.1 and A.2). The relationship between fraction black and both court order and any desegregation is slightly U-shaped, with high and low fraction black districts being somewhat more likely to be both under court order and desegregated. Panel A.3 (and Table 3, column (6)) indicates that the average share of blacks in all-black schools was nearly one and did not vary significantly across enrollment or fraction black deciles. Returning to Table 3, we see that urban districts were significantly more likely to be under court order and desegregated, while poorer districts were significantly less likely. In sum, what little desegregation had occurred by 1961 was token and happened in the largest, primarily urban, lower-poverty districts.

The next two rows of Figure 3 show rescaled coefficients on enrollment and fraction black decile indicators from estimation of equation (2) for 1964 and 1966, respectively. Coefficients and standard errors on urbanicity and fraction poor from the same underlying regressions are shown in Table 4.[42] Between 1961 and 1964, there was little change in patterns of court supervision. However, enrollment became positively associated with the probability of desegregation over nearly the entire range of enrollment, rather than its previous "threshold" effect. The lowest and highest fraction black districts were somewhat more likely to desegregate.[43] Most desegregation was voluntary in 1964, and the effects of fraction black and poverty were more evident for voluntary desegregation than for court-ordered desegregation, as can be seen by comparing the coefficients on fraction black and

[41] In results not reported, we find that nearly all school districts supervised by courts in 1961 had desegregated on the extensive margin.
[42] The full results of estimating equation (2) for these and later years (analogous to those shown in columns (4) through (6) of Table 3) can be found in Appendix Tables C1 through C5.
[43] F-tests reject equality of the coefficients on the sixth and tenth deciles and equality of the coefficients on the sixth and first deciles at the .01 level.

poverty in the models for desegregation and court orders. Desegregation continued to be largely token, as evidenced by the high level of blacks in all-black schools, regardless of district characteristics. The few districts with more substantial desegregation were concentrated in the first decile of fraction black (Panel B.3); even among desegregated districts in this group, the median share of blacks in all-black schools (not shown in figure) was 90 percent.

While poorer districts had been significantly more segregated prior to 1966, the poverty rate does not predict desegregation on either the intensive or extensive margin by 1966 (Panels B and C in Table 4). This is consistent with poorer districts—who had the largest federal grants on the line beginning in 1965—responding to the financial incentives of CRA and ESEA. All but three percent of districts had at least some desegregation by 1966, and this did not vary systematically with district characteristics (Panel C.2). Districts across deciles of fraction black desegregated on the extensive margin around the same time (mostly between 1964 and 1966). On the other hand, districts with higher black shares were particularly resistant to more meaningful desegregation: such districts had significantly more blacks in all-black schools in 1966, compared to their low fraction black counterparts (Figure 3, Panel C.3). The probability of being under court order also became positively related to fraction black in 1966, a pattern that grows stronger over time. The enrollment threshold for court supervision also continued to fall between 1964 and 1966 (Figure 3, Panel C.1).

Figure 4 presents the results for 1968 through 1976. The first column, as in Figure 3, reports results of regressions with *COURTORDER* as the dependent variable, and (looking down the entire left-hand column) shows that between 1968 and 1976, enrollment continued to be consistently and strongly positively related to the probability of being supervised by the

courts, with the overall level of supervision rising over time.[44] Higher fraction black districts continued to lag in reducing the share of blacks in all-black schools in 1968 (Panel A.2), but in 1970 (and 1976) all-black schools remained in few districts. Because blacker and larger districts had a higher share of their black students in all-black schools in 1968, these districts were most responsible for the major aggregate reduction in all-black schools between 1968 and 1970 (see Figure 1). Nonetheless, by 1970, it was still the blackest and largest districts that maintained any all-black schools (Panels B.2 and C.2).

The third column of Figure 4 shows how district characteristics related to the dissimilarity index over time. As noted above, this measure is more sensitive to desegregation beyond the elimination of all-black schools[45] indicating the extent to which all schools in the district were racially balanced. Enrollment was positively related to desegregation as measured by the dissimilarity index consistently from 1968 to 1976. That is, larger districts would have had to reassign a higher share of black students to achieve racial balance in every school. This relationship may be due to increased logistical difficulty of integration in larger districts (which are also likely to be more residentially segregated) causing districts to voluntarily seek, and courts to accept a higher level of segregation.[46]

The relationship between fraction black and dissimilarity in 1968 (Panel A.3) is positive and looks similar to the effect of fraction black on the percent of blacks in all-black schools (Panel A.2). Starting in 1970, when all-black schools were largely eliminated, the relationship between fraction black and the dissimilarity index is slightly U-shaped (Panels

[44] Linearity in deciles of enrollment is rejected at the 5 percent level for regressions with *COURTORDER* as the dependent variable in all years.
[45] An all-black school could be eliminated by transferring one white there; in practice, schools with very low white enrollment shares were rare throughout the period. Changes in the share of blacks in all-black schools are driven primarily by moving larger numbers of blacks to relatively white schools. White students were rarely required to attend heavily black schools throughout the period.
[46] It is also possible that larger districts simply have stronger anti-desegregation tastes, although this seems less likely given the higher likelihood of desegregating on the extensive margin voluntarily in the early 1960s.

B.3 and C.3), with the whitest and blackest districts more segregated than those in the middle, suggesting it may be more difficult (or less acceptable to parents) to spread students of both races across schools evenly when shares of either race are low. While court orders increased from 1970 and 1976, other changes were small. Finally, note that while fraction black is strongly positively related to the probability of being under court order in both 1970 and 1976, fraction black is not a strong predictor of segregation. This again suggests that blacker districts resisted voluntary integration (so ended up under court order) but courts were relatively effective at inducing integration, thereby reducing the relationship between fraction black and segregation.

VI. Discussion

This paper presents a more complete timeline of the court supervision and desegregation of Southern schools in the two decades following *Brown* and shows how different types of school districts experienced different paths to desegregation. Stylized facts emerge from this new timeline, most of which have been reported previously in parts of the literature, but have not been emphasized jointly. We first note that most Southern school districts desegregated at least to some extent between 1964 and 1966, suggesting that comprehensive analysis of desegregation must start before 1968, when some data sets and much of the existing quantitative literature begin. Second, most desegregation was complete by 1970, suggesting the role of busing (following the *Swann* ruling in 1971) may not have been as important as previously suggested. Third, while all districts were desegregated at least partially by 1976, nearly half of districts were never under court supervision by 1976,

suggesting that the need for court involvement to achieve desegregation may have been overemphasized for the typical Southern district.[47]

Not all districts followed the same path to desegregation. Our analysis of how district characteristics related to trends in segregation and court involvement provides suggestive evidence about the effectiveness of desegregation policies, as well as the preferences and constraints of different districts over time. First, while the experiences of urban and rural districts were not systematically different, the number of students enrolled was an important predictor across outcomes and years. The courts were substantially more involved in the desegregation of the largest school districts throughout the period. At the same time, larger districts were more likely to voluntarily desegregate on the extensive margin early, suggesting larger districts were *less* resistant to desegregation in principle. Together, these two results are consistent with LDF targeting large districts in hopes of winning cases in districts where opposition to desegregation was weaker and a large number of students would be affected upon success. While larger districts achieved token desegregation earlier, they were slower to eliminate all-black schools and never achieved racial balance (as measured by the dissimilarity index) to the same extent as their lower-enrollment counterparts, perhaps because of greater logistical difficulties due to higher residential segregation and complex transportation requirements.

Second, districts with high black enrollment shares were particularly resistant to intensive desegregation, as evidenced by their slower elimination of all-black schools (all-black schools persisted through 1976 primarily in top-decile fraction black districts) and higher rate of court supervision in later years. The fact that blacker districts did not lag nearly

[47] To say that the role of courts has been overemphasized is not to say that the courts had no role in Southern desegregation. Indeed, we have presented evidence that courts may have been important in reducing dissimilarity in large urban districts and in heavily black districts that resisted intensive desegregation.

so much in desegregation on the extensive margin suggests that whites in such districts were not more opposed to desegregation in principle; rather, they were opposed to significant exposure to black students.

Finally, poorer districts lagged substantially in allowing *any* desegregation by 1964—suggesting they had stronger segregationist preferences. But poorer districts were particularly likely to desegregate over the following two years and had caught up by 1966, suggesting such preferences could be overcome with money—that is, the financial incentives under CRA and ESEA may have been important. Explaining desegregation activity before 1966 in particular has received little attention relative to later years and warrants further attention; we plan to pursue this in future work.

This contribution to the historical record is particularly timely. Half a century after *Brown*, the Supreme Court's ruling in *Parents Involved in Community Schools v. Seattle School District #1*[48] has changed the legal question from what school districts *must* do to desegregate their schools to what school districts *may* do, declaring that school districts can no longer use race as a "tie-breaker" in assigning students to oversubscribed elementary and secondary schools. The extent to which districts will be legally permitted to enforce desegregation plans beyond freedom of choice plans after this ruling is unclear,[49] and it is too soon to empirically identify the impact of the ruling. It is also unclear whether ESEA Title I funds could be used to enforce a new interpretation of CRA prohibiting race-based school assignment formulas. Our historical heterogeneity results are relevant in considering how districts will respond to the decision already

[48] Parents Involved in Cmty. Schs. v. Seattle Sch. Dist. #1, 2007 WL 1836531,551 U.S. --- (2007).
[49] The plurality decision is clear that race cannot be used at all as a factor, but Justice Kennedy, concurring with the judgment, concurred with only parts of the decision, leaving considerable uncertainty in the interpretation of the ruling.

issued, and how they might respond to enforcement by withholding Title I funds. Would the same types of districts who accepted desegregation most readily in the twentieth century be leaders in innovative approaches to maintaining desegregation without using race as a factor in school assignment (for example, through strategic use of magnet or charter schools), or have preferences and their correlation with demographics changed significantly? Might existing district-level school choice measures be more important than demographics in predicting desegregation in the future? In any case, our findings suggest that district-level variation in compliance with any change in the law—and in overall segregation levels following the rulings—is likely to be substantial.

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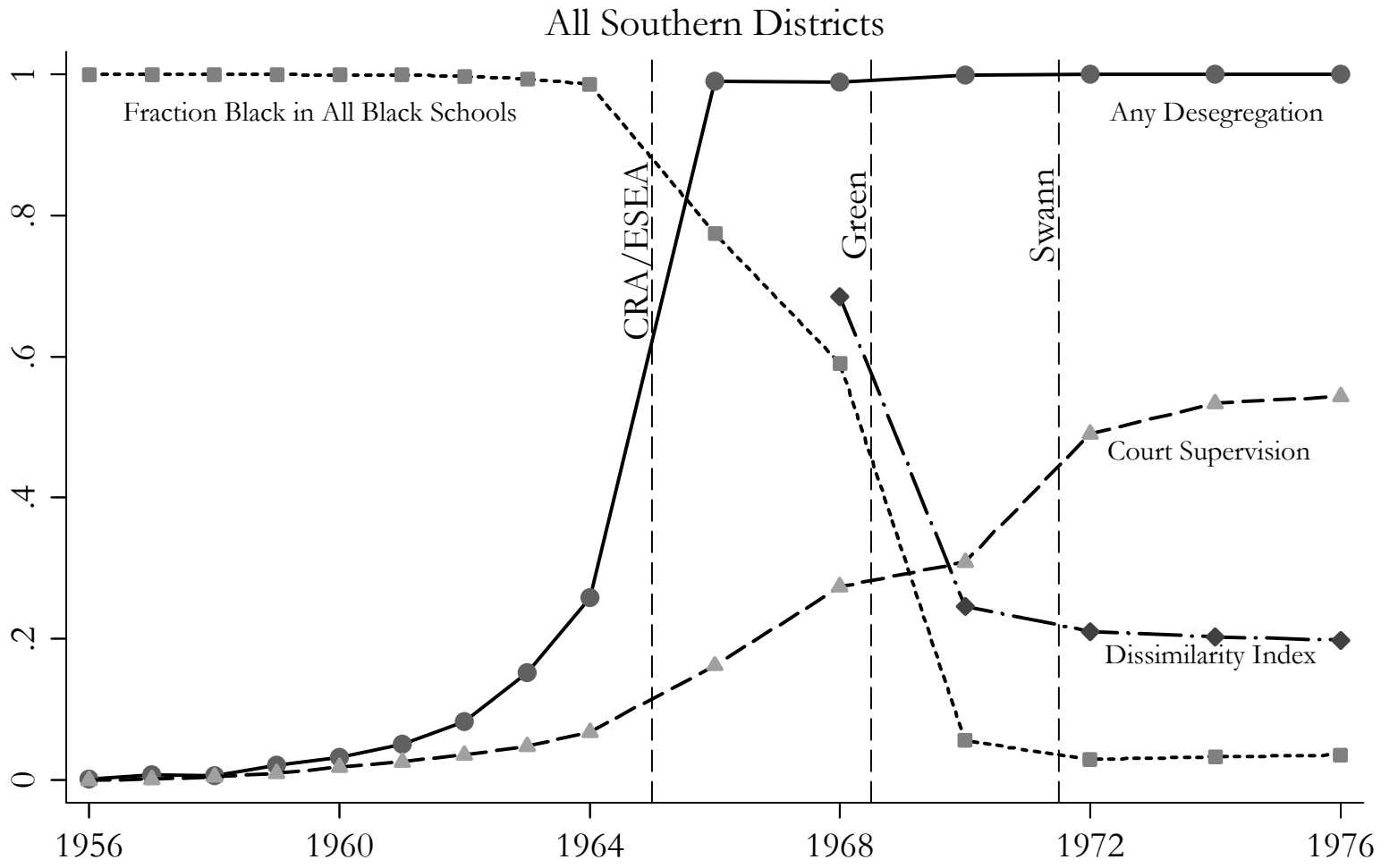
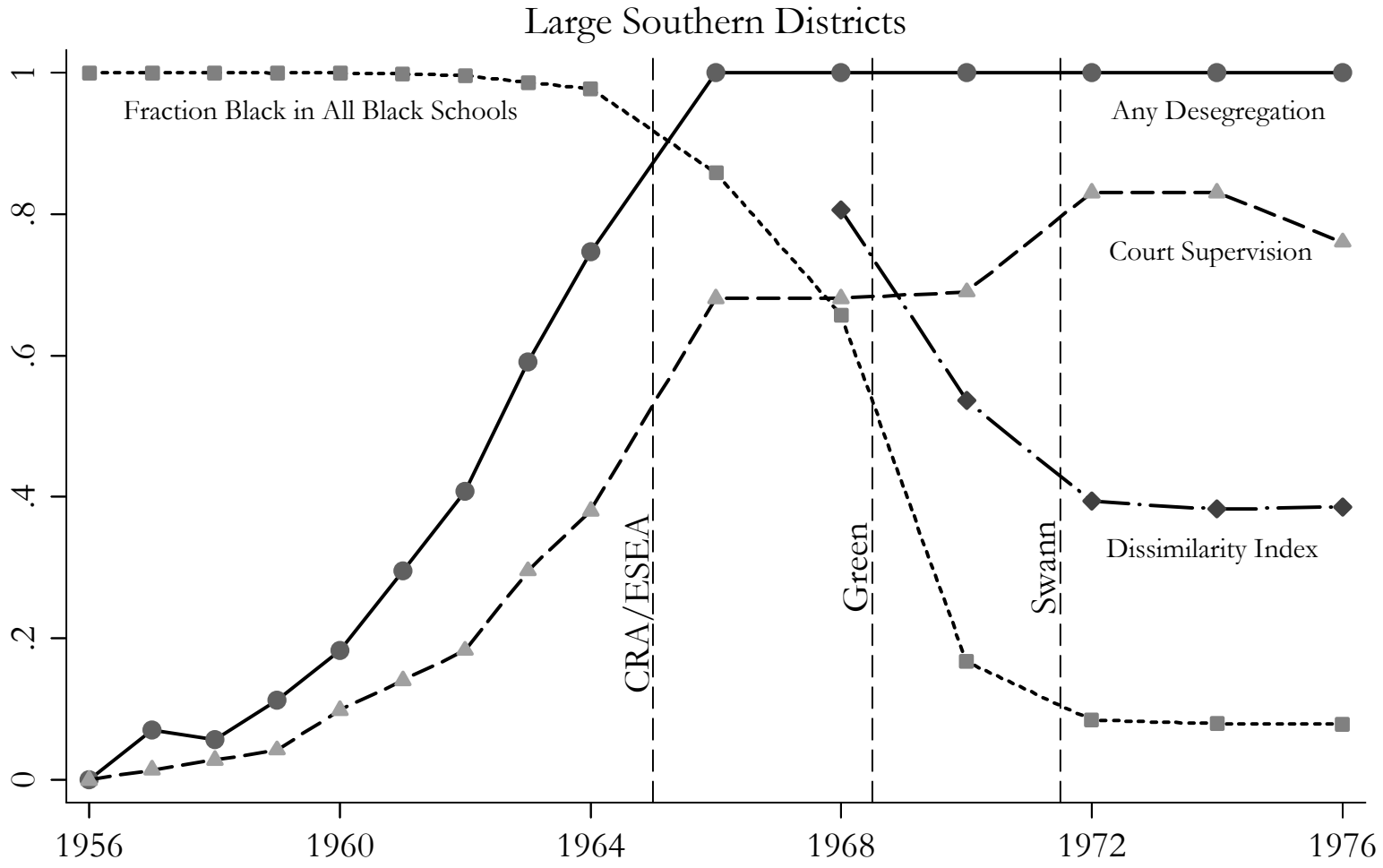
Figure 1. School Desegregation and Court Supervision



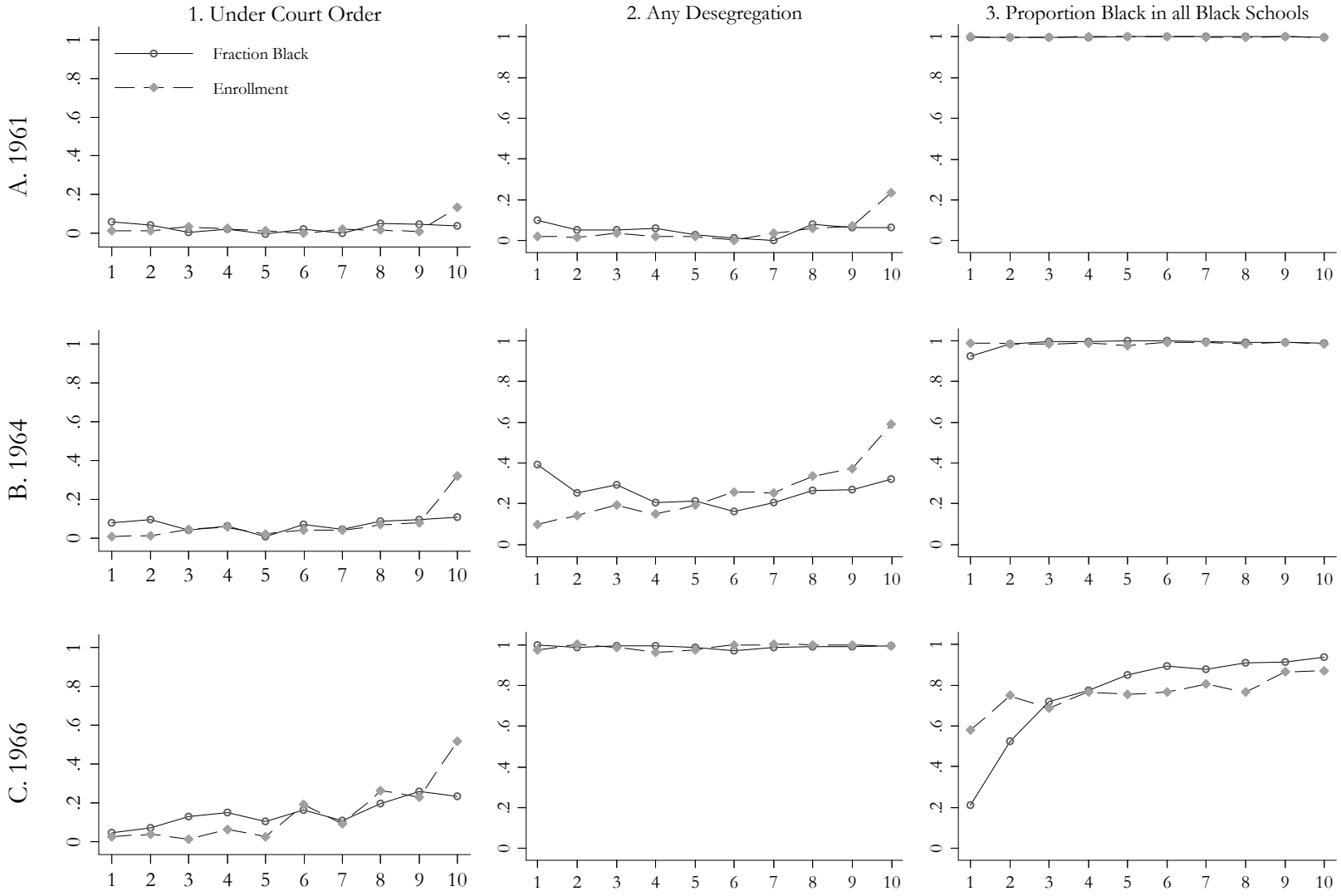
Notes: Authors' calculations based on Southern Education Reporting Service, Department of Health Education and Welfare, and Office of Civil Rights data. See Appendix A for details.

Figure 2. Desegregation and Court Supervision



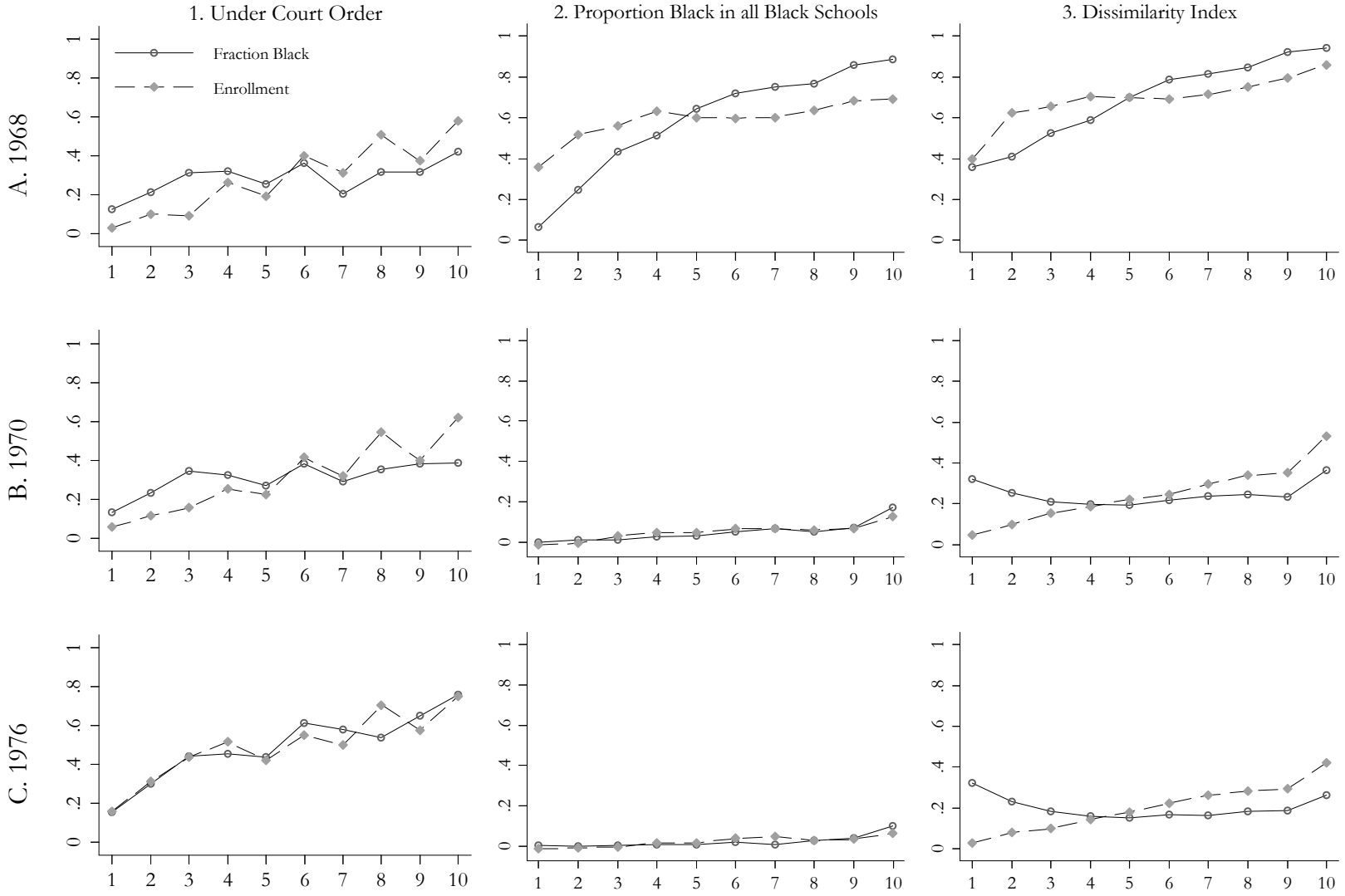
Notes: Authors' calculations based on Southern Education Reporting Service, Department of Health Education and Welfare, and Office of Civil Rights data. Sample includes 71 districts averaging enrollment more than 15,000 students in 1960-1963.

Figure 3. Desegregation Outcomes By Decile: 1961-66



Notes: Each panel presents results from a single regression with the outcome indicated as the dependent variable and fraction poor, urban, and deciles in fraction black and enrollment as explanatory variables (Equation 2). Graphs present the coefficients on the fraction black and enrollment deciles. Coefficients have been rescaled so that the average of the coefficients is equal to the average of the dependent variable in the sample. See tables in Appendix C for all the coefficients and standards errors.

Figure 4. Desegregation Outcomes By Decile: 1968-76



Notes: See Figure 3.

Table 1 - Comparison of Southern, Border, and Other States

Variable	Sampled States	All South	Border	Other
Fraction of 5-17 Year Olds in 1960:				
Black	0.307	0.309	0.242	0.083
	(0.075)	(0.111)	(0.252)	(0.024)
Living in Families with <$2000 Annual Income	0.234	0.243	0.139	0.081
	(0.055)	(0.077)	(0.056)	(0.013)
Residing in Urban Areas	0.492	0.501	0.663	0.757
	(0.116)	(0.140)	(0.245)	(0.105)
Racial Segregation of Public Schools:				
Fraction of Blacks in All-Black Schools, 1964	0.984	0.979	0.431	-
	(0.019)	(0.027)	(0.190)	
Share of Black 5-17 Year Olds in 1960:				
in Southern and Border Region	0.679	0.86	0.14	-
in United States	0.451	0.571	0.093	0.336
Number of States	9	11	7	30

Notes: Data are taken from the integrated public-use microdata sample of the 1960 Census (Ruggles et al., 2004), Southern Education Reporting Service (1967), and U.S. Senate (1965). (See Appendix Table A for further description of sources.) Underlying data are aggregated to the state level and statistics are weighted by the number of blacks aged 5 ato 17 in the state in 1960. The sampled states are Alabama, Arkansas, Florida, Georgia, Louisiana, North Carolina, South Carolina, Tennessee, and Virginia; the South includes these states as well as Mississippi and Texas. Border states are Delaware, Kentucky, Maryland, Missouri, Oklahoma, Washington, D.C., and West Virginia.

Table 2 - Sample Characteristics

	Mean	SD	Minimum	Maximum	N
	District Characteristics				
Enrollment, early 1960s (ENROLL)	7,444	14,075	94	205,363	924
Fraction black, early 1960s (FRACBLACK)	0.359	0.201	0.031	0.979	924
Fraction poor, early 1960s (FRACPOOR)	0.331	0.178	0.000	0.956	924
Majority urban, 1969 (URBAN)	0.342				924
	Segregation Measures				
Fraction black in all black schools, 1964	0.986	0.065	0	1	908
Fraction black in all black schools, 1968	0.588	0.374	0	1	864
Fraction black in all black schools, 1976	0.022	0.091	0	0.891	825
Dissimilarity Index, 1968	0.689	0.290	0	1	864
Dissimilarity Index, 1976	0.201	0.173	0	0.891	825

Notes: Sample consists of all districts at least 3% black in the early 1960s with non-missing desegregation data in at least one year after 1965. See text and Appendix A for further details, including sources.

Table 3 - Predictors of Court Involvement and School Segregation, 1961

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable	Under CO (=1)	Desegregated (=1)	Fraction blacks in all black schools	Under CO (=1)	Desegregated (=1)	Fraction blacks in all black schools
Mean of dependent variable	0.0259	0.0507	0.9992	0.0259	0.0507	0.9992
s.d. of dependent variable	0.1589	0.2195	0.0063	0.1589	0.2195	0.0063
URBAN	0.0350***	0.0650***	-0.000902*	0.0255**	0.0555***	-0.000835*
	(0.012)	(0.015)	(0.00048)	(0.011)	(0.016)	(0.00046)
FRACPOOR	-0.0572**	-0.0737**	-0.000172	-0.0716**	-0.0979***	0.00165**
	(0.026)	(0.034)	(0.00076)	(0.029)	(0.038)	(0.00080)
FRACBLACK	-0.000996	-0.0277	0.00379**			
	(0.032)	(0.037)	(0.0016)			
LN ENROLL	0.0196***	0.0478***	-0.000281			
	(0.0071)	(0.0091)	(0.00025)			
FRACBLACK: 2nd decile				-0.0193	-0.0474	0.00301
				(0.035)	(0.041)	(0.0019)
FRACBLACK: 3rd decile				-0.0584**	-0.0472	0.00341*
				(0.029)	(0.039)	(0.0018)
FRACBLACK: 4th decile				-0.0413	-0.0376	0.00340**
				(0.030)	(0.040)	(0.0017)
FRACBLACK: 5th decile				-0.0652***	-0.0707*	0.00403**
				(0.025)	(0.037)	(0.0017)
FRACBLACK: 6th decile				-0.0386	-0.0860**	0.00421**
				(0.029)	(0.035)	(0.0017)
FRACBLACK: 7th decile				-0.0586**	-0.100***	0.00407**
				(0.025)	(0.031)	(0.0017)
FRACBLACK: 8th decile				-0.0121	-0.0184	0.00370**
				(0.032)	(0.039)	(0.0017)
FRACBLACK: 9th decile				-0.0148	-0.0370	0.00364**
				(0.028)	(0.032)	(0.0016)
FRACBLACK: 10th decile				-0.0238	-0.0367	0.00332**
				(0.024)	(0.029)	(0.0016)
ENROLL: 2nd decile				0.000592	-0.00698	-0.000418
				(0.010)	(0.011)	(0.00074)
ENROLL: 3rd decile				0.0217	0.0132	-0.00136
				(0.018)	(0.019)	(0.0012)
ENROLL: 4th decile				0.0110	-0.00129	0.000342
				(0.015)	(0.016)	(0.00026)
ENROLL: 5th decile				-0.000518	-0.00243	0.000188
				(0.012)	(0.016)	(0.00038)
ENROLL: 6th decile				-0.0117**	-0.0196***	0.000398*
				(0.0046)	(0.0070)	(0.00021)
ENROLL: 7th decile				0.00772	0.0127	-0.000233
				(0.010)	(0.014)	(0.00032)
ENROLL: 8th decile				0.00329	0.0382*	-0.000850
				(0.011)	(0.023)	(0.00060)
ENROLL: 9th decile				-0.00174	0.0494*	0.000315
				(0.012)	(0.026)	(0.00036)
ENROLL: 10th decile				0.123***	0.212***	-0.00168
				(0.036)	(0.045)	(0.0010)
Constant	-0.147**	-0.366***	1.002***	0.0351	0.0504*	0.997***
	(0.057)	(0.073)	(0.0021)	(0.024)	(0.029)	(0.0016)
N	927	927	924	927	927	924
R^2	0.05	0.12	0.03	0.10	0.16	0.06

Notes: See text for description of sources, variables, and specifications. Heteroskedasticity-robust standard errors are in parentheses. *** significant at 1% level, ** significant at 5% level, ** significant at 10% level

Table 4 - Effects of Urbanicity and Poverty on Desegregation and Court Supervision, 1961-1976

Year	1961	1964	1966	1968	1970	1976
Panel A			Dependent Variable: Under Court Order (=1)			
Mean of dependent variable	0.0259	0.0680	0.1456	0.2854	0.3090	0.4924
s.d. of dependent variable	0.1589	0.2518	0.3529	0.4519	0.4623	0.5002
URBAN	0.0255**	0.0199	0.0706***	0.117***	0.0829**	0.0362
	(0.011)	(0.016)	(0.025)	(0.035)	(0.035)	(0.038)
FRACPOOR	-0.0716**	-0.0959**	-0.139*	0.198*	0.235**	0.217*
	(0.029)	(0.046)	(0.082)	(0.12)	(0.12)	(0.13)
N	927	927	927	834	903	924
R^2	0.10	0.15	0.24	0.19	0.17	0.21
Panel B		Dependent variable: Desegregated (=1)			Dependent variable: Dissimilarity index	
Mean of dependent variable	0.0507	0.2581	0.9904	0.6891	0.2471	0.2013
s.d. of dependent variable	0.2195	0.4378	0.0976	0.2896	0.2108	0.1731
URBAN	0.0555***	0.119***	0.00583	0.00732	0.0190	-0.0266***
	(0.016)	(0.033)	(0.0075)	(0.016)	(0.013)	(0.0099)
FRACPOOR	-0.0979***	-0.518***	-0.0222	0.102*	-0.0477	0.0309
	(0.038)	(0.093)	(0.031)	(0.060)	(0.046)	(0.034)
N	927	926	832	864	898	825
R^2	0.16	0.25	0.03	0.56	0.43	0.46
Panel C			Dependent variable: Fraction of black students in all black schools			
Mean of dependent variable	0.9992	0.9858	0.7608	0.5879	0.0503	0.0909
s.d. of dependent variable	0.0063	0.0649	0.3227	0.3738	0.1508	0.0215
URBAN	-0.000835*	-0.0127**	-0.0496***	0.00713	0.0123	0.00808*
	(0.00046)	(0.0053)	(0.019)	(0.022)	(0.010)	(0.0046)
FRACPOOR	0.00165**	0.0341**	0.0655	0.181**	0.00132	0.0425*
	(0.00080)	(0.014)	(0.056)	(0.078)	(0.043)	(0.024)
N	924	910	784	864	898	825
R^2	0.06	0.15	0.54	0.54	0.13	0.16

Notes: All specifications include the full vectors of decile dummies for fraction black and enrollment; estimates of the complete specification are shown in Appendix Tables C1 through C5. Robust standard errors are in parentheses. *** significant at 1% level, ** significant at 5% level, ** significant at 10% level

Appendix Table A1 - District Characteristics by Year and Sample

	1961	1964	1966	1968	1970	1976
	Observed in raw data with all pre-existing characteristics:					
COURTORDER	0.024	0.060	0.115	0.259	0.291	0.535
DESEG	0.049	0.252	0.981	0.991	0.999	1.000
FRACALLBLACKSCH	0.997	0.967	0.699	0.526	0.046	0.020
DISSIM				0.659	0.265	0.210
ENROLL	6704	6705	7086	7375	7291	7633
FRACBLACK	0.305	0.304	0.309	0.319	0.331	0.361
FRACPOOR	0.332	0.332	0.326	0.327	0.330	0.338
URBAN	0.311	0.311	0.322	0.335	0.322	0.337
N (DESEG)	1,114	1,113	918	973	1,003	893
N (FRACALLBL, DISSIM)	1,111	1,094	890	970	998	881
	Satisfies sample criteria, no imputation:					
COURTORDER	0.026	0.067	0.130	0.287	0.310	0.545
DESEG	0.051	0.257	1.000	0.991	0.999	1.000
FRACALLBLACKSCH	0.999	0.986	0.763	0.588	0.050	0.022
DISSIM				0.689	0.247	0.201
ENROLL	7444	7446	7564	7751	7593	7865
FRACBLACK	0.359	0.359	0.351	0.356	0.363	0.382
FRACPOOR	0.331	0.330	0.326	0.327	0.331	0.341
URBAN	0.342	0.341	0.346	0.354	0.342	0.340
N (DESEG)	924	923	795	864	901	835
N (FRACALLBL, DISSIM)	921	908	780	864	898	825
	Satisfies sample criteria, with imputation (1966-68 only):					
COURTORDER	0.026	0.067	0.150	0.287	0.310	0.545
DESEG	0.051	0.257	0.990	0.990	0.999	1.000
FRACALLBLACKSCH	0.999	0.986	0.763	0.588	0.050	0.022
DISSIM				0.689	0.247	0.201
ENROLL	7444	7446	7851	7735	7593	7865
FRACBLACK	0.359	0.359	0.351	0.357	0.363	0.382
FRACPOOR	0.331	0.330	0.323	0.328	0.331	0.341
URBAN	0.342	0.341	0.356	0.353	0.342	0.340
N (DESEG)	924	923	828	867	901	835
N (FRACALLBL, DISSIM)	921	908	780	864	898	825

Appendix Table A2 - Number of Districts by State, by Year and Dependent Variable

	1961	1964	1966	1968	1970	1976
	COURTORDER observations, with all pre-existing characteristics:					
Alabama	97	97	72	91	91	97
Arkansas	138	137	113	119	132	125
Florida	65	65	62	61	64	56
Georgia	165	165	141	131	164	158
Lousiana	64	64	51	55	64	64
North Carolina	122	122	120	121	120	108
South Carolina	92	92	91	81	92	92
Tennessee	79	79	79	74	76	56
Virginia	105	105	103	99	100	81
	DESEG and DISSIM observations, with all pre-existing characteristics:					
	DESEG	DESEG	DESEG	DISSIM	DISSIM	DISSIM
Alabama	97	97	72	92	90	94
Arkansas	138	137	113	125	132	124
Florida	65	65	62	61	64	56
Georgia	165	165	141	148	164	158
Lousiana	64	64	51	57	64	64
North Carolina	122	122	120	121	119	107
South Carolina	92	92	91	87	91	91
Tennessee	79	79	79	74	76	55
Virginia	105	105	103	99	98	76
	FRACALLBLACKSCH observations, with all pre-existing characteristics:					
Alabama	97	97	63	92	90	94
Arkansas	138	137	105	125	132	124
Florida	65	65	59	61	64	56
Georgia	165	165	130	148	164	158
Lousiana	64	64	49	57	64	64
North Carolina	119	114	118	121	119	107
South Carolina	92	89	88	87	91	91
Tennessee	79	77	79	74	76	55
Virginia	105	102	93	99	98	76

Appendix Table B - Cutpoints of deciles of pre-existing district characteristics

	(1)	(2)	(3)	(4)
	Minimum	Maximum	Minimum	Maximum
Decile	Fraction black, early 1960s		Enrollment, early 1960s	
1st	0.031	0.095	94	1,038
2nd	0.098	0.159	1,048	1,633
3rd	0.159	0.225	1,648	2,303
4th	0.225	0.279	2,309	2,950
5th	0.279	0.343	2,958	3,870
6th	0.343	0.408	3,870	4,896
7th	0.409	0.467	4,898	6,274
8th	0.468	0.549	6,290	8,166
9th	0.550	0.638	8,171	13,387
10th	0.642	0.979	13,416	205,363

Appendix Table C1 - Predictors of Court Involvement and School Segregation, 1964

	(1)	(2)	(3)
Dependent variable	Under CO (=1)	Desegregated (=1)	Percent blacks in all black schools
Mean of dependent variable	0.0680	0.2581	0.9858
s.d. of dependent variable	0.2518	0.4378	0.0649
URBAN	0.0199	0.119***	-0.0127**
	(0.016)	(0.033)	(0.0053)
FRACPOOR	-0.0959**	-0.518***	0.0341**
	(0.046)	(0.093)	(0.014)
FRACBLACK: 2nd decile	0.0150	-0.137**	0.0613***
	(0.043)	(0.066)	(0.019)
FRACBLACK: 3rd decile	-0.0381	-0.0975	0.0699***
	(0.038)	(0.067)	(0.019)
FRACBLACK: 4th decile	-0.0168	-0.184***	0.0701***
	(0.040)	(0.064)	(0.019)
FRACBLACK: 5th decile	-0.0706**	-0.176***	0.0764***
	(0.034)	(0.066)	(0.019)
FRACBLACK: 6th decile	-0.0109	-0.230***	0.0755***
	(0.036)	(0.059)	(0.019)
FRACBLACK: 7th decile	-0.0350	-0.183***	0.0707***
	(0.034)	(0.061)	(0.018)
FRACBLACK: 8th decile	0.00895	-0.123*	0.0689***
	(0.040)	(0.064)	(0.018)
FRACBLACK: 9th decile	0.0148	-0.122**	0.0687***
	(0.037)	(0.062)	(0.018)
FRACBLACK: 10th decile	0.0269	-0.0697	0.0644***
	(0.037)	(0.064)	(0.017)
ENROLL: 2nd decile	0.00512	0.0437	-0.00459
	(0.014)	(0.040)	(0.0085)
ENROLL: 3rd decile	0.0367*	0.0926**	-0.00539
	(0.021)	(0.043)	(0.0065)
ENROLL: 4th decile	0.0478**	0.0489	-0.00133
	(0.024)	(0.040)	(0.0070)
ENROLL: 5th decile	0.0135	0.0935**	-0.0125
	(0.017)	(0.044)	(0.011)
ENROLL: 6th decile	0.0329	0.158***	0.00231
	(0.023)	(0.049)	(0.0049)
ENROLL: 7th decile	0.0312*	0.155***	0.00317
	(0.019)	(0.046)	(0.0037)
ENROLL: 8th decile	0.0619**	0.235***	-0.00661
	(0.027)	(0.053)	(0.0070)
ENROLL: 9th decile	0.0701**	0.274***	0.00347
	(0.030)	(0.054)	(0.0057)
ENROLL: 10th decile	0.313***	0.489***	-0.00653
	(0.050)	(0.058)	(0.0081)
Constant	0.0108	0.191***	0.930***
	(0.029)	(0.054)	(0.018)
N	927	926	910
R^2	0.15	0.25	0.15

Notes: Heteroskedasticity-robust standard errors are in parentheses. *** significant at 1% level, ** significant at 5% level, ** significant at 10% level

Appendix Table C2 - Predictors of Court Involvement and School Segregation, 1966

	(1)	(2)	(3)
Dependent variable	Under CO (=1)	Desegregated (=1)	Percent blacks in all black schools
Mean of dependent variable	0.1456	0.9904	0.7608
s.d. of dependent variable	0.3529	0.0976	0.3227
URBAN	0.0706***	0.00583	-0.0496***
	(0.025)	(0.0075)	(0.019)
FRACPOOR	-0.139*	-0.0222	0.0655
	(0.082)	(0.031)	(0.056)
FRACBLACK: 2nd decile	0.0276	-0.0128	0.313***
	(0.042)	(0.012)	(0.049)
FRACBLACK: 3rd decile	0.0840**	-0.00107	0.506***
	(0.042)	(0.0025)	(0.043)
FRACBLACK: 4th decile	0.107**	-0.00136	0.563***
	(0.045)	(0.0025)	(0.040)
FRACBLACK: 5th decile	0.0615	-0.0129	0.635***
	(0.043)	(0.013)	(0.036)
FRACBLACK: 6th decile	0.118***	-0.0256	0.680***
	(0.043)	(0.017)	(0.035)
FRACBLACK: 7th decile	0.0622	-0.00932	0.665***
	(0.039)	(0.012)	(0.037)
FRACBLACK: 8th decile	0.152***	-0.00522	0.695***
	(0.045)	(0.012)	(0.037)
FRACBLACK: 9th decile	0.213***	-0.00762	0.701***
	(0.049)	(0.013)	(0.038)
FRACBLACK: 10th decile	0.189***	-0.00128	0.723***
	(0.049)	(0.020)	(0.037)
ENROLL: 2nd decile	0.0132	0.0260	0.170***
	(0.027)	(0.020)	(0.039)
ENROLL: 3rd decile	-0.0122	0.0123	0.108**
	(0.019)	(0.024)	(0.045)
ENROLL: 4th decile	0.0396	-0.0126	0.188***
	(0.032)	(0.030)	(0.042)
ENROLL: 5th decile	0.00168	-0.000284	0.175***
	(0.024)	(0.026)	(0.041)
ENROLL: 6th decile	0.166***	0.0240	0.188***
	(0.042)	(0.020)	(0.040)
ENROLL: 7th decile	0.0676**	0.0249	0.228***
	(0.033)	(0.019)	(0.041)
ENROLL: 8th decile	0.237***	0.0247	0.188***
	(0.047)	(0.020)	(0.041)
ENROLL: 9th decile	0.205***	0.0231	0.287***
	(0.045)	(0.021)	(0.040)
ENROLL: 10th decile	0.493***	0.0185	0.292***
	(0.057)	(0.024)	(0.042)
Constant	-0.101***	0.982***	0.0563
	(0.031)	(0.017)	(0.043)
N	927	832	784
R^2	0.24	0.03	0.54

Appendix Table C3 - Predictors of Court Involvement and School Segregation, 1968

	(1)	(2)	(3)
Dependent variable	Under CO (=1)	Percent blacks in all black schools	Dissimilarity index
Mean of dependent variable	0.2854	0.5879	0.6891
s.d. of dependent variable	0.4519	0.3738	0.2896
URBAN	0.117***	0.00713	0.00732
	(0.035)	(0.022)	(0.016)
FRACPOOR	0.198*	0.181**	0.102*
	(0.12)	(0.078)	(0.060)
FRACBLACK: 2nd decile	0.0867	0.181***	0.0511*
	(0.056)	(0.036)	(0.028)
FRACBLACK: 3rd decile	0.186***	0.369***	0.168***
	(0.060)	(0.037)	(0.030)
FRACBLACK: 4th decile	0.198***	0.451***	0.231***
	(0.059)	(0.036)	(0.029)
FRACBLACK: 5th decile	0.129**	0.580***	0.341***
	(0.060)	(0.035)	(0.028)
FRACBLACK: 6th decile	0.238***	0.654***	0.429***
	(0.058)	(0.035)	(0.026)
FRACBLACK: 7th decile	0.0786	0.685***	0.456***
	(0.059)	(0.034)	(0.026)
FRACBLACK: 8th decile	0.194***	0.702***	0.487***
	(0.061)	(0.036)	(0.027)
FRACBLACK: 9th decile	0.192***	0.794***	0.562***
	(0.061)	(0.033)	(0.025)
FRACBLACK: 10th decile	0.296***	0.821***	0.584***
	(0.071)	(0.037)	(0.031)
ENROLL: 2nd decile	0.0747*	0.161***	0.223***
	(0.044)	(0.049)	(0.042)
ENROLL: 3rd decile	0.0628	0.205***	0.255***
	(0.041)	(0.048)	(0.042)
ENROLL: 4th decile	0.235***	0.276***	0.304***
	(0.058)	(0.047)	(0.043)
ENROLL: 5th decile	0.166***	0.243***	0.299***
	(0.051)	(0.047)	(0.042)
ENROLL: 6th decile	0.375***	0.242***	0.293***
	(0.057)	(0.044)	(0.040)
ENROLL: 7th decile	0.285***	0.246***	0.315***
	(0.055)	(0.045)	(0.040)
ENROLL: 8th decile	0.481***	0.280***	0.352***
	(0.058)	(0.044)	(0.040)
ENROLL: 9th decile	0.348***	0.328***	0.397***
	(0.057)	(0.044)	(0.040)
ENROLL: 10th decile	0.555***	0.334***	0.459***
	(0.064)	(0.047)	(0.041)
Constant	-0.183***	-0.172***	0.0615*
	(0.045)	(0.039)	(0.037)
N	834	864	864
R^2	0.19	0.54	0.56

Notes: Heteroskedasticity-robust standard errors are in parentheses. *** significant at 1% level, ** significant at 5% level, ** significant at 10% level

Appendix Table C4 - Predictors of Court Involvement and School Segregation, 1970

	(1)	(2)	(3)
Dependent variable	Under CO (=1)	Percent blacks in all black schools	Dissimilarity index
Mean of dependent variable	0.3090	0.0503	0.2471
s.d. of dependent variable	0.4623	0.1508	0.2108
URBAN	0.0829**	0.0123	0.0190
	(0.035)	(0.010)	(0.013)
FRACPOOR	0.235**	0.00132	-0.0477
	(0.12)	(0.043)	(0.046)
FRACBLACK: 2nd decile	0.101*	0.0128	-0.0679***
	(0.059)	(0.011)	(0.021)
FRACBLACK: 3rd decile	0.213***	0.0127	-0.111***
	(0.062)	(0.010)	(0.021)
FRACBLACK: 4th decile	0.192***	0.0286**	-0.123***
	(0.059)	(0.013)	(0.021)
FRACBLACK: 5th decile	0.136**	0.0339**	-0.126***
	(0.058)	(0.014)	(0.022)
FRACBLACK: 6th decile	0.248***	0.0547***	-0.103***
	(0.058)	(0.016)	(0.023)
FRACBLACK: 7th decile	0.158**	0.0694***	-0.0843***
	(0.062)	(0.020)	(0.026)
FRACBLACK: 8th decile	0.221***	0.0552***	-0.0751***
	(0.061)	(0.016)	(0.024)
FRACBLACK: 9th decile	0.250***	0.0737***	-0.0858***
	(0.062)	(0.017)	(0.022)
FRACBLACK: 10th decile	0.252***	0.175***	0.0422
	(0.068)	(0.032)	(0.033)
ENROLL: 2nd decile	0.0587	0.00676	0.0504***
	(0.052)	(0.015)	(0.019)
ENROLL: 3rd decile	0.101**	0.0422**	0.107***
	(0.051)	(0.020)	(0.022)
ENROLL: 4th decile	0.196***	0.0589***	0.138***
	(0.055)	(0.021)	(0.022)
ENROLL: 5th decile	0.170***	0.0580***	0.175***
	(0.053)	(0.020)	(0.020)
ENROLL: 6th decile	0.358***	0.0792***	0.199***
	(0.058)	(0.018)	(0.020)
ENROLL: 7th decile	0.262***	0.0794***	0.248***
	(0.057)	(0.021)	(0.022)
ENROLL: 8th decile	0.488***	0.0732***	0.292***
	(0.059)	(0.017)	(0.019)
ENROLL: 9th decile	0.343***	0.0785***	0.303***
	(0.060)	(0.017)	(0.018)
ENROLL: 10th decile	0.565***	0.140***	0.482***
	(0.065)	(0.020)	(0.025)
Constant	-0.157***	-0.0688***	0.113***
	(0.049)	(0.011)	(0.019)
N	903	898	898
R^2	0.17	0.13	0.43

Notes: Heteroskedasticity-robust standard errors are in parentheses. *** significant at 1% level, ** significant at 5% level, ** significant at 10% level

Appendix Table C5 - Predictors of Court Involvement and School Segregation, 1976

	(1)	(2)	(3)
Dependent variable	Under CO (=1)	Percent blacks in all black schools	Dissimilarity index
Mean of dependent variable	0.4924	0.0909	0.2013
s.d. of dependent variable	0.5002	0.0215	0.1731
URBAN	0.0362	0.00808*	-0.0266***
	(0.038)	(0.0046)	(0.0099)
FRACPOOR	0.217*	0.0425*	0.0309
	(0.13)	(0.024)	(0.034)
FRACBLACK: 2nd decile	0.143**	-0.000253	-0.0926***
	(0.059)	(0.0045)	(0.028)
FRACBLACK: 3rd decile	0.288***	0.00199	-0.140***
	(0.063)	(0.0052)	(0.028)
FRACBLACK: 4th decile	0.300***	0.00702	-0.163***
	(0.060)	(0.0070)	(0.027)
FRACBLACK: 5th decile	0.281***	0.00633	-0.173***
	(0.061)	(0.0053)	(0.026)
FRACBLACK: 6th decile	0.457***	0.0161**	-0.156***
	(0.061)	(0.0072)	(0.027)
FRACBLACK: 7th decile	0.425***	0.00774	-0.161***
	(0.062)	(0.0061)	(0.028)
FRACBLACK: 8th decile	0.382***	0.0267**	-0.142***
	(0.065)	(0.011)	(0.029)
FRACBLACK: 9th decile	0.497***	0.0388***	-0.137***
	(0.063)	(0.013)	(0.029)
FRACBLACK: 10th decile	0.603***	0.0968***	-0.0587*
	(0.066)	(0.018)	(0.032)
ENROLL: 2nd decile	0.151**	0.00440	0.0494***
	(0.067)	(0.0065)	(0.012)
ENROLL: 3rd decile	0.276***	0.0110*	0.0693***
	(0.066)	(0.0064)	(0.015)
ENROLL: 4th decile	0.356***	0.0284***	0.114***
	(0.065)	(0.010)	(0.017)
ENROLL: 5th decile	0.261***	0.0306***	0.152***
	(0.063)	(0.011)	(0.015)
ENROLL: 6th decile	0.389***	0.0530***	0.193***
	(0.064)	(0.014)	(0.019)
ENROLL: 7th decile	0.340***	0.0610***	0.233***
	(0.064)	(0.016)	(0.018)
ENROLL: 8th decile	0.545***	0.0405***	0.252***
	(0.061)	(0.012)	(0.019)
ENROLL: 9th decile	0.415***	0.0482***	0.263***
	(0.067)	(0.013)	(0.017)
ENROLL: 10th decile	0.592***	0.0770***	0.391***
	(0.073)	(0.014)	(0.022)
Constant	-0.189***	-0.0400***	0.164***
	(0.056)	(0.0078)	(0.026)
N	924	825	825
R^2	0.21	0.16	0.46

Notes: Heteroskedasticity-robust standard errors are in parentheses. *** significant at 1% level, ** significant at 5% level, ** significant at 10% level

Data Appendix

I. Sources and Key Variables

Complete citations of all documents referenced below are provided under Data References.

A. Desegregation and Plan Type Data by School District, 1956-1964

For 1956 through 1964, we have hand-entered data on desegregation and plan type from print publications of the Southern Education Reporting Service (SERS), entitled *A Statistical Summary, State By State, of School Segregation-Desegregation in the Southern and Border Area from 1954 to the Present.*[1] These publications give, for all districts desegregated in policy or in practice,[2] the number of blacks attending public school with whites, the total number of black children enrolled in public schools, and whether desegregation was court-ordered or undertaken voluntarily by the local school board. Using these data, we are able to construct three outcome variables: an indicator set to one if the district has a court-ordered plan (*COURTORDER*), an indicator set to one if the district had any blacks enrolled in public schools with whites (*DESEG*), and the fraction of blacks attending all black schools (*FRACALLBLACKSCH*).

For districts not listed in these publications, we assume that *COURTORDER* and *DESEG* are equal to zero and *FRACALLBLACKSCH* is equal to one.[3] It is difficult to assess the credibility of this assumption, since no other agencies collected data on desegregation over the period of interest. SERS data collection strategy is also unclear: according to the 1964 publication, data "were supplied by agencies of the respective states," but the exact procedure is not described. However, since there were such low rates of desegregation during the period, it was most likely not very onerous to collect the data.[4] Two previous uses of SERS data also suggest the credibility of our assumption and the data collected by SERS more generally. First, SERS supplied desegregation data to the U.S. Commission on Civil Rights by contractual agreement (U.S. Commission on Civil Rights, 1966; p. 30). Second, the state-level summaries of desegregation activity are considered the best available data by social scientists and have been previously cited in academic research (e.g., Rosenberg, 1991; Orfield, 2000).

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[1] We use the data presented in the following versions of this publication: April 15, 1957 (for fall 1956), November 1957 (for fall 1957), October 1958 (for fall 1958), May 1960 (for fall 1959), November 1960 (for fall 1960), November 1961 (for fall 1961), November 1962 (for fall 1962), 1963-64 (for fall 1963), and November 1964 (for fall 1964). Prior to 1963-64, the relevant publication is entitled *A Statistical Summary, State-by-State, of Segregation-Desegregation Activity Affecting Southern Schools from 1954 to Present.*

[2] Districts desegregated in policy but not in practice had freedom of choice plans, where blacks' option to apply to white schools was not exercised, or court orders that had not yet taken effect.

[3] We compiled lists of districts by state and year from reports of district finances, enrollment, and other activities published by state departments of education (see Part D of Section I of this Appendix).

[4] High rates of desegregation may be why data collected by SERS for the Border region are less complete. It may also be the reason why SERS relied on a U.S. Office of Education Survey in 1966 (see Section I.B).

B. Plan Type Data by School District, 1966-1976

For December 1966 and September 1967, we have hand-entered information on school districts' compliance with Title VI of the Civil Rights Act from print publications of HEW entitled *Status of Compliance: Public School Districts, Seventeen Southern and Border States.*[5] These publications provide the type of plan submitted and whether the plan was approved by HEW for all school districts. We set *COURTORDER*=1 for districts with approved court-ordered plans and *COURTORDER*=0 for all other districts. For districts where plans were not approved as of the date of publication, information is provided on whether federal funds to the district have been deferred or terminated. We use this information to impute desegregation variables where missing in 1966 through 1968 (see Section III of this Appendix).

After 1968, compliance status is provided simultaneously with computer-coded microdata on enrollment by race in each of a district's schools, described below.[6]

C. Desegregation Data by School District, 1966-1976

For fall 1966, we have hand-entered information on the number of blacks attending public school with any whites from a print publication of SERS entitled *Statistical Summary of School Segregation-Desegregation in the Southern and Border States 1966-1967*.[7] Most of the data reported were from computer printouts provided to SERS by the Office of Education (OE) from its first survey of school desegregation in the South. The universe of the OE survey is not clear from published documents, but presumably included all districts in the South; SERS reports the response rate at 80 percent.[8] SERS correspondents were able to fill in data for some districts where data in the OE survey were missing. For all districts listed in this publication, we set *DESEG*=1 if any blacks are reported to be in school with whites. We also calculate *FRACALLBLACKSCH* by estimating the total number of blacks in the district with fall 1966 district enrollment times fraction black in the district in the early 1960s (see section D for sources); the total number of blacks in the district is not reported in the SERS publication.

For fall 1967, we have hand-entered information on enrollment by race at the school level from a print publication of the Office for Civil Rights (OCR) entitled *Directory, Public Elementary and Secondary Schools in Large School Districts With Enrollment and Instructional Staff, by Race: Fall 1967*. This survey included all districts "in 11 Southern states (AL, AR, FL, GA, LA, MS, NC, SC, TN, TX, VA) … that were in the process of desegregating their schools by voluntary plans or under court order to do so" and all districts with at least 3000 enrollment. The survey also included all districts in Tennessee and Texas, regardless of size or compliance status. We do not use the 1967 data directly in our analysis, but do use it to

[5] We have located no published data on plans submitted to HEW by school district for the 1965-66 year.
[6] For districts included in these samples, we identify districts under court order as those where the "assurance code" is equal to 3 (1968, 1970, and 1972) or where the "sample code" is equal to 6 (1976).
[7] We have located published data on desegregation for the 1965-66 year only for school districts in South Carolina and Tennessee.
[8] Twenty-six percent of districts in the states in our sample, and fourteen percent of districts in our sample, were not listed in the 1966 SERS publication. For some of these districts, we have been able to impute DESEG using data from adjacent years; see Section III.

impute desegregation variables where missing in a few cases in 1966 and 1968. We also use the 1967 data to calculate district fraction black where missing in some cases.
For fall 1968, fall 1970, fall 1972, and fall 1976, we use computer-coded microdata on enrollment by race at the school level from surveys conducted by OCR. These data were housed at UCLA and converted from binary to ascii format by Ben Denckla and Sarah Reber. Like the 1967 survey, the 1968, 1970, and 1972 surveys included all districts "eliminating racially dual school systems under terms of voluntary plan agreements with [HEW] or under Federal court order regardless of school district enrollment size" and all districts with at least 3000 enrollment. Unlike the 1967 survey, these surveys did not include all districts in Tennessee and Texas, regardless of size or compliance status. However, these surveys did include smaller districts with the following probabilities: 75% for districts with 1200 to 2999 students, 50% for districts with 600 to 1199 students, 25% for districts with 300-599 students, and 0% for districts with less than 300 students. In addition, the 1968 survey explicitly states that it omitted "ninety-five school districts with Federal funds terminated (as of August 1968) because of non-compliance with Title VI." We use the 1967 compliance data described above to identify districts likely to have been omitted from the survey on this basis. We then impute segregation variables for these districts; the imputation and its consequences for our estimation sample are described in Section III of this Appendix. The 1976 survey included districts of "high interest" to OCR, but otherwise sampled districts to permit estimates representative at the state level. Most districts in the South were sampled, and characteristics of districts are quite similar to those in previous years (see Section III of this Appendix).

Using these school level data collected by OCR, we are able to construct *DESEG*, *FRACALLBLACKSCH*, and the dissimilarity index, *DISSIM*. The formula for the dissimilarity index is

$$DISSIM \equiv \frac{\sum_s TOT_s \left| \%BL_s - \%BL \right|}{2 \times TOT \times \%BL \times (1 - \%BL)}$$

where TOT_s represents total enrollment in school s, TOT is total enrollment in the district, $\%BL_s$ represents percent black in school s, and $\%BL$ is percent black in the district.

D. Data on Public School Enrollment, Urban Share, and Child Poverty by School District

We have gathered data on total enrollment and enrollment by race at the school district level prior to 1964 from annual reports of state departments or superintendents of education. Data were entered from print publications.[9] We define *ENROLL* as average fall enrollment in the district between 1960 and 1963.[10] The years in which enrollment by race are available differ by state, so we average district fraction black across all available years between 1960

[9] Alabama Department of Education (various years), Arkansas Department of Education (various years), Florida State Superintendent of Public Instruction (various years), Georgia State Department of Education (various years), North Carolina Education Association (various years), South Carolina State Department of Education (various years), State Department of Education of Louisiana (various years), Tennessee Department of Education (various years), Virginia State Board of Education (various years).
[10] States report slightly different enrollment concepts in their annual reports, usually fall enrollment or registration, average daily membership or average daily attendance. We use the measure that is most consistently reported within the state over time.

and 1963 to arrive at *FRACBLACK*. For states where enrollment by race is not provided in these annual reports, we instead use the 1964 and 1966 SERS *Statistical Summaries* (North Carolina), 1960 county-level Census data on the racial breakdown of the population of 5 to 17 year olds (Florida, where district boundaries correspond to counties), or the 1967 OCR *Directory* data (Arkansas).

District-level poverty rates (*FRACPOOR*) are calculated in two steps. First, we estimate the number of Title I eligibles at the school district level as county-level Title I eligibles in 1965-66, times the fraction of the county Title I entitlement for which the district was eligible in 1965-66. County and school district figures were drawn from Congressional reports entitled *Maximum Basic Grants – Elementary and Secondary Education Act of 1965* (published September 1965) and *Notes and Working Papers Concerning the Administration of Programs Authorized Under Title I of Public Law 89-10, The Elementary and Secondary Education Act of 1965 As Amended By Public Law 89-750* (published May 1967), respectively. Because Title I eligibles were primarily determined by the number of 5 to 17 year olds living in families with incomes under $2000 as of the 1960 Census, we normalize this district-level figure with *ENROLL* to arrive at the district-level poverty rate employed in the analysis.[11]

Information on the share of the population residing in urban areas of each school district was primarily taken from the *1970 Census Fourth Count School District Data Tapes*, which we obtained from the National Archives. For all but a handful of districts, this file reports the share of the population living within the approximate boundaries of the school district which is urban according to the 1970 Census of Population. We set *URBAN*=1 for districts with urban population shares of at least 0.5; *URBAN*=0 otherwise. For the districts whose urban share was not reported in these data, we used a second source, the *City and County Data Book Consolidated File, County Data 1947-1977*, which reports urban share in each county (ICPSR Study No. 7736). With the combination of these two sources, it was possible to compute the urban share in each of the missing districts.[12] Urban share at the school district level is not available prior to the 1970 Census.

E. 1960 Census Microdata

The 1960 Census microdata used in Table 1 was obtained from the Integrated Public Use Microdata Samples (Ruggles et al, 2004).

II. School District Reorganization Activities

[11] This poverty measure is distinct from and predates the federal definition of poverty today.

[12] There are 19 districts in our sample whose urban population share could not be determined from the school district data book alone. Two of these districts' counties were entirely rural according the city and county data book, so it was inferred that these were rural school districts. For the other 17 districts, we imputed the urban share of the district from the "residual" urban share in the district's county (that is, the urban share in the district's county but outside any other observed districts in the county). In 11 cases, this residual area was entirely taken up by one district, so the imputed value should represent the actual urban share in that district. That leaves six other cases in which two districts were assigned the same urban share imputed from county-level information. These are Plum Bayou and Linwood in Jefferson County, Arkansas (urban share = 0.709); Willisville and Emmet in Nevada County, Arkansas (urban share = 0.383); Fountain Hill and Parkdale in Ashley County, Arkansas (urban share = 0.001).

School districts both consolidate and, less commonly, split apart during our sample period. We use the state records referenced above to establish a history of these reorganizations. For each year, we construct a crosswalk between the district (id) and the largest unit to which the district is party between 1961 and 1976 (agg_id). We then merge this crosswalk to each data set and collapse key variables (as described below) to the agg_id-year level. Thus, if districts A and B merge in 1970 to form district C, we will observe A and B jointly as one observation, geographically identical to district C, prior to 1970. And if district X splits into districts Y and Z in 1968, we will observe Y and Z jointly as one observation comparable to X beginning in 1968.

For indicator variables (*DESEG*, *COURTORDER*, *URBAN*), we aggregate to the agg_id-year level as follows. First, we set the value of the indicator for the agg_id equal to one if *any* districts associated with the agg_id are observed to have the indicator set to one. Second, if all districts associated with the agg_id are observed, and none have the indicator set to one, the indicator for the agg_id set to zero. Third, if not all districts associated with the agg_id are observed (as is sometimes the case in the 1966 SERS or OCR desegregation data), and all observed districts have the indicator set to zero, we code the indicator for the agg_id as missing. For example, in the 1966 SERS, we code an agg_id as desegregated (*DESEG*=1) if at least one of its ids is observed with any blacks in school with whites, not desegregated (*DESEG*=0) if all districts are observed and none are desegregated, and missing (*DESEG*=.) if no observed districts are desegregated, but not all districts are observed.

Numerical variables (*FRACALLBLACKSCH*, *DISSIM, ENROLL, FRACBLACK, FRACPOOR*) are coded as missing if not all ids associated with an agg_id are observed in the raw data. Where all districts are observed, we sum up all components of the variables (e.g., number of blacks attending desegregated schools, total enrollment, etc.), and calculate values for the agg_id accordingly. For example, in the 1966 SERS, we first calculate *FRACALLBLACKSCH* by first calculating the number of blacks attending all black schools and the total number of blacks across all districts in the agg_id. We then take the ratio of these sums.

Roughly 7.7 percent of our agg_id-year observations represent multiple districts at some point during the sample (71 aggregated districts out of a maximum of 924 aggregated districts under observation). Our findings are robust to omitting these observations. Tables and graphs limited to districts not re-organized between 1961 and 1976 are available from the authors on request.

III. Sample and Imputation

Our estimation sample consists of all districts for which key the explanatory variables are observed, black share in enrollment is at least 3 percent, and enrollment by race at each of the district's schools is observed in at least one year after 1965. Most districts lost from the sample must be omitted because they are not observed after 1965, not because we lack information on district characteristics.[13]

[13] As noted in the text, we lose 208 observations because pre-existing characteristics are not observed. One hundred eighty-five of these districts are in Arkansas, for which data constraints force us to impute fraction black from the 1967 OCR survey described above. The omission of these districts is unlikely to impart serious

The first panel of Appendix Table A1 shows characteristics of (aggregated) districts observed in each survey year and with non-missing data on all explanatory variables (*ENROLL*, *FRACBLACK*, *FRACPOOR*, *URBAN*). The second panel of the table shows characteristics for the sub-sample of these districts which are observed in at least one year after 1965 and are at least 3 percent black. Not surprisingly, districts that satisfy these sample criteria have higher black shares on average. They also have a slightly higher probability of being classified as urban (34.2 percent versus 31.1 percent in 1961) and have slightly higher enrollment (7,444 versus 6,704 in 1961).

Looking across each panel of Appendix Table A1, one sees that the size of our sample changes from year to year. The districts under observation also become slightly larger, blacker, and more urban; applying the OCR sampling weights to the full sample yields roughly the same pattern. We do not limit attention to a balanced panel because given the OCR sampling methodology, doing so would weight our entire sample toward districts more resistant to desegregation.

As also noted above, we have imputed desegregation variables where missing in some cases for 1966, 1967, and 1968 to minimize changes in sample composition. For districts not observed in the 1966 SERS, we imputed *DESEG*=0 if the district was observed in the 1967 OCR as fully segregated and *DESEG*=1 if the district was observed in the 1964 SERS as desegregated. For 1967 and 1968, we imputed key segregation measures (*FRACALLBLACKSCH*, *DISSIM*) with previous year values if missing and had federal funds terminated in 1966 and/or 1967, had federal funds deferred in both 1966 and 1967, or had federal funds deferred in 1967. As shown in the third panel of Appendix Table A1, the primary consequence of this imputation is to increase the number of observations on *DESEG* in 1966. Indeed, there is no change in the number of observations of desegregation on the intensive margin, suggesting that many of the same districts are consistently not observed over these years.

Appendix Table A2 shows the number of observations, by state, year, and dependent variable, with non-missing dependent variable values and data on all pre-existing characteristics used in our analysis.

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biases on our analysis, since the 1967 OCR survey covered all districts that were in the process of desegregating.

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