THE WAR ON POVERTY'S K-12 EDUCATION BATTLE: 
THE HISTORY AND LEGACY OF TITLE I

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In a special congressional address on January 12, 1965, President Johnson declared a “national goal of Full Educational Opportunity.” In so doing, he expanded the battlefield in the War on Poverty to include education at all levels, offering as a new weapon a large infusion of federal funds to support programs for the poor. Three months later, his proposal for K-12 education was signed into law. Title I of the Elementary and Secondary Education Act of 1965 (ESEA) authorized $1 billion in new federal funding ($7 billion in 2009 dollars) for supplemental academic programs for poor “educationally deprived” children. The program doubled the existing federal commitment to K-12 education and explicitly directed more federal aid to poorer school districts for the first time in history.

Despite the fact that Title I remains the largest federal program for elementary and secondary education today, it was deemed a failure within several years of its inception. Early comparisons of Title I program participants to similar non-participants suggested Title I program participation was not closing the achievement gap (Glass et al. 1970), and a highly-publicized report by the NAACP Legal Defense and Education Fund (Martin and McClure 1969) revealed that Title I funds were widely used in unintended ways, such as to provide educational services for ineligible kids, services that were supposed to be paid for from state or local funds, or tax relief. The 1966 Coleman Report (Coleman et al. 1966) also cast doubt on the program’s very premise, arguing that variation in resources across schools mattered little for student performance. Further non-experimental evaluations of Title I over the decades to follow and research on the relationship between school spending and student performance in the post-ESEA era seem to support this conclusion, but much of this literature suffers from serious methodological issues.

This chapter assesses the legacy of the ESEA, focusing on Title I. We begin by describing how Title I represented an historic shift in federal education policy and how the program operates. While Title I funds were designated for special programs to raise the academic achievement of poor children, inadequate or ineffective federal monitoring has meant that they have not always met this mandate, having instead been used to supplant existing state and local funds for education or to support educational services for other students, as Martin and McClure (1969) suggest. Title I is, however, more than just a “funding stream” (Cohen and Moffitt 2009) even if it is not a well-defined compensatory educational
intervention. In the context of a federalist system, the threat of withdrawal of funds is an important policy lever for the federal government to encourage school districts to implement other reforms. For example, Title I funds in the program’s earliest years came to the *de jure* racially segregated districts of the southern states conditional on desegregation under Title VI of the 1964 Civil Rights Act. More recently, the No Child Left Behind Act has required states to adopt accountability standards or risk losing Title I funds.

Thus, the legacy of Title I likely extends beyond its impacts for participants in nominally-designated Title I programs. In addition to reviewing the Title I evaluation literature, we therefore review literature on the impacts of Title I – direct and indirect (via school desegregation) – on educational spending and on educational outcomes in the population at large. To complement these studies using district-level data, we also present new evidence of how Title I’s introduction may have affected spending and attainment gaps across richer and poorer *states*. Federal policy is uniquely suited to addressing such regional inequality, and given the uneven geographic distribution of poverty across the U.S., promotion of regional convergence was one of Title I’s explicit goals. While the gaps across richer and poorer states in both school spending and educational attainment were so large prior to the ESEA that it would have been difficult for any single program to close them, they have narrowed considerably over the past 60 years, and there is suggestive evidence that Title I contributed to these trends, particularly in the case of school spending. We conclude with a speculative discussion of other ways in which education in America today looks different because of Title I.

**HISTORICAL BACKGROUND**

*Poverty has many roots but the tap root is ignorance.*

- Lyndon B. Johnson, January 12, 1965

In his special address to Congress in January 1965, President Johnson outlined the central role of education in the cycle of poverty: those with low levels of completed education were much more likely to live in poverty, and poverty itself was concentrated in “particular urban neighborhoods or rural areas” where school districts had “inadequate financial resources” to “address the largest educational needs.”
The statistics he cited on school resource differentials across regions were stark: the suburbs of big cities spent 50 percent more per student on education than did the cities themselves, and the five highest-income states spent more than twice as much on education per pupil as the five lowest-income states. Differences in educational attainment across these two groups of states were also stark. We calculate that as of 1960, a native-born white between the ages of 26 and 30 born in one of the five highest-income states was nearly 20 percentage points more likely to have graduated from high school than his counterpart in one of the five lowest-income states (71 percent versus 52.3 percent). For native-born African-Americans and other nonwhites, the differential was even larger, at nearly 27 percentage points (53.4 percent versus 26.6 percent).\footnote{1}

The central provision of the 1965 ESEA – Title I – was designed to alleviate inequities in school spending, in the hopes of increasing educational attainment among the poor and breaking the cycle of poverty. The 1965 ESEA (Public Law 89-10), signed into law April 11, 1965, was “an Act to strengthen and improve educational quality and educational opportunities in the Nation’s elementary and secondary schools.” Title I authorized financial assistance for school districts (“local educational agencies,” or LEAs) with “concentrations of low-income families” to “improve their educational programs by various means…which contribute particularly to meeting the special educational needs of educationally deprived children.” The ESEA had other provisions – for textbooks, library books, and other instructional materials (Title II), for supplementary school centers and services (Title III), for improvement of educational research and training by institutions of higher education (Title IV), and for improvement of the functioning of state educational agencies (SEAs) (Title V). But Title I received an appropriation more than three times larger than those for Titles II, III, IV, and V combined, and distribution of Title I funds was based explicitly on area child poverty rates. We focus on Title I hereafter.

Title I represented an historic shift in federal policy on several grounds. First, federal programs for elementary and secondary education historically \textit{had not been compensatory}. That is, the federal government historically had not directed more funds to poorer school districts.\footnote{2} Second, federal programs for elementary and secondary education historically \textit{had not been so large}.\footnote{3} Third, federal programs...
historically had not exerted federal control over schools. In conjunction with Title VI of the 1964 Civil Rights Act (CRA), the introduction of Title I exerted federal control over schools in one very important way: receipt of funds was contingent on nondiscrimination. The Johnson administration enforced this provision aggressively in the South, requiring desegregation of the region’s de jure segregated schools for compliance. This prompted dramatic changes in southern education described in Cascio et al. (2008), Cascio et al. (2010), and elsewhere, which we consider to be part of Title I’s legacy. Another legacy is the precedent of contingent federal education funding. More recently, receipt of Title I funds have been made contingent on adoption of school accountability programs under the No Child Left Behind Act of 2001 (NCLB) and will likely be made contingent upon efforts to improve teaching under NCLB’s reauthorization.

THE TITLE I PROGRAM

The Funding Formula

The initial Title I appropriation was distributed primarily based on counts of poor children from the 1960 Census, and grants per eligible child were smaller in states with lower average state and local spending on schools. Because spending was lower on average in poorer states, this feature of the formula meant that the grant per eligible child was smaller in poorer states, and the program was less compensatory than it would have been if each state had received the same amount per eligible child. Still, the program was large enough – and the relationship between poverty and per-pupil Title I grants strong enough – that its introduction marked the beginning of compensatory federal education aid in the United States.

We show this in figure 1. This figure plots per-pupil federal revenue at the state level on the vertical axis against the 1960 state child poverty rate (the share of the state’s students who were eligible for Title I). Panel A shows this relationship in for the 1963-1964 school year, before Title I was implemented, and panel B shows the same relationship for the 1969-1970 school year, after Title I had been in effect for a few years. In 1963-1964, school districts in higher-poverty states did not receive more per-pupil federal funding on average; the slope of the fitted line in panel A is small and statistically
insignificant. By 1969-1970, school districts in higher-poverty states received substantially more federal funding compared to those in lower-poverty states; the slope of the fitted line is $1,213 (in real 2009 dollars), indicating that a 10 percentage point increase in the poverty rate was associated with an increase in per-pupil federal revenue of about $121. The change in slope can be fully accounted for by the introduction of Title I.8

While Title I formula amounts were larger both in absolute terms and relative to pre-existing spending levels in poorer states and school districts,9 it is important to note that the program was not large enough to eliminate school spending gaps associated with poverty. This is suggested by figure 2, which plots trends in real per-pupil school spending and federal revenue from 1953 forward. The figure shows that, on average, federal education aid is quite small relative to overall spending on elementary and secondary education. This has especially been the case more recently, but was also true at Title I’s inception. More directly, consider the statistic Johnson gave in his January 1965 address: the five richest states spent more than twice as much on education as the five poorest states. Using data from the 1963-1964 school year, we calculate that this spending differential amounted to (at least) $1,850 per student (in real 2009 dollars). By contrast, the analogous difference in Title I funding per pupil was only $194 per pupil – only one-tenth of this figure.

Thus, instead of infusing lots of funds into those “particular urban neighborhoods” and “rural areas” with the highest concentrations of poverty, the Title I funding formula allocated a poor child the same amount of funding regardless of whether he lived in a richer or poorer community in a given state, and poor children in poorer states tended to receive less. This formula was likely a strategy that fostered the ESEA’s passage – it allocated funds to nearly every legislative district in the country (Cohen and Moffitt 2009) – but is one reason why Title I may have been less effective than hoped.

Statutory Intent

Congress intended Title I funds be used for supplemental academic programs for “educationally deprived” poor children, and districts are required to submit plans to state education agencies (SEAs) for how they would use the funds. On the books, most Title I programs have been implemented as “pull out”
programs, whereby eligible students are taken out of their regular classrooms to participate; the remainder have been implemented at the class level, in preschool, after school, or during the summer.

It has been difficult, however, to ensure that Title I funds are used in practice as they are on paper. This was particularly the case at the program’s origins. Aside from the contingencies on Title I receipt described in the previous section, the program respected state and local control – yet another strategy that likely fostered the ESEA’s passage, and yet another reason why the program may have been less effective than hoped. In part, this was true by default: the program was large relative to the federal staff available to administer it. It was also true by design: while LEAs were required to submit proposals to SEAs to receive Title I funds, they in principle could design programs to best suit their needs. To the extent that school districts are better than the federal government at developing programs for their students, such discretion could promote effective use of the funds, as emphasized in the economic theory of fiscal federalism (Oates 1972). On the other hand, it could mean that Title I funds are not spent on supplemental programs for poor children as intended.

Martin and McClure (1969) provide many examples of such spending in Title I’s earliest years. These included investments in capital – buildings, swimming pools, audio-visual equipment – and expenditures on band and football uniforms. They also describe how some school districts moved state and local revenues away from the poorer schools where Title I grants were spent, in which case the programs provided by Title I were not “supplemental,” or reduced the revenue they raised when they received Title I dollars. In the latter case, Title I funds were not spent on education at all – a phenomenon referred to as “crowd-out” in economics.

Starting in the early 1970s, regulators attempted to improve the targeting of Title I funds and to reduce crowd-out. For example, “maintenance of effort” (MOE) provisions require local and state governments to maintain revenues at some (high) fraction of the previous year’s levels, and “comparability” requires that state and local funds be equalized across schools within districts, so that Title I funds are purely supplemental for the schools that receive them. Nevertheless, MOE provisions still allow for substantial crowd-out, particularly if the counterfactual is one of increasing revenue
(Gordon 2004), and there is substantial evidence even today that the comparability requirement is violated in practice (Roza 2010, Heuer and Stullich 2011).

Thus, Title I funds need not be spent on supplemental educational programs for poor children. This suggests that an exclusive focus on the Title I evaluation literature potentially misses some of the program’s more important effects – on overall school spending, on the population at large, and, given the contingent nature of Title I funding receipt, on the adoption of other school policies. The sections to follow reflect these observations.

EFFECTS OF TITLE I PROGRAM PARTICIPATION:

STUDIES OF STUDENTS AND SCHOOLS

Annual evaluations of Title I are required by federal law and are focused on the effects of individual student participation in nominal Title I programs on reading and math achievement. To date, these studies have used observational data; there have been no randomized controlled trials. These evaluations have produced little evidence that Title I reduces the poor/non-poor achievement gap. This lack of effect has been the source of much criticism of the program.

There have been three broad categories of Title I evaluations. The first category – the approach commonly used among states and school districts – compares performance of participants on a nationally norm-referenced test before and after program participation (for example, at the beginning and the end of the academic year). Title I is deemed successful if participants move up in the national achievement distribution. However, this approach can only give reliable estimates of the effect of Title I on participating students if participants would have remained in the same place in the achievement distribution in the absence of the program. In their meta-analysis of Title I evaluations, Borman and D’Agostino (1996) point out several reasons that this assumption may not hold: regression to the mean (participants would have moved up in the distribution even in the absence of the program), the importance of the test cycle (larger impacts when students are tested fall-spring rather than annually due to relatively large “summer setback” for the educationally disadvantaged), and manipulation of the testing
environment to favor the second (or post) test. Each of these factors would tend to overstate the effects of program participation despite negative selection of Title I eligible students.

At the heart of these criticisms is the fact that this approach implicitly compares Title I eligible students to all non-eligible students nationally, despite their likely lack of comparability. The other two categories of evaluation have addressed the comparison group problem in two different ways. The second category has compared the achievement of participants before and after program participation to the change in achievement of some subset of non-participants over the same period of time – a “differences-in-differences” approach. There have been three such federally-mandated evaluations. The earliest (Glass et al. 1970) compared Title I participating students in the late 1960s to non-participating students in Title I eligible schools, which are schools with sufficient concentrations of poverty within their districts to host Title I programs. The Sustaining Effects study (Carter 1984) compared Title I participants to students deemed most in need of compensatory education (by their teachers) at Title I-ineligible schools. In the most recent Prospects study (Puma et al. 1997), the comparison group consisted of non-participating students in both Title I eligible and ineligible schools. In the third category of evaluation, two studies (van der Klaauw 2008, Matsudaira, Hosek, and Walsh 2012) use a “regression-discontinuity” technique, comparing the test scores of (all) students in schools that are barely eligible for Title I designation given their poverty rate to those of students in schools that are barely ineligible.

Despite differences in empirical approach, the Title I evaluation literature is unified in producing discouraging results. Borman and D’Agostino (1996), a meta-analysis drawing on studies of the first and second variety, suggest effect sizes of 0.1 to 0.12 standard deviations for math and reading test performance – hardly enough to close the achievement gap by socioeconomic status. Their analysis also implies that studies of the second variety produce significantly smaller effects, consistent with expectations. The regression-discontinuity studies in the third category find no significant effect of a school’s Title I designation on its overall test performance. However, those studies also find no evidence that Title I schools have more resources, suggesting that school districts “crowded out” the significantly higher federal aid flowing to Title I schools.
The findings of the regression-discontinuity studies point to a possible reason why studies of the first and second variety yield small effect sizes: we might expect little impact to the extent that school districts diverted state or local funds to Title I-ineligible schools upon receipt of Title I funds. For example, students in the ineligible schools, who served as comparison students in the *Sustaining Effects* and *Prospects* studies, may be indirectly “treated” by – and may benefit from – Title I. Put differently, the standard approaches to evaluating Title I are likely to understate its effects on poor students if Title I funds are misallocated within districts. This suggests the benefits of taking a more aggregate approach to analyzing Title I – using the school district or the state, rather than the student or the school, as the unit of analysis – and considering non-eligible children as potential Title I beneficiaries.

**EFFECTS OF TITLE I ON SCHOOL SPENDING AND EDUCATIONAL OUTCOMES:**

**STUDIES OF SCHOOL DISTRICTS**

Setting aside the question of how Title I funds are allocated across students and schools within districts, how much has Title I raised spending on education at all at the school district level? That is, has it narrowed gaps in school spending between richer and poorer school districts? In a world where school districts do not have discretion over how to spend Title I grants and cannot alter their decisions about how much revenue to raise locally, this question would be moot: Title I would increase school spending dollar-for-grant dollar, and hence relatively more in poorer districts because they received larger Title I grants. The question thus becomes one of how much school districts “crowded out” Title I through tax reductions, and how much states “crowded out” Title I by allocating less tax revenue to education or making its distribution less compensatory.

This section begins by describing what we know about the effects of Title I on the differences in school spending across school districts with higher and lower poverty rates. We also discuss what we know about the effects of Title I on differences in educational outcomes across poorer and richer school districts; to the extent that Title I did narrow poverty-related gaps in school spending across school districts, it could also have narrowed gaps in educational outcomes across school districts, though not necessarily via improvements in the attainment of Title I eligible students. We end the section with a
review of the literature on how desegregation has affected school spending and educational outcomes, since Title I may have affected district-level spending and educational outcomes not only directly, but also indirectly by encouraging school desegregation.

**Direct Effects of Title I on School Spending on Educational Outcomes**

In economics parlance, Title I is a restricted block grant from the federal government to school districts. Such a grant sets a floor on school spending for the district: it must spend at least as much as the grant on educational services. But for school spending levels beyond this, a school district has some discretion over how to spend the grant. In particular, it can spend the grant either on education or on other goods and services (via tax reduction), just like any other source of income. In this case, we would expect spending on education to increase potentially much less than dollar-for-grant dollar – this is “crowd-out.” The spending decision of a state government is more difficult to model, in light of the large number of policy functions at the state level. However, one might expect that Title I freed up states to devote less state tax revenue to education or to distribute aid in a less compensatory manner, partially offsetting the compensatory distribution of federal aid.

A numerical example might be of some help. Suppose that a school district is allocated a $100 per-pupil Title I grant. If it receives $10 less per pupil from the state as a result, the total income of the population in the school district effectively increases by $90 per pupil. The voters may allocate that $90 between education and other goods and services. If typically voters would spend 20 cents of each additional dollar of income on education, we would expect spending on education out of this $90 in exactly the same ratio. Thus, spending on education by the district should go up by $18 per pupil – not by the $90 per pupil in additional income in the district or the $100 per-pupil Title I grant. In this example, the $100 grant has bought $18 of spending on education, $10 in tax relief for state taxpayers (or alternative state-provided services), and $72 of tax relief for local taxpayers.

Three studies to date have estimated the education spending responses to Title I using district-level data. Two of these studies imply a much larger spending response to Title I than in the numerical example – a “flypaper effect,” since funds “stick where they hit.” For example, Feldstein (1978) used
the variation in Title I grant amounts across similar school districts in different states in 1970 and found that spending increased by about 70 cents for each additional dollar of Title I revenue, suggesting little crowd-out. Cascio, Gordon, and Reber (2012) exploit the precise timing of Title I’s introduction in 1965 using annual data and variation across school districts in child poverty rates and find that the introduction of Title I increased school spending by about 50 cents on the dollar in the South. By contrast, Gordon (2004) relies on more recent data, from the early 1990s, for the entire country. Using the abrupt change in a district’s Title I grant over time associated with the 1990 Census update of child poverty counts, she finds that increases in Title I funding were completely offset by reductions in other sources of revenue, so that spending did not increase with the Title I grant in the long run.

Thus, the literature yields a wide range of estimates. However, the estimated spending increases tend to be larger for the two studies that use data closer to Title I’s origins, suggesting that Title I may have succeeded in narrowing spending gaps between poorer and richer school districts in its earliest years.15 Cascio, Gordon, and Reber (2012) also examine whether the Title I-induced increases in spending affected county high school graduation rates between 1960 and 1970 – that is, whether Title I also succeeded in narrowing poverty gaps in educational attainment. They find that it did, though not necessarily through improvements in attainment for Title I eligible students. In particular, among counties where school districts had less “scope” to offset Title I funds through local tax reductions16 – where Title I grants led to a relatively large increase in school spending – there was greater convergence in white, but not black, high school completion rates between poorer and richer counties over the 1960s. This implies that, at least in the short run, Title I related increases in spending helped whites, but not blacks. They argue that, following decades-long practice in the South, Title I funds could easily have been diverted toward whites, particularly in the program’s earliest years when black and white schools in the region were still largely separate. However, they lack the data to show this within-district misallocation directly.

Indirect Effects of Title I on School Spending and Educational Outcomes: School Desegregation

The improvements in educational attainment for whites but not blacks found by Cascio, Gordon, and Reber (2012) were not a desired policy outcome. Even if Title I related spending did not directly help
blacks in the earliest years, the program likely benefited blacks indirectly. Combined with the CRA, Title I funding provided an important “carrot” – and potentially cover – for a longer-term and fundamental transformation of southern education that ultimately increased spending on black students and black educational attainment: school desegregation.

The direct effects of Title I and the CRA on school desegregation were not large, but they arguably helped to set in motion the complete breakdown of the dual educational system in the South. In 1965 and 1966, the Johnson administration required southern school districts only to move a few percent of black students to white schools to comply with the nondiscrimination requirements of the CRA. Cascio et al. (2010) find that the financial incentive worked: otherwise similar districts with more Title I funds on the line were more likely to desegregate just enough to receive them. These requirements became more stringent, particularly by 1968, but ended abruptly when Nixon took office in January 1969, in fulfilling his campaign promise to the South to end enforcement of the CRA’s fund-withholding provisions (Orfield 2000). Even so, by this time, support from the elected branches of government had strengthened the resolve of the courts, which until that point had been ineffective in desegregating schools, and the existence of desegregation guidelines for CRA compliance had focused the courts on more stringent requirements in the districts they supervised (Orfield 1969). The CRA enforcement efforts under Johnson also reduced the load on the federal courts, allowing them to focus on the toughest cases (Cascio et al. 2010).

Thus, by the time Nixon stopped enforcement of the CRA’s fund-withholding provisions, courts were well-empowered to continue the desegregation effort, and did so effectively, in the most resistant southern districts as well as outside of the South. While the impact of school desegregation on educational resources at the school district level is theoretically ambiguous, the existing evidence suggests that, on net, it increased school spending. In a study of Louisiana during the 1960s and early 1970s, Reber (2011) finds larger increases in per-pupil school expenditures for school districts with higher initial black enrollment shares as schools desegregated, arguing that the additional funding was necessary to “level up” spending in desegregated schools to that formerly experienced only in the white schools. In a study
using data over a longer time horizon over the entire country, Johnson (2011) finds evidence of abrupt increases in a district’s per-pupil school spending after a court order for school desegregation was handed down, with larger effects in districts with higher black enrollment shares. Several studies suggest that school desegregation improved educational outcomes for blacks and that the mechanism was most likely this additional school spending (Guryan 2004, Ashenfelter, Collins and Yoon 2006, Reber 2010, Johnson 2011).

NEW EVIDENCE AT THE STATE LEVEL

The literature reviewed thus far suggests that, even if Title funds have often not been used to support supplemental programs for poor students, the program may have succeeded in narrowing gaps in school spending and educational attainment between higher- and lower-poverty school districts, particularly in the 1960s and 1970s. The vast majority of these studies have focused on poverty gaps within states. Yet, a significant fraction of the variation in spending and attainment across school districts exists across states; for example, Murray, Evans, and Schwab (1997) estimate that inequality in school spending between states accounts for half or more of overall spending inequality at the district level. Furthermore, while Title I was clearly too small of a program to eliminate cross-state spending inequality associated with income or poverty, reducing poverty-related differentials across states in spending – and educational outcomes – was an explicit goal of the program, as earlier described.

Nevertheless, the questions of whether Title I narrowed state-level poverty gaps in school spending and educational attainment have not been addressed in the literature to date. In this section, we present new evidence on these fronts, drawing on state-level panel data on school spending that we collected from Department of Health, Education, and Welfare and Department of Education publications and data on education attainment (high school graduation and college-going rates of young adults) that we extracted from the Census and American Community Survey (ACS) (Ruggles et al. 2010).

Education Spending

As President Johnson described when pitching the ESEA to Congress in January 1965, there was a strong relationship between state poverty rates and state education spending on the eve of the ESEA.
We show this in figure 3, panel A, which plots the (natural log of) state average per-pupil spending for the 1963-1964 school year, two years before Title I was implemented, against the 1960 state child poverty rate. The slope of the fitted line is strongly negative (and statistically significant): per-pupil spending was considerably lower in higher-poverty states. Because we are using the log of per-pupil spending on the vertical axis, the slope estimate can be interpreted in percentage terms: a 10 percentage point increase in the 1960 child poverty rate was associated with a 23 percent reduction in per-pupil spending on average.\footnote{We show this in figure 3, panel A, which plots the (natural log of) state average per-pupil spending for the 1963-1964 school year, two years before Title I was implemented, against the 1960 state child poverty rate. The slope of the fitted line is strongly negative (and statistically significant): per-pupil spending was considerably lower in higher-poverty states. Because we are using the log of per-pupil spending on the vertical axis, the slope estimate can be interpreted in percentage terms: a 10 percentage point increase in the 1960 child poverty rate was associated with a 23 percent reduction in per-pupil spending on average.}

The points are also clustered fairly close to the line, suggesting that, before the ESEA, poverty accounted for a significant fraction of across-state spending inequality.\footnote{The points are also clustered fairly close to the line, suggesting that, before the ESEA, poverty accounted for a significant fraction of across-state spending inequality.} Figure 3 also shows that while southern states (the square markers) were significantly lower-spending on average, there was no "South effect;" their lower spending was in line with their significantly higher poverty rates.\footnote{Figure 3 also shows that while southern states (the square markers) were significantly lower-spending on average, there was no "South effect;" their lower spending was in line with their significantly higher poverty rates.} This suggests that it is poverty, not some other region-specific factor, like institutionalized segregation, that accounts for low school spending in the South.

As earlier described, the architects of the ESEA viewed the negative relationship between poverty and education spending as an important barrier to expanding educational opportunities and reducing poverty. By directing more federal aid to poorer states (figure 1), has Title I succeeded in weakening this relationship? As a first pass at this question, panel B of figure 3 is analogous to panel A, but considers spending during the 2006-2007 school year – well after Title I was implemented. In this more recent year, the relationship between 1960 child poverty and log per-pupil spending is still negative and statistically significant but less than half as steep: a 10 percentage point increase in the child poverty rate was associated with an 11 percent reduction in per-pupil spending. In addition, the points are much more spread out around the fitted line, suggesting that in more recent years, variation in school spending across states has become less related to variation in poverty and more related to other factors.\footnote{As earlier described, the architects of the ESEA viewed the negative relationship between poverty and education spending as an important barrier to expanding educational opportunities and reducing poverty. By directing more federal aid to poorer states (figure 1), has Title I succeeded in weakening this relationship? As a first pass at this question, panel B of figure 3 is analogous to panel A, but considers spending during the 2006-2007 school year – well after Title I was implemented. In this more recent year, the relationship between 1960 child poverty and log per-pupil spending is still negative and statistically significant but less than half as steep: a 10 percentage point increase in the child poverty rate was associated with an 11 percent reduction in per-pupil spending. In addition, the points are much more spread out around the fitted line, suggesting that in more recent years, variation in school spending across states has become less related to variation in poverty and more related to other factors.}

It would be foolhardy to interpret the change in slope shown in figure 3 as being caused by Title I; it could have been brought about by any number of forces, including increasing demand for and returns to education, changing costs for teachers and educational supplies, or state school finance equalization. While we cannot rule out the importance of other factors, we provide more compelling evidence of a
contribution of Title I in figure 4. Figure 4 shows how the slope of the fitted line depicted in figure 3 changed over time. For example, the slope in panel A of figure 3 for 1963 is -2.3; in figure 4, that value is plotted for 1963 – the last dot before Title I implementation in 1965 (indicated with a dashed vertical line). Likewise, the slope in figure 3 panel B is -1.1, the value plotted for 2006 in figure 4. The other points show that same slope for other years, so we can see how the relationship between poverty and spending has changed over time, especially around the time Title I was implemented. There is a clear break in trend in 1965, suggesting that Title I contributed to a weakening of the relationship between poverty and school spending at the state level. If one assumes that, in the absence of Title I, the pre-1965 trend in the relationship between poverty and spending would have continued, one would conclude that Title I narrowed the spending gap between higher-poverty and lower-poverty states for a decade or so, but that gap ultimately returned to trend.

Despite the sharp reduction in the expected spending gap between poorer and richer states in 1965, it remained substantial then and continues to remain substantial today. This is what we expected: while the strong relationship between school spending and poverty prior to 1965 meant that there was scope for the federal government to equalize spending across states by distributing aid on the basis of poverty, closing the gap would have required a much larger program. We alluded to this earlier, but can do some more direct calculations on the basis of our estimates. Our estimates imply that the introduction of Title I would have reduced the gap in spending between higher-poverty and lower-poverty states by only about 15 percent assuming no state or local crowd out of federal funding. Thus, all else constant, the Title I program would have had to have been nearly seven times as large as it was to close the then existing poverty gap in per-pupil current school spending across states. This would have required almost $50 billion (2009 dollars) at Title I’s inception, and even more if some of the funds would have been crowded out by states and school districts. Even today, Title I is only a $14 billion program.

**Educational Attainment**

Education spending has long been lower in poorer states, but the relationship between poverty and spending has weakened over the past 60 years. Though we caution against making causal inferences,
our analysis of spending suggests that the introduction of Title I most likely contributed to these trends, particularly in the short to medium run. We now examine whether this narrowing of the poverty gap in school expenditure across states was accompanied by a narrowing of poverty gaps in educational outcomes.

To do this, we use the 1960 to 2000 Decennial Census and the 2010 American Community Survey (ACS) (Ruggles et al. 2010) to look at the completed education for individuals who were 26 to 30 years old at the time of interview. We assign individuals to birth cohorts and focus our attention on six five-year birth cohorts. The first two of these cohorts (those born 1929-1933 and 1939-1943) had no exposure to Title I, the third (born 1949-1953) had limited exposure, as teenagers, and the remaining cohorts (born 1959-1963, 1969-1973, and 1979-1983) were schooled entirely in the post-ESEA period. We cannot break out our analysis separately by the poverty status of individuals in childhood, since that is not reported in the Census or ACS. To the extent that whites and nonwhites have different poverty rates on average, however, separating the analysis by race can give us some sense of whether there has been convergence by childhood poverty status. Understanding trends in racial gaps in educational outcomes is also of independent interest.

Before turning to a discussion of how gaps in educational attainment across richer and poorer states have changed across cohorts – and what this might have to do with Title I – figure 5 shows national trends in educational attainment for each five-year birth cohort, separately for whites and nonwhites. Educational attainment was low for the earlier cohorts, especially among nonwhites. For example, the open circle plotted for 1929 (with a value of .35) indicates that only 35 percent of nonwhites born 1929-1933 completed high school. Sixty-four percent of whites in those same birth cohorts completed high school. If Title I had effects on educational attainment – and there were not other factors also affecting trends in educational attainment – we might expect to see no change in attainment across the unexposed cohorts, improvement across the partially-exposed cohorts, and no change across the fully-exposed cohorts. That is, we would expect to see the steepest upward trend in educational attainment between 1939 and 1959. In contrast, high school graduation rates were already on the rise as Title I went...
into effect, especially for nonwhites. The time pattern of college attendance trends is more consistent with an effect of Title I. Here, the trend was steeper across the cohorts partially exposed to Title I (from 1939 to 1959), relative to the trend for the never-exposed and the fully-exposed, consistent with a potential role for Title I. However, these gains do not appear to be any larger for nonwhites than for whites.

In results not shown, we also examined whether there was convergence in educational attainment outcomes for people born (and presumably educated) in poorer states, relative to those born in richer states, mirroring our analysis of school spending in figure 4. As earlier noted, the educational attainment gaps between young adults born in higher- and lower-poverty states were indeed substantial in 1960 (the 1929-1933 cohort), before the ESEA was passed. Those gaps have narrowed considerably, but all in all, the improvements do not coincide well with the introduction of Title I. For example, for nonwhites and whites alike, the relationship between poverty and high school completion was weaker for the 1939-1943 cohort – which was not exposed to Title I – and it continued to weaken steadily across the remaining cohorts under observation. Thus, there is no evidence of a “trend break” in the relationship between state-level rates of poverty and high school completion across cohorts with different levels of exposure to Title I. The evidence is somewhat more compelling for college attendance rates: poverty-related attainment gaps increased between the 1929-1933 and 1939-1943 cohorts, but sharply reversed for cohorts exposed to Title I. While like the trends shown in figure 5, this pattern is consistent with a role for Title I, it would be surprising if Title I improved college attendance rates without improving high school graduation rates.

All in all, we view the data and our methodology as providing at best tentative evidence of an effect of Title I on gaps in educational attainment across richer and poorer states. On the one hand, the suggestion that Title I-induced spending did not dramatically affect educational attainment would appear to be consistent with the weak relationship between school spending and educational outcomes in observational data in the modern era (Hanushek 1986; Hanushek 1997). On the other hand, school spending has been found to be an important determinant of educational attainment for cohorts educated before the War on Poverty (see, for example, Ashenfelter, Collins, and Yoon 2006, Card and Krueger 1992a, Card and Krueger 1992b), and is thought to be an important mechanism by which school
desegregation increased black educational attainment, as earlier noted. Title I was not a large program relative to pre-existing poverty gaps in school spending or the overall trend in school spending, so its effects on educational attainment may be difficult to detect. Understanding the long-run effects of Title I on educational outcomes is a challenging but important area for future research.

SUMMARY AND CONCLUDING REMARKS

The War on Poverty fundamentally changed the role of the federal government in public education. Until the mid-1960s, K-12 education was funded almost exclusively by local and state governments, the distribution of federal aid was in no way related to poverty, and local control over public schools was a cherished and closely-guarded ideal. Title I of the 1965 ESEA doubled federal spending on K-12 education, made the distribution of overall federal education aid sharply compensatory, and curtailed local control over schools – in some respects. In particular, there was little federal oversight over how Title I grants were spent: state governments and school districts could easily offset the Title I grants through tax reductions, and Title I funds could readily be spent on children who were not themselves “educationally deprived.” However, the federal government would only release the earliest Title I grants to southern school districts if they met certain benchmarks for school desegregation, breaking local control where it had for decades resulted in egregious violations of blacks’ civil rights.

Our assessment of Title I’s “legacy” has drawn from these observations. We have taken our discussion beyond what would traditionally be construed as “Title I research” – the vast literature evaluating the effects of nominal Title I program participation on test scores – to the much smaller literatures on the effects of Title I on school spending, on the effects of Title I-induced spending on educational outcomes in the overall population, and on the effects of school desegregation on school spending and educational attainment. We have also presented a new analysis of how Title I affected the gaps in school spending and educational outcomes across states. Title I appears to have contributed to the substantial narrowing of poverty-related gaps in spending since 1965, but the program was not nearly large enough to close such gaps. Educational attainment has increased dramatically across cohorts, and
the gap between the educational attainment between those born in richer and poorer states has shrunk. But Title I's contribution to these trends was likely small.

Title I’s legacy is also broader than its grants *per se*, as the program has had effects on the formation of other policies. Such policies include school desegregation, which we have discussed extensively. They also include state school finance reforms. For example, the concern about crowd-out and misuse of Title I funds may have led not only to more regulation of the use of Title I funds, but also to extensive regulation in the use of *state* funds. When funding comes with so many (perhaps well-meaning) strings attached, educators and budget-makers must spend more time thinking about “funding streams” and less time thinking about how to best educate children (Roza 2010, Cohen and Moffitt 2009). Finally, NCLB tied Title I receipt to state policies on student testing and accountability. Even though the federal requirements were weak, the policy appears to have had a positive effect on student achievement (Dee and Jacob 2011), and it has arguably shifted the terms of the “education reform” discussion.

The goal of eliminating disparities in both educational inputs such as spending and outputs such as achievement and attainment was ambitious. The good news is that gaps – at least between richer and poorer states – in both inputs and outputs have declined dramatically since the War on Poverty began. The bad news is that they are both still quite large.
REFERENCES


FIGURE 1 / The Beginnings of Compensatory Federal Education Aid: The Relationship between Child Poverty and Per-Pupil Federal Revenue Before and After the Introduction of Title I

Notes: Per-pupil federal revenue is expressed in real 2009 dollars. The slope estimate gives the slope coefficient (standard error) on the fitted line. Slope coefficients are the predicted difference in per-pupil federal revenue for education between a state with only poor children and a state with no poor children. Regressions give each state equal weight.

Source: State-level federal revenue for education and enrollment data from HEW (various years). The 1960 child poverty rate is the number of Title I eligibles in the state in 1965 (from U.S. Senate (1965)) to the number of 5-17 year olds in the state in 1960 (from Minnesota Population Center (2011)).
FIGURE 2 / Trends in Real Per-Pupil School Spending and Federal Revenue (2009 Dollars)

Source: State-level per-pupil current school expenditure, federal revenue for education, and enrollment data from HEW (various years) and the Department of Education (various years).

Notes: Means are unweighted.
FIGURE 3 / Has the Poverty Gap Across States in School Spending Diminished? The Relationship between Child Poverty and Per-Pupil Spending during the 1963-1964 and 2006-2007 School Years

Notes: The slope estimate gives the slope coefficient (standard error) on the fitted line. Slope coefficients are the predicted difference in log per-pupil school spending between a state with only poor children and a state with no poor children. Regressions give each state equal weight.

Sources: The 1960 child poverty rate is the number of Title I eligibles in the state in 1965 (from U.S. Senate (1965)) to the number of 5-17 year olds in the state in 1960 (from Minnesota Population Center (2011)). State-level per-pupil school spending data are from HEW (various years) and Department of Education (various years).
FIGURE 4  /  Did Title I Play a Role in Closing the Poverty Gap in School Spending? How the Relationship between Child Poverty and Per-Pupil School Spending Has Changed Over Time

Notes: The figure plots slope coefficients on lines fit to year-by-year scatterplots of log per-pupil school spending (y-axis) on the 1960 child poverty rate (x-axis). These slope coefficients give the predicted difference in log per-pupil school spending between a state with only poor children and a state with no poor children. Regressions give each state equal weight. The dashed vertical line is placed at 1965, the year that Title I was introduced.

Sources: See sources for Figure 3.
FIGURE 5 / National Trends in High School Graduation and College Attendance Rates at Ages 26-30, by Race

Notes: The data were collapsed to the (five-year) birth cohort by birth state by race level using person weights provided in the Census and ACS. Means presented in the figure are weighted by cell size.

Sources: Native-born individuals aged 26 to 30 in 1960 through 2000 Censuses of Population and the 2010 American Community Survey (Ruggles et al. 2010).

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1 We made these calculations from the 1960 Decennial Census (Ruggles et al. 2010). To arrive at these figures, we ranked states by per-capita income in 1965 (linearly interpolated from 1960 and 1970 figures). The five lowest-income states are Mississippi, Arkansas, South Carolina, Alabama, and Louisiana. The five highest-income states are Connecticut, New Jersey, California, Nevada, and New York.

2 The two main federal programs for K-12 education prior to the ESEA were Aid to Federally Impacted Areas – funds to offset the impacts that military installations had on local schools – and funding under the National Defense Education Act of 1958, which was intended to strengthen math and science education in light of the launch of the Soviet satellite Sputnik.

3 There were many objections to increased federal contributions for education. These included concerns that they would lead to increased federal control over schools, that more federal involvement in education would be socialistic, and the long-standing debate over whether federal funds should be directed to Catholic schools or to private schools. Kaestle (2001) also credits a lack of presidential leadership.

4 The Johnson administration did not enforce Title VI in the de facto racially segregated school districts outside of the South, despite clear evidence that school attendance zones were often drawn to limit interracial contact (Orfield 1969). School desegregation outside of the South largely happened in the 1970s, through court intervention.

5 The initial Title I formula determined the number of eligible students in a county primarily based on two categories of eligible students: (1) counts of 5-17 year olds living in low-income families in the county as of the 1960 Census;
and (2) children in higher-income families in the county that received AFDC in 1962. Other categories were added over the rest of the 1960s, but most of a county’s eligibility was determined on the basis of the 1960 Census-based child poverty counts alone. Formula amounts for school districts (within counties) were then established by state education agencies based on available data on child poverty at the district level (Bailey and Mosher 1968).

6 Initially, the state-specific per eligible child grant was equal to one-half the average per-pupil current expenditure in the state, lagged two years and net of federal transfers. In 1967, the state factors in low-spending states were leveled up to the national average (U.S. Department of Health, Education, and Welfare 1969).

7 Technically, this is the ratio of 5 to 17 year olds in low-income families (income less than $2000) to total 5 to 17 year olds in the state in 1960. This is an approximation of the poverty rate that was used for the distribution of Title I funds. To obtain data for the numerator of the child poverty rate, we aggregated Census tabulations at the county level from U.S. Senate (1965) to the state level. To obtain data for the denominator, we aggregated Census tabulations at the county level published by the Minnesota Population Center (2011) to the state level.

8 We obtained state-by-year level data on federal revenue per pupil and current spending per pupil in average daily attendance on a biennial basis through 1979 from publications of the Department of Health, Education, and Welfare (various years), and thereafter for all available years from the Digest of Education Statistics (various years). Current expenditure excludes spending on capital and debt maintenance, but is measured more accurately and consistently over time. All dollar figures are given in real 2009 terms, and years refer to the fall of the school year. The sample includes all states in the continental United States, excluding Washington, D.C. Throughout, our analysis gives each state equal weight, but our substantive conclusions are unchanged if we were to weight by contemporaneous enrollment, by enrollment at a given point in time (such as 1963), or by the number of 5 to 17 year olds in the state in 1960.

9 For example, the 1965 per-pupil Title I formula amount in Mississippi represented over 20 percent of its per-pupil spending in 1963 (in real terms). This is consistent with figures reported by Cascio, Gordon, and Reber (2012) at the school district level for nine former Confederate states, which were poorer and lower-spending compared to the country as a whole.

10 Results of these evaluations were summarized by the Title I Evaluation Reporting System (TIERS) starting in the late 1970s.

11 Using parental education as a measure of socioeconomic status and data from the National Assessment of Educational Progress-Long Term Trends, Reardon and Robinson (2007) estimate that gaps in math scores between the children of parents with only a high school degree and children of parents with only a college degree ranged from 0.5 to 0.67 standard deviations at age 13 and from 0.6 to 0.75 standard deviations at age 17. Gaps in reading scores were slightly smaller.

12 Borman and D’Agostino (1996) also report smaller effects for reading, at higher grades, and for studies that used an annual (for example, fall-fall) testing cycle. They also report increasing effects over time, which they attribute to improved regulation.

13 When we refer to “richer” or “poorer” hereafter, we mean “lower child poverty” and “higher child poverty,” not “higher spending” and “lower spending.” Indeed, as a result of both Title I and state redistributive efforts, “poorer” districts might ultimately become relatively high spending.

14 This language is attributed to Arthur Okun.

15 Nevertheless, the overall trend has been one of increasing inequality within states. For example, Card and Payne (2002) report that the within-state spending gap between richer and poorer districts has grown since the 1970s.

16 The authors define these counties as those where Title I grants in 1969 were large relative to the revenue school districts would have raised had pre-ESEA (1961-1964) revenue trends continued.

17 On the one hand, dissatisfaction with schools and “white flight” could have eroded the tax base and local support in districts undergoing desegregation; on the other hand, spending in blacks’ schools had historically been lower, so additional revenue would be necessary to prevent whites from seeing a decline in school quality.

18 Prior to desegregation, the black-white gap in school resources tended to be larger in districts with higher black enrollment shares (Margo 1990). Districts with higher black enrollment shares thereby needed a larger increase in funds to maintain spending on whites at pre-desegregation levels as black and white schools combined.

19 Educational resources are likewise thought to be important determinants of educational attainment for cohorts educated before the War on Poverty. See, for example, Card and Krueger (1992a, 1992b) and Ashenfelter, Collins, and Yoon (2006). Research based on the educational experiences of more recent cohorts suggests that spending buys less in the way of educational achievement. See Hanushek (1986) and Hanushek (1997) for reviews.
We use the log of spending, rather than the level, because it facilitates comparisons of the slope coefficients over time in light of the dramatic increases in average spending shown in figure 2. That is, instead of the slope coefficients being expressed in dollar terms, they are expressed in percent terms.

The R-square for the least-squares regression is 0.69, indicating that variation in the state poverty rate alone can account for 69 percent of the variation in average log per-pupil spending at the state level.

We define the South as the former Confederacy rather than the southern Census region due to its different history with school desegregation. Southern states were so much poorer than the rest of the country that it is difficult to determine whether the lower average spending in southern states is due to their high poverty rates or is some region effect caused by other factors. However, if we estimate the fitted line separately for the two sets of states, we get very similar results.

The R-square from this regression is 0.17, down from 0.69 during the 1963-1964 school year. A full analysis of the determinants of variation in school spending across states is beyond the scope of this chapter, but in results not reported, we find evidence of a declining role for the state poverty rate and an increasing role for average income in explaining variation in average spending since the late 1980s.

We use the 1960 child poverty rate implicit in the Title I formula for all years. We have also used the contemporaneous poverty rate (for all people, since child poverty is not readily available in all years), interpolated between Census years. Poverty did fall significantly during this period, but the correlation of state-level poverty rates over time is high; for example, the 1960 child poverty rate and the 1999 poverty rate have a correlation coefficient of 0.724. The pattern of the coefficients is quite similar if we use contemporaneous poverty instead of 1960 child poverty.

In level terms, a 10 percentage point increase in the 1960 child poverty rate was associated with a reduction in spending of $625 per pupil in 1963 but only a $91 increase in per-pupil Title I funding in 1969 (real 2009 dollars).

We assume that an individual has graduated from high school if he or she reports completing 12 years of education or having a high school degree. We assume that an individual attended college if he or she reports any education beyond 13 years or having attended “some college” or more.
The wars continue. He conquers the kingdom of Prussia in 1806. The famous battle in that war is fought here. In 1807, he continues his battles against the Russians, fighting on alone. The decisive engagement that ends that war is here. Then he signs a peace treaty with the Russian Emperor; he seems to now have the continent of Europe pretty firmly in his grip. What I want to focus on is less the details of those particular campaigns. [It] is the imagery and legacy of this prolonged period of warfare. On the one hand, there's a romantic legacy, a romantic image, nothing captures it better than this painting by Ernest Meissonier: this painting of the Battle of Friedland. This is the charge of the cuirassiers, the French cavalry going forward to defeat the Russians. Legacy of the Battle of the Somme. More than anything else, the Battle of the Somme, and especially its devastating first day, would be remembered as the epitome of the brutal and seemingly senseless carnage that characterized trench warfare during World War I. British officers, especially Haig, would be criticized for continuing the offensive in spite of such devastating losses. The World War I Battle of Cambrai marked the first large-scale use of tanks for a military offensive. Led by General Julian Byng, a British force of nine infantry divisions, five cavalry divisions and three tanks brigades sprung a surprise attack near Cambrai, France, on November...read more. Battle of Caporetto. Disruption of education also occurs with the destruction of schools during wars.[22] The human and financial resources are compromised during crisis. Many studies have shown that poverty in early childhood can be harmful in that poor families lack time and financial resources to invest in promoting child development.[31][32] This suggests that the serious deprivation of resources in armed conflict zones is extremely detrimental to cognitive development of children during warfare. Okasha and Elkholy (2012) have theorized that psychological immunization can help children who are frequently exposed to conflict to better acclimate themselves to the stressors of war.[33]. Attachment theory[edit].