Description of Current Book Project
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Desegregation & (Un)Equal Opportunity:
The Long March from Brown to the Mobility of Brown’s Grandchildren

Overview

Over the past four decades, three major government interventions have substantially impacted the provision of school resources and have narrowed black-white differences in access to dimensions of school quality: 1) court-mandated school desegregation; 2) state legislation and legal action aimed to change the distribution and level of school funding; and 3) the expansion of early childhood pre-school programs for disadvantaged children through Head Start.

Court-ordered school desegregation has been described as the most controversial and ambitious social experiment of the past 50 years. Many view the drive to end segregated education and to put black and white children in the same classrooms as the most radical and potentially far-reaching aspect of the civil rights movement. Public schools were perhaps the most deeply entrenched segregated institution. Brown offered the hope and promise of better educational opportunities for minority children in the US, and was intended not only to promote equitable access to school quality, but to alter the attitudes and socialization of children -- beginning at the youngest ages. Despite the unprecedented changes that accompanied desegregation, no large-scale data collection effort was undertaken to investigate school desegregation program effects, particularly on longer-run outcomes. A motivation of this project is to attempt to quantify the extent to which progress was made in fulfillment of policy expectations and to evaluate the enduring impact of legal actions during the Civil Rights era. The results illuminate not only the catalytic role of the courts that set in motion one of the great social experiments of inclusion, but also the limitations of the courts as instruments of social change (when not in tandem with the other branches of government).

For this project, I obtained a comprehensive desegregation case inventory for the years between 1954 and 1990 that contains detailed information for every US school district that implemented a court-ordered desegregation plan, the year of the initial court order, and the type of desegregation court order. My proposed project analyzes the life trajectories of children who were born between 1950 and 1975 and have been followed through 2009, using data from the Panel Study of Income Dynamics. To these nationally-representative data, I link information from multiple data sources that contain detailed neighborhood attributes and school quality resources that prevailed at the time these children were growing up.¹ The implementation of court-ordered school desegregation plans and the “War on Poverty” policy initiatives (including Head Start) during the childhoods of these birth cohorts provide a unique opportunity to evaluate the long-run impacts of ground-breaking legislation designed to improve school resources for minority and poor children.
The empirical analysis makes three unique contributions by investigating: (1) non-racial integration aspects of court-ordered desegregation through its impacts on per-pupil spending and class size; (2) the effects of court-ordered desegregation plans of public schools on adult SES and health outcomes and attempts to separately identify the effects of neighborhood and school quality; and (3) the role of childhood school and neighborhood quality in contributing to socioeconomic and racial health disparities in adulthood. This work provides a broader view of the mechanisms by which access to dimensions of school quality inputs influence long-run outcomes. By examining life course effects of school desegregation across a broad range of subsequent outcomes, I attempt to shed light on the mechanisms through which differences in school quality translate into differences in adult outcomes. This project examines the role of education as the key propeller of upward mobility. The results highlight the significant impacts of educational attainment on future health status and risk of incarceration, and point to the importance of school quality in influencing socioeconomic mobility prospects, which in turn have far-reaching impacts on health. A substantial bulk of the analyses have already been completed and I have authored several journal articles from this project, but they are not in the form appropriate for a seamless book in which the whole is of far greater significance than the sum of its parts.

Chapter Summaries

Chapter 1: History of US School Desegregation (abbreviated)

This chapter situates the study and provides discussion of landmark court decisions on the road from segregation to desegregation and integration. The aftermath of Brown and the process to establish desegregation in public schools can be codified into 4 developmental periods: from neonatal and infancy (1954-65) to adolescence (1966-75) and young adulthood (1976-1989), and finally, legacy passing to the next generation (1990-present). This history is important in its own right, but an understanding of the causes of the timing of desegregation is also critical to the empirical strategy used to identify the long-run consequences (in chapters 2-6). This chapter documents the nature, pattern, and timing of initial court orders and implementation, emphasizing the substantial variation in the timing and intensity of school desegregation efforts, using a comprehensive desegregation case inventory compiled by legal scholars.

Most school districts did not adopt major school desegregation plans until forced to do so by court order (or threat of litigation) due to individual cases filed in local Federal court. The important role of precedent in the US legal process caused the NAACP to pursue the strategy to first, and foremost, bring suits when and where there was the greatest likelihood of winning, not where the largest potential gains from desegregation could be achieved for a particular local community at a point in time. State and federal dollars proved to be the most effective incentives to desegregate the schools.

Differences across districts in when desegregation court cases were first filed and the length of time it took these cases to proceed through the judicial system are used as a plausibly exogenous source of identifying variation to analyze the long-run impacts of school desegregation. The exogeneity of the timing of initial court orders is supported theoretically by the documented legal history of school desegregation and by my own empirical examination of
the issue. The long-run analyses in subsequent chapters capitalize on this source of identifying
variation.

Chapter 2: Effects of School Desegregation on School Quality

This chapter investigates how court-ordered school desegregation influenced the quantity
and quality of educational inputs received by minority children. I measure school quality as the
purchased inputs to a school—per-pupil spending and the student-teacher ratio. Using the
staggered timing of court-ordered school desegregation (and plan implementation) within an
event study analysis, I quantify desegregation effects on school resources, including per-pupil
spending, class size, and school segregation. This informs what the typical “treatment”
represented for the average black child.

I find that, immediately following plan implementation, school desegregation led to
marked declines in racial school segregation, sharp increases in per-pupil spending and
significant reductions in the average class size experienced by black children (as distinct from
region-specific time trends and school district fixed effects).

Chapter 3: Impacts of School Desegregation on Educational Attainment, by Race

This chapter is the first of a succession that investigates the extent and mechanisms by
which childhood school quality factors causally influence subsequent adult attainment outcomes.
The primary difficulty in disentangling the relative importance of childhood family,
neighborhood, and school quality factors is isolating variation in school quality characteristics
that are unrelated to family and neighborhood factors. I use an event study framework and
exploit the wide quasi-random variation in the timing and scope of implementation of
desegregation plans during the 1960s, 70s and 80s to identify policy-induced school quality
effects.

This work hypothesizes that school desegregation may have long-run impacts on the
adult attainment outcomes of African Americans through several potential mechanisms: (1)
school quality resource effects (e.g., the distribution and level of per-pupil spending, class size,
teacher quality); (2) peer exposure effects (e.g., children in classrooms with highly motivated and
high-achieving students are likely to perform better due to positive spillover effects on other
students in the classroom); and (3) effects on parental, teacher, and community-level
expectations of child achievement.

I find that school desegregation significantly increased educational attainment among
blacks exposed to major desegregation plans during their school-age years, with impacts found
on completed years of schooling, the likelihood of graduating from high school, attending
college, and graduating with a 4-year college degree. The analysis disentangles the effects of
neighborhood attributes and school quality. In contrast, there are consistently no significant
impacts on whites’ educational attainment outcomes.

Chapter 4: Impacts of Desegregation on Adult Labor Market & Economic Status Outcomes

This chapter summarizes results that reveal large, beneficial impacts of court-ordered
desegregation on blacks’ adult economic status and labor market outcomes, including significant
increases in men’s annual earnings, wages, annual work hours, and family income-to-needs ratio;
and there were substantial declines in the incidence of poverty in adulthood among black men and women. The parallel set of findings across these long-run economic outcomes follows the pattern of improvements in educational attainment found for blacks in Chapter 3. Here once again, there are no significant impacts of desegregation on whites’ economic attainment outcomes.

Chapter 5: Impacts of Desegregation on the Likelihood of Incarceration, by Race

The substantial racial disparities in incarceration, most pronounced among high school dropouts, have been well-documented (see e.g., Raphael (2005); Western (2007)). Increased investments in school quality may reduce the frequency of negative social outcomes such as crime (see, e.g., evidence from the Perry Pre-School Project (Schweinhart et al., 2005)). This chapter presents results that reveal large, significant effects of court-ordered desegregation on black men’s annual incidence of incarceration, probability of ever being incarcerated by age 30, and probability of any deviant behavior (defined as ever being expelled/suspended from school, charged with a crime, or incarcerated), using the same sequence of model specifications. Importantly, I find no desegregation effects on the probability of incarceration for white men, which follows the pattern of results for educational attainment by race.

Chapter 6: Impacts of School Desegregation on Adult Health Status, by Race

Scholars have long hypothesized that education has a causal effect on subsequent health, though the precise channels through which education influences adult health have not been well established in empirical research to date (Cutler and Lleras-Muney, 2006). Education has been shown to be a very strong correlate of health status in cross-sectional work, and this is true across generations. Large gaps in morbidity and mortality between more- and less-educated individuals have been well documented. Furthermore, gaps in health between blacks and whites are large and appear to widen over the life cycle, suggestive of an important role of childhood conditions. This chapter presents results that show large, significant improvements in adult health status among blacks resulting from exposure to court-ordered school desegregation, with no corresponding effects on whites.

Chapter 7: Exploring the Mechanisms

Difference-in-differences estimates and sibling-difference estimates indicate that school desegregation and the accompanied increases in school quality also resulted in significant improvements in educational attainment, adult economic and health status outcomes, and reductions in adult poverty incidence for blacks. The results suggest that the mechanisms through which school desegregation led to beneficial socioeconomic and health outcomes in adulthood for blacks include improvement in access to school resources, reflected in reductions in class size and increases in per-pupil spending. Furthermore, the evidence is consistent with a dose-response effect of school quality improvements and the duration of exposure to them on subsequent attainments in adulthood. African-Americans who attended integrated schools during their elementary school years appear to benefit more than those exposed to integrated schools only later in the school careers. Finally, the results indicate that school desegregation significantly narrowed black-white adult health disparities for the cohorts exposed to integrated
schools during childhood. The results highlight the significant impacts of educational attainment on future health status, and point to the importance of school quality in influencing socioeconomic mobility prospects, which in turn have far-reaching impacts on health. Small and statistically insignificant results are found across each of these adult outcomes for whites, and thus, suggest that benefits for minority children do not come at the expense of white students.

Chapter 8: Other Policy Changes that interacted with & amplified impacts of School Desegregation: Hospital Desegregation & the “War on Poverty” initiatives

**Hospital Desegregation.** The desegregation of hospitals in the South can be initially dated from 1964 when federally-mandated policies began to be enforced. In particular, developments in all three branches of government—judicial, executive, legislative—were influential. First, Hill-Burton Act’s ‘separate but equal’ clause was ruled unconstitutional in 1963. Second, Title VI of the Civil Rights Act of 1964 put teeth in enforcement. Third, with the introduction of Medicare in 1965, a hospital had to be racially desegregated in order to be eligible to receive Medicare funding. The staggered timing of hospital desegregation in the South led to differences in the timing of improved access to hospital care for minorities, and resulted in timing differences in the implementation of Medicare in parts of the South that had not desegregated their hospitals prior to 1965.

Using the American Hospital Association’s Annual Survey of Hospitals along with the Centers for Medicare Provider of Service data files to identify the precise date in which a Medicare-certified hospital was established in each county of the US (an accurate marker for hospital desegregation compliance), I find that ¼ of counties in the South—and 75 percent of counties in the Mississippi Delta—lacked a Medicare-certified hospital by the end of 1966. Almond, Chay, & Greenstone (2008), using this variation in the timing of hospital desegregation in Mississippi, document substantial declines in blacks’ post-neonatal infant mortality from diarrhea and pneumonia in counties that had desegregated by February 1969 relative to counties whose hospitals remained segregated through the late 1960s. These are early-life health conditions that require immediate access to adequate hospital care to prevent mortality. Furthermore, Chay, Guryan, & Mazumder (2009) provide evidence that racial convergence in early-life health and hospital access during ages 0-5 subsequently led to a significant narrowing of the black-white test score gap for cohorts born during the mid-to-late 1960s.

The results presented in this chapter demonstrate that both school desegregation and hospital desegregation independently contributed to the improvement in adult attainment of black cohorts that transitioned from the era of segregated to desegregated and integrated hospital and school contexts. The chapter uses the timing of both school desegregation and hospital desegregation in the same model linked with nationally-representative cohorts of individuals followed from birth to adulthood. The analysis uses measures of the age at which hospital desegregation occurred and a race-specific distance to the nearest hospital as an index of segregation and access during childhood (created using GIS mapping technologies and historical hospital address and childhood residential location information). I explore potential interactive effects between improved access to school quality and health care services on blacks’ subsequent life trajectories and adult SES and health outcomes. The findings inform how the long-term evolution of racial health disparities was shaped at different points in time by racial differences in access to health care and school quality.
Chapter 9: Interactive Effects of Head Start and K-12 School Quality

Head Start is the largest targeted early childhood intervention program in the US and was established in 1964 as part of Lyndon Johnson’s War on Poverty to provide educational, health and other services to poor children. Head Start is a comprehensive, national, federally-funded program with significant health components designed to augment the human and health capital of disadvantaged children to better prepare them for subsequent educational experiences.

Research in developmental neuroscience highlights the importance of the preschool years for cognition and human capital formation. This chapter is motivated by the hypothesis that: (1) early-life interventions, such as Head Start, do not realize their potential long-run returns if they are not followed by quality investments during the school-age years; and (2) the potential benefits of many important social and economic policies may be missed without evaluating longer-term outcomes, which includes a focus beyond test scores. A key contribution of this study is that it considers impacts of both pre-school and K-12 educational resources (and interactive effects between them) on adult attainments. I integrate the analysis of the linkages between educational investment opportunities across the continuum of developmental stages of childhood.

This chapter analyzes the life trajectories of children born between 1956 and 1976, and followed through 2009, using the PSID and its supplements on early childhood education, matched to administrative data about Head Start budgets. In particular, PSID data are linked to county Head Start spending during the first 15 years of the program, when these individuals were 3-5 years old, acquired from the National Archives and Records Administration (NARA). This historical county-level data enables me to compile an estimate of Head Start program expenditures per poor 4-year old in the county for each year between 1965 and 1980.

The research design takes advantage of the geographic expansion of Head Start programs and spending increases during the first 10-15 years of the program to overcome selection bias issues. I exploit policy-induced changes in Head Start spending and school resources that are unrelated to child family- and neighborhood-level determinants of adult socioeconomic and health status attainments. In particular, the identification strategy compares adult outcomes among those who grew up in communities where Head Start was not available when s/he reached 4 years of age with individuals from those same areas (the same childhood county of upbringing) after Head Start became available. The changing availability and quality of Head Start was largely beyond the control of parents during these early years of the program’s inception and roll-out, and would not be expected to affect children independently of the programs themselves. As a result, residentially-immobile, poor families were often able to enroll younger but not their older children. The empirical strategy compares adult outcomes between individuals who attended Head Start with those who did not within a childhood county of upbringing and asks whether this gap is smaller where per capita Head Start spending is higher (controlling for characteristics of individuals, families, and counties, and states).

Chapter 10: The Grandchildren of Brown: Intergenerational Returns to Education

In the US, there is a high degree of persistence in economic status and health status across generations, particularly in the lower and upper tails of the income distribution. For example, it has been shown that 42 percent of men raised in the bottom quintile of incomes remain there as adults, while only 8 percent of US men at the bottom rise to the top quintile
(Jantti et al., 2007). While public policies that promote equalization of educational opportunity have been emphasized as keys to break the intergenerational cycle of poverty, there exists limited causal evidence of the mechanisms that underlie intergenerational immobility. Few studies have attempted to isolate the causal effect of education on the next generation’s well-being. This is in part due to formidable empirical challenges that arise from the paucity of large nationally-representative data sets with information both on parental and child outcomes over the life cycle, and the difficult search for a credible identification strategy.

This chapter uses the Panel Study of Income Dynamics spanning 4 decades (PSID: 1968-2009) to link three generations of adult outcomes. The analyses exploit the historical period and quasi-random timing of court-ordered school desegregation to quantify the extent to which children’s well-being can be improved by increased parental education and document the intergenerational returns to education. The first stage of the analysis (using the “parent sample” that consists of cohorts born between 1950-1970) builds on prior chapter findings that demonstrate for blacks, school desegregation significantly increased educational attainment, with no significant desegregation effects on whites’ educational outcomes (Johnson, 2011). The present chapter provides new evidence on the causal influence of parental education across generations by using the timing of initial court orders and resultant differences in childhood exposure to school desegregation as an instrument for parental education, linked (in the second stage) with their children’s subsequent life outcomes (using the “child sample” that consists of cohorts born since 1980). The 2SLS/IV framework and intergenerational research design utilized enables this work to assess the impact of school desegregation on children and their families into the third generation. I find a considerable impact of school desegregation that persists to influence the outcomes of the next generation, including increased math and reading test scores, reduced likelihood of grade repetition, increased likelihood of high school graduation and college attendance, improvements in college quality/selectivity, and increased racial diversity of student body at their selected college. The findings demonstrate that part of the intergenerational transmission of inequality can be attributable to school quality related influences. The results in turn highlight parental education as a causal determinant of generational mobility.

Disparities research often suffers from a lack of historical analysis and linkages across generations in the reproduction of inequality. Policies that promote equal opportunity have the potential to shift outcomes across generations. This chapter renews attention to ways in which fusing intergenerational, historical, and life course perspectives can enhance the explanatory power of models and illuminate the fundamental causes of inequality.

Chapter 11: Educational Consequences of the End of Court-Ordered School Desegregation

The Supreme Court issued three decisions in the early 1990s that dramatically altered the legal basis for court-ordered desegregation (1991 Board of Education of Oklahoma City v. Dowell ruling (498 U.S. 237); 1992 Freeman v. Pitts decision (503 U.S. 467); 1995 Missouri v. Jenkins (515 U.S. 70)). These decisions collectively made it easier to terminate court-mandated plans, and led to the stated goal that all long-running desegregation cases should be moved to closure and return school control to local authority. School districts under a court-ordered desegregation plan are monitored by the courts with regard to minority student performance. By removing the external monitoring, dismissal may reduce the effort expended on minority students and time-consuming bus rides may be replaced by neighborhood school attendance.
Furthermore, prior research has shown that the process of release is not tightly linked to the success of the court order in producing integration (in particular, dismissal and non-dismissed districts have similar characteristics prior to release) (Reardon et al., 2011). In the aftermath of these rulings, more than half of all districts ever under court-ordered desegregation have been released from court oversight.

Recent research has shown the integrative effects of court-ordered desegregation plans erode following the end of the plan, as dismissal causes a gradual, moderate increase in segregation levels (Reardon et al., 2011; Lutz, 2011; Clotfelter, Ladd, Vigdor, 2006). Moreover, Reardon et al. using the most comprehensive data of court release dates that have been compiled to study this question find that this pattern is most pronounced in districts where pre-release school segregation levels were low relative to residential segregation patterns.

However, the end of race-based busing not only changed schools’ racial composition, but was also often accompanied by increases in district resource allocation to schools in high poverty, minority neighborhoods. There is evidence that dismissed school districts sometimes engage in capital investment in minority neighborhoods, which has mitigated negative impacts on minority students. Districts often paired the new student assignment policy with programs to provide additional funds for lower student-teacher ratios, school renovation projects, learning equipment and supplies, and bonuses for teachers in high poverty schools to attempt to prevent the flight of effective teachers from inner city schools (Mickelson, Smith and Southworth 2009). Southern school districts have taken compensatory actions (investments in poorly performing neighborhood schools) to blunt the impact of dismissal on black students.

This chapter combines comprehensive data on the timing of court releases from desegregation plans of more than 200 school districts that occurred since 1990 (obtained from Reardon et al.) with nationally-representative longitudinal micro data of children born since 1980 followed through 2009. In particular, I use the Panel Study of Income Dynamics and its Child Development Supplement (PSID-CDS) matched to children’s school and neighborhood characteristics and school desegregation policy variables. Using an event study framework and difference-in-difference model, I examine the impacts of the termination of mandated desegregation plans on academic achievement outcomes, including cognitive test scores, high school graduation rates, educational attainment, and non-cognitive behavioral outcomes, separately by race. Preliminary results show that the increased allocation of school resources to those in high poverty, minority neighborhoods following the release of continued court oversight actually served to mitigate the potential negative impacts of resegregation on black student achievement (at least in the short-run).

Chapter 12: Conclusions & Policy Implications

This chapter will highlight the importance of studying the effect of education policies on a broad range of outcomes. Estimates of the returns to education that focus only increases in wages substantially understate the total returns. The results suggest that effective policies to promote long-term health lie outside of traditional health care policy, and instead may take the form of education and housing policies. Taken together, the findings point to keys to reduce health disparities and emphasize the critical investments in children (beginning with prenatal care) that are instrumental in narrowing long-run gaps in well-being. The research informs contemporary policy debates about the most effective investments in children to improve life chances and promote a level intergenerational playing field for those raised in disadvantaged
families and neighborhoods. The findings of this book contribute to the literature in several important ways. First, this study is the most comprehensive to date on the topic, especially in terms of the range of empirical approaches utilized, broad set of outcomes analyzed, and the long time horizon considered. Second, this book provides important and new estimates of the impact of court-ordered school desegregation. Given the scarcity of large-scale educational experiments that had such dramatic changes in access to school quality, it is important to learn as much as possible about the long-run consequences of one of the great social experiments of inclusion.

\[\text{This includes measures from 1968-1982 Office of Civil Rights (OCR) data; 1960, 1970, 1980 Census data; 1962-1982 Census of Governments data; Common Core data (CCD) compiled by the National Center for Education Statistics; “War on Poverty” policy initiatives, and 1959-1978 Regional Economic Information Systems data; as well as a comprehensive case inventory of court litigation regarding school desegregation over the entire 1950-2008 period obtained from The American Community Project at Brown University & Sean Reardon.}\]
Project Description is a formally written declaration of the project and its idea and context to explain the goals and objectives to be reached, the business need and problem to be addressed, potentials pitfalls and challenges, approaches and execution methods, resource estimates, people and organizations involved, and other relevant information that explains the need for project startup and aims to describe the amount of work planned for implementation. The focus of the project description is put on creating a clear and correct understanding of the project in minds of the people and organizations involved. This project aims at reconstructing the Late Messinian-Pleistocene 3D architecture and evolution of the Po Plain-Northern Adriatic foreland basin system (northern Italy). The 3D shape of foreland basins reflects the interaction among thrust belt deformation/uplift, consequent accommodation space creation, sediment supply and climate. Sudden stop of a bilayer-skyrmion driven by the perpendicular-to-plane current. View full-text. Article.