INTERSTATE INEQUALITY IN EDUCATIONAL OPPORTUNITY

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For all that has been said about the nationalizing influence of the No Child Left Behind Act on education policy, one fact endures: States remain in the driver's seat on setting academic standards and distributing the resources needed to achieve results. After decades of state litigation and policy reform, there is some evidence that disparities in educational opportunity within states have lessened.[1] But a national goal of equal educational opportunity cannot be realized by addressing only inequality within states. The reason is simple: The most significant component of educational inequality nationally is not inequality within states but inequality *between* states. Even if intrastate disparities were eliminated, substantial disparities across states would remain. This fact casts a long shadow over the ideal of equal opportunity.

In this paper, I do four things. First, I describe current educational inequality across states in terms of funding, standards, and outcomes. Second, I show that interstate disparities in education resources have more to do with the capacity of states to finance education than with their willingness to do so, highlighting the need for a robust federal role in ameliorating interstate inequality. Third, I demonstrate how Title I reinforces rather than reduces interstate inequality in school funding. Fourth, I propose recommendations for reforming the federal role in school finance to be more responsive to state effort and capacity.

I. THE CURRENT STATE OF INTERSTATE INEQUALITY

A. *Education Spending*

In recent decades, interstate inequality in school spending has been substantial and relatively constant in magnitude, with a north-south and east-west gradient reflecting the historical development of public education in the United States. Table 1 shows each state's per-pupil expenditure for 1969–70, 1979–80, 1989–

[1]   *See* Sheila E. Murray et al., *Education-Finance Reform and the Distribution of Education Resources*, 88 AM. ECON. REV. 789, 806–07 (1998); David Card & A. Abigail Payne, *School Finance Reform, the Distribution of School Spending, and the Distribution of SAT Scores* 21 (Nat'l Bureau of Econ. Research, Working Paper No. 6766, 1998).

90, and 1999–2000 in constant 1999–2000 dollars.[2] At the bottom of the table are two measures comparing the extent of interstate variation from year to year. The first is the ratio of the average per-pupil expenditure in the top ten states to the average per-pupil expenditure in the bottom ten states.[3] The second is the enrollment-weighted coefficient of variation, a measure of dispersion equal to the standard deviation as a percentage of the mean.[4]

Both the top quintile/bottom quintile ratio and the coefficient of variation show that interstate variation in per-pupil spending increased during the 1980s and then decreased during the 1990s. According to the coefficient of variation but not the ratio, interstate variation was somewhat less in 1999–2000 than in 1969–70. On both measures, the level of variation in 1999–2000 is comparable to the level that existed twenty years ago. While the extent of interstate variation has stayed fairly constant in recent decades, the relative standing of some states has changed significantly. In addition to per-pupil spending, Table 1 lists each state's rank for each year. The far right column shows the difference in rank for each state between 1969–70 and 1999–2000. On the whole, the national pattern of variation is fairly stable, with two-thirds of states moving no more than ten steps in either direction. But by increasing school funding at a rate significantly above the national average, a few states have moved up considerably in the ranking—for example, Georgia, whose economic growth has boosted education spending; Maine, where an increased state role in ensuring equity raised school spending in the 1980s; and Kentucky and West Virginia, whose legislatures overhauled their school finance systems after they were held unconstitutional.

Meanwhile, some states have moved down considerably as their per-pupil spending increased more slowly than other states'. The five states whose rankings fell the farthest—Arizona, California, Nevada, Utah, and Washington—are clustered in the West. In part, this reflects the political history of school finance reform, with California providing a familiar example. Yet robust increases in public school enrollment have also played a role. Arizona and Nevada, for example, saw the highest percentage increases in enrollment in the nation over the

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[2]   *See* NAT'L CTR. FOR EDUC. STATISTICS, DIGEST OF EDUCATION STATISTICS 2002, at 199 tbl.169 (2003) [hereinafter DIGEST 2002].

[3]   In other words, it is the ratio of (*a*) the total expenditures of the top quintile of states divided by their total enrollment to (*b*) the total expenditures in the bottom quintile of states divided by their total enrollment.

[4]   I have weighted the coefficient of variation by state enrollment so that the total amount of variation nationally is calibrated by each state's relative contribution. Without such weighting, two high-spending states like Alaska and New York would count equally in terms of their contribution to total interstate variation, even though Alaska has far fewer schoolchildren than New York. I used enrollment data from DIGEST 2002, *supra* note 2, at 50–51 tbl.37 (fall 1999 and fall 1989) and from U.S. BUREAU OF THE CENSUS, STATISTICAL ABSTRACT OF THE UNITED STATES: 1981, at 147 tbl.240 (1981) (fall 1979 and fall 1969).

past three decades; each served more than twice the number of students in 1999–2000 than in 1969–70. Moreover, the relative decline in per-pupil spending in the West appears to be part of a broader trend. Among the twenty-six states whose ranking rose from 1969–70 to 1999–2000, only two—Texas and Wyoming—are located west of the Mississippi River. In sum, the map of educational inequality has become one in which the South, the Southwest, and far West trail the rest of the country.

The nominal spending data in Table 1 provide only a rough basis for interstate comparison for two reasons. First, there is considerable variation in the cost of providing the same educational services in different regions; for example, it costs more in New York than in Alabama to hire teachers of identical quality. To control for this, we need to apply a geographic cost index to equalize educational purchasing power across states.[5] Education economists have computed three leading cost indices, the most comprehensive of which is the Geographic Cost-of-Education Index (GCEI) developed by Jay Chambers.[6] This index estimates how much different jurisdictions must pay to hire a teacher with a given level of qualifications, taking into account the cost of living as well as key attributes of a region or school district that affect its attractiveness as a place to live and work. It then combines this model of teacher compensation with price indices for other school inputs to produce an index value for each state. Table 2 applies the GCEI to per-pupil spending data for 2001–02. Column A shows unadjusted per-pupil spending with state rank; Column B shows cost-adjusted figures.[7]

Second, states differ significantly in their student demographics and thus in the magnitude of their educational task. Although North Dakota and Texas have comparable per-pupil spending, for example, Texas faces a greater educational challenge because a higher percentage of its children are poor or LEP. In order to meaningfully compare spending across states, we need to know "the extent to which [states] with a harsh educational environment, as measured by the charac-

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[5]   *See generally* WILLIAM J. FOWLER, JR. & DAVID H. MONK, NAT'L CTR. FOR EDUC. STATISTICS, A PRIMER FOR MAKING COST ADJUSTMENTS IN EDUCATION (2001).

[6]   *See* Jay G. Chambers, *Geographic Variations in Public Schools' Costs* 1, 8 (Nat'l Ctr. for Educ. Statistics, Working Paper No. 98-04, 1998); *see also* JAY CHAMBERS & WILLIAM J. FOWLER, JR., NAT'L CTR. FOR EDUC. STATISTICS, PUBLIC SCHOOL TEACHER COST DIFFERENCES ACROSS THE UNITED STATES, at xiv-xvi (1995).

[7]   The figures in Column A are from CRECILLA COHEN & FRANK JOHNSON, NAT'L CTR. FOR EDUC. STATISTICS, REVENUES AND EXPENDITURES FOR PUBLIC ELEMENTARY AND SECONDARY EDUCATION: SCHOOL YEAR 2001–02, at 12 tbl.5 (2004). To obtain the figures in Column B, I divided the values in Column A by the mean values of Chambers' GCEI based on 1993–94 data. *See* Chambers, *supra* note 6, at 19–21 tbl.III-3, col.14. Although applying an index based on 1993–94 data to adjust 2001–02 expenditures introduces some error, the error is probably slight because "geographic cost variations appear to be relatively stable over time." *Id.* at 15; *see id.* ("The correlation for the *GCEI* between . . . 1987–88 and 1990–91 and between 1990–91 and 1993–94 is about 0.98. [Between 1987–88 and 1993–94], the correlation exceeds 0.96.").

teristics of their students, must pay more to achieve the same performance as other [states]."[8] Ideally we would estimate educational resource needs at an individual level based on each student's family background, school and neighborhood environment, past academic achievement, and other factors. But because such data are not available on a national basis, adjustments for student need are typically done by weighting enrollment data based on the number of students belonging to groups known to require additional resources to attain a given performance level. To adjust per-pupil spending for student needs, I assigned a weight of 1.6 to students from poor families (in other words, poor students are estimated to require 60% more resources than non-poor students),[9] 1.9 to students with disabilities,[10] and 1.2 to LEP students.[11] I then divided each state's total cost-adjusted expenditures by its weighted pupil count to derive its cost-adjusted spending per weighted pupil.[12] Column C of Table 2 lists these results in rank order.

As Table 2 shows, adjusting for cost and student needs reduces overall variation across states, but the extent of variation remains substantial. The top ten states in Column C spent an average of $7861 per weighted pupil in 2001–02, which was nearly 50% more than the $5292 per weighted pupil spent by the bottom ten states. While the cost of providing education tends to be lower in low-spending states, such states tend to have higher percentages of students with spe-

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[8]   William D. Duncombe & John M. Yinger, *Performance Standards and Educational Cost Indexes: You Can't Have One Without the Other*, *in* EQUITY AND ADEQUACY IN EDUCATION FINANCE: ISSUES AND PERSPECTIVES 260, 267 (Helen F. Ladd et al. eds., 1999).

[9]   The 1.6 figure is the median weight assigned to poor students by state education finance systems, according to a study by the U.S. General Accounting Office. *See* U.S. GEN. ACCOUNTING OFFICE, SCHOOL FINANCE: STATE AND FEDERAL EFFORTS TO TARGET POOR STUDENTS 34–35 (1998) (examining 1991–92 data for 47 states).

[10]   The 1.9 figure is the ratio of total spending nationwide on special education students to total spending on non-special education students in 1999–2000. *See* THOMAS PARRISH ET AL., CTR. FOR SPECIAL EDUC. FIN., STATE SPECIAL EDUCATION FINANCE SYSTEMS, 1999–2000, PART II: SPECIAL EDUCATION REVENUES AND EXPENDITURES 24 (2004).

[11]   *See* Thomas B. Parrish, *A Cost Analysis of Alternative Instructional Models for Limited English Proficient Students in California*, 19 J. EDUC. FIN. 256, 263 tbl.1, 276 tbl.6 (1994) (using data from 15 public schools in 11 California districts to estimate total marginal cost per LEP student of $361 above approximately $1,800 cost per student in non-LEP classrooms).

[12]   To compute each state's weighted pupil count, I used data from COHEN & JOHNSON, *supra* note 7, at 12 tbl.5 (fall 2001 enrollment); 2 U.S. DEP'T OF EDUC., 25TH ANNUAL REPORT TO CONGRESS ON THE IMPLEMENTATION OF THE INDIVIDUALS WITH DISABILITIES EDUCATION ACT, at 5-7 tbl.AA3 (2005) (number of children 6- to 21-years-old served under Part B of IDEA in 2001–02); DIGEST 2002, *supra* note 2, at 27 tbl.20 (percentage of children 5- to 17-years-old living in poverty in 2001); and Nat'l Clearinghouse for English Language Acquisition and Language Instruction Educ. Programs, State-Specific Resources – ELL Demographics by State, http://www.ncela.gwu.edu/stats/3_bystate.htm (number of LEP children in 2001–02) (last visited Aug. 21, 2006) [hereinafter NCELA].

cial needs. West Virginia, ranked tenth in Column B, drops to seventeenth in Column C largely because its child poverty rate is over 20%, compared to 15% nationally. New Mexico, ranked thirty-second in Column B, drops to fortieth in Column C; 24% of its children are poor, and 20% are LEP.

Tables 3a and 3b compare the demographics of students in high- and low-spending states. Whereas the student body in the top third of states is 70% white, 12% poor, and 4% LEP, the student body in the bottom third is 50% white, 17% poor, and 13% LEP. Black students appear evenly distributed across high- and low-spending states. But the states in the bottom third of spending, while enrolling 47% of the nation's schoolchildren, serve 54% of all poor students, 75% of all Latino students, and 76% of all LEP students. By contrast, the states in the top third enroll 29% of all schoolchildren, but only 24% of the nation's poor students, 16% of Latino students, and 13% of LEP students. In short, children with the greatest educational needs live disproportionately in states with the lowest education spending. As Column C of Table 2 shows, the bottom third is exclusively comprised of states in the South, Southwest, and West.

We can better comprehend the magnitude of interstate spending disparities by comparing them to intrastate disparities. I obtained data from the National Center for Education Statistics on the per-pupil expenditure of unified school districts at the 10th, 50th, and 90th percentile of spending in each state in 2001–02.[13] These data, adjusted for differences in educational costs and student needs, appear in Table 4. What we observe is that large intrastate disparities exist in jurisdictions like Colorado, New York, and North Dakota, while disparities are much smaller in states like Alabama, Kentucky, and West Virginia. Intrastate disparity is positively correlated with median district spending; states with higher spending tend to have greater interdistrict disparity. High-spending states with a large expenditure range tend to be comprised of numerous small school districts, whereas low-spending states with a small expenditure range tend to be dominated by large countywide school districts.[14] For all states, the range of variation below the median is smaller than the range above the median.

Figure 1a uses these data to illustrate the large interdistrict disparities *across* states. For each state, the bar represents the range of expenditures from the 10th

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[13] E-mail from Frank Johnson, National Ctr. for Educ. Statistics, to Goodwin Liu (Aug. 22, 2005) (on file with author). The per-pupil expenditure at the 10th percentile means that 10% of all districts in the state spent at or below that level; the per-pupil expenditure at the 90th percentile means that 10% of all districts spent at or above that level. Because elementary education typically costs less than secondary education, focusing on unified districts instead of all districts narrows the intrastate range of per-pupil spending and provides a fairer basis for interdistrict comparison. In every state except Montana and Vermont, the vast majority of students go to school in unified districts. I excluded Hawaii from this analysis because its school system is a single district.

[14] *See* WAYNE RIDDLE & LIANE WHITE, CONG. RESEARCH SERV., PUBLIC SCHOOL EXPENDITURE DISPARITIES: SIZE, SOURCES, AND DEBATES OVER THEIR SIGNIFICANCE 12, 29 (1995).

percentile to the median. As the figure shows, the 10th percentile districts in fourteen states (Wyoming to Kansas) spend more than the median districts in fifteen states (Louisiana to Arizona). In other words, even if school finance reform in the fifteen low-spending states were to raise spending in the bottom half of districts up to the state median, those districts would still trail 90% of districts in the fourteen high-spending states. Similarly, Figure 1b shows that the median districts in eleven high-spending states (Alaska to Maine) spend more than the 90th percentile districts in eleven low-spending states (North Carolina to Florida). Finally, Figure 1c depicts the starkest interstate inequalities. The 10th percentile districts in eight high-spending states (Wyoming to Delaware) have per-pupil spending within $500 of the amount spent by the 90th percentile district in eight low-spending states (California to Florida). Consistent with these data, other studies report that interstate disparities account for well over half of the total extent of interdistrict inequality throughout the nation.[15]

B. *Educational Standards and Outcomes*

Since 1990, the National Assessment of Educational Progress (NAEP) has provided a valid basis for comparing student achievement across states. With data from state NAEP tests and from each state's own assessment system, we can observe variation in educational standards and outcomes across states.

Figures 2a and 2b compare the percentage of fourth-graders in each state achieving a "proficient" score on 2005 NAEP math and reading tests with the percentage of fourth-graders achieving a "proficient" score on 2005 state tests.[16] In each graph, the solid sloping line shows where states would line up if their proficiency standards matched NAEP's. The dotted sloping line is the best-fit line indicating the relationship between NAEP and state tests in an "average" state. The vertical line marks the percentage of students nationally who scored proficient on NAEP. From these graphs, we learn three things.

First, state standards of academic proficiency are literally all over the map and are mostly less rigorous than NAEP's. In Tennessee, for example, 87% of fourth-graders achieved a proficient score on the state math test, but only 28%

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[15] *See* William N. Evans et al., *The Impact of Court-Mandated School Finance Reform*, *in* EQUITY AND ADEQUACY IN EDUCATION FINANCE, *supra* note 8, at 72, 84–86 & tbl.3-4 (interstate disparities account for 53% to 60% of total interdistrict inequality in 1992, controlling for geographic cost differences); Murray et al., *supra* note 1, at 808 ("roughly two-thirds of nationwide inequality in spending is between states and only one-third is within states" without geographic cost adjustment).

[16] The data, which cover public schools only, are from *Quality Counts at 10: A Decade of Standards-Based Education*, EDUC. WK., Jan. 5, 2006, at 79, and Nat'l Ctr. for Educ. Statistics, The Nation's Report Card, State Profiles, http://nces.ed.gov/nationsreportcard/states/ (last visited Jan. 24, 2006) [hereinafter NAEP State Profiles].

scored proficient on NAEP. Similarly, 83% of students in Alabama were proficient on the state reading test while only 22% were proficient on NAEP. By contrast, states like Maine, Massachusetts, South Carolina, and Wyoming have proficiency standards that approximate NAEP's. This wide-ranging patchwork of educational standards is unsurprising in view of the broad discretion states have to define what content their students should know, how well they should know it, and what assessments are used to hold schools accountable.

Second, student performance varies considerably from state to state when measured against a common standard. While 35% of fourth-graders nationwide achieved proficiency on the NAEP math test, state figures ranged from 49% in Massachusetts and 47% in Kansas and Minnesota to 21% in Alabama and 19% in Mississippi and New Mexico. Likewise, the share of students scoring proficient on the NAEP reading test varied from 44% in Massachusetts and 38% in Connecticut and Minnesota to 20% in Louisiana and New Mexico and 18% in Mississippi, with 30% proficient nationwide. NAEP also reports scores in math and reading for all grade levels on a single 500-point scale. Those data show that the average fourth-grader in Massachusetts, Minnesota, and Vermont scored almost twenty points higher in math and reading than her peers in Alabama, Mississippi, and New Mexico—a difference of roughly two grade levels.[17]

Third, the states with NAEP proficiency rates lower than the national average are almost all low-spending states in the South, Southwest, and far West. Among the twenty-one states to the left of the vertical line in either Figure 2a or Figure 2b, only three (Georgia, Oregon, and West Virginia) are in the top half of the nation in terms of adjusted per-pupil spending. Conversely, while a few low-spending states have above-average rates of proficiency on NAEP in math and reading (e.g., Idaho, South Dakota, and Washington), the vast majority of high-performing states are high-spending.

Although this pattern suggests a relationship between resources and outcomes, it is important to remember that low-spending states have a disproportionate share of poor, minority, and LEP children. Student demographics, parental education and income, and other aspects of family background undoubtedly play a role in explaining performance disparities across states. Moreover, states vary in how they spend education funds, in their degree of intrastate finance equity, in the standards they set for teachers and students, and in the policy and regulatory environment they establish for schools and districts. All of these factors complicate the relationship between resources and results.[18]

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[17] For these states, average NAEP scores in 2005 (math, reading) are as follows: Massachusetts (247, 231), Minnesota (246, 225), Vermont (244, 227), Alabama (225, 208), Mississippi (227, 204), and New Mexico (224, 207). *See* NAEP State Profiles, *supra* note 16.

[18] The District of Columbia, for example, has the grim distinction of having one of the highest levels of per-pupil spending but lower educational performance than every state in the nation. *See* COHEN & JOHNSON, *supra* note 7, at 12 tbl.5; NAEP State Profiles, *supra* note 16. To be sure, the

But the notion that students in low-spending states would benefit from additional resources need not depend on a clean linear relationship between dollars and achievement gains. One might expect the relationship to be stronger where current spending is low and somewhat weaker or unpredictable where spending is already high. This intuition is a reasonable inference from the principle of marginal utility, which predicts that additional resources will make the greatest difference to those who have the least. As it turns out, this view is supported by the leading empirical study of state NAEP results, published by RAND in 2000.[19]

Using NAEP math and reading scores from forty-four states between 1990 and 1996, the RAND study compared performance across states to determine the efficacy of varying levels of per-pupil spending and varying approaches to resource utilization. Controlling for parental education, income, race, family size, single-parent status, and other socioeconomic status (SES) indicators, the study found that variation in state NAEP scores fell within a range of one-third of a standard deviation on a national scale.[20] In other words, students in the highest-scoring states were roughly one and one-third grade levels ahead of similar students in the lowest-scoring states.[21] Some low-spending states (e.g., Texas, Missouri) performed better than the average state, and some high-spending states (e.g., Rhode Island, Vermont) performed worse. But overall, spending was positively correlated with performance when similar students were compared.[22]

The study went on to investigate what uses of resources were most effective. The authors found that increased performance on NAEP was associated with additional resources for increasing participation in public prekindergarten (pre-K) programs, for lowering pupil-teacher ratios in grades one to four, and for improving instructional materials and resources for teachers.[23] Moreover—and this is a

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District has higher-than-average educational costs, *see* Chambers, *supra* note 6, at 19 tbl.III-3, and its child poverty rate is twice the national average, *see* DIGEST 2002, *supra* note 2, at 27 tbl.20. But it also devotes an unusually small percentage (49.6%) of its current expenditures to instruction compared to the national average (61.5%) and even compared to the next lowest state (New Mexico, 55.9%). *See* COHEN & JOHNSON, *supra* note 7, at 11 tbl.4. Because the District's resource utilization, student demographics, and governance by Congress are anomalous in the context of the 50 states, I have not included it in the analysis here. But the example is a stark reminder that no simple relationship exists between money and outcomes.

[19] *See* DAVID GRISSMER ET AL., IMPROVING STUDENT ACHIEVEMENT: WHAT STATE NAEP TEST SCORES TELL US (2000).

[20] *See id.* at 68-69, 181-85.

[21] One standard deviation on the NAEP is roughly equivalent to four grade levels of learning; thus, one-third of a standard deviation corresponds to one and one-third grade levels. *See* Paul E. Peterson, *Ticket to Nowhere*, EDUC. NEXT, Spr. 2003, at 39, 40.

[22] *See* GRISSMER ET AL., *supra* note 19, at 68-69 tbl.6.1; *id.* at 75–76, 77 tbl.7.1 (estimating that additional $1000 per student in 1993–94 dollars would raise state NAEP scores by 0.04 to 0.10 standard deviation).

[23] *See id.* at 76–78, 77 tbl.7.2.

key finding—the size of the effect of lowering pupil-teacher ratios in early grades varied inversely with family socioeconomic status: children from low-SES families gained more from lower pupil-teacher ratios than children from medium-SES families, and the latter gained more than children from high-SES families.[24] The study similarly found that children from low-SES families benefited more from greater access to public pre-K programs than children from medium-SES families, who in turn benefited more than children from high-SES families.[25]

These findings suggest that resource-dependent interventions are most effective when targeted to low-SES states and, within states, to low-SES districts and schools.[26] Although the RAND study has its skeptics,[27] its results cohere with three other lines of empirical study that find positive resource effects on the performance of the most disadvantaged students and schools. First, randomized experiments on class size reduction—notable for their rigorous research design[28]—have found that smaller classes produce gains by all students but significantly larger gains by minority students, low-income students, and low-achieving students compared to their more advantaged peers.[29] Second, some econometric studies have similarly found that greater resources are associated with greater gains by low-achieving students relative to their high-achieving peers and by students in low-spending versus high-spending districts.[30] Third, from the late

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[24] *See id.* at 79, 80 tbl.7.4. The study defined "low" SES to correspond to overall family characteristics in Louisiana, "medium" SES to correspond to Arkansas, North Carolina, and Tennessee, and "high" SES to correspond to Iowa, Maine, and Massachusetts. *See id.* at 79.

[25] *See id.* at 80, 81 tbl.7.5. The study found no variation across SES levels in the size of the effect of improving teacher resources and instructional materials. *See id.* at 80.

[26] *See id.* at 91–93.

[27] *See* Eric A. Hanushek, *Deconstructing RAND*, EDUC. MATTERS, Spring 2001, at 65; *cf.* David Grissmer, Letter to the Editor, *RAND Responds*, EDUC. MATTERS, Summer 2001, at 4 (responding to Hanushek).

[28] *See* Barbara Nye et al., *The Effects of Small Classes on Academic Achievement: The Results of the Tennessee Class Size Experiment*, 37 AM. EDUC. RES. J. 123, 125–36 (2000) (describing experimental design of Tennessee's Project STAR and finding minimal bias from attrition or switching of students between small and large classes).

[29] *See* Alan B. Krueger, *Experimental Estimates of Education Production Functions*, 114 Q.J. ECON. 497, 524, 525 tbl.X (1999); Jeremy D. Finn & Charles M. Achilles, *Tennessee's Class Size Study: Findings, Implications, Misconceptions*, 21 EDUC. EVALUATION & POL'Y ANALYSIS 97, 99–100 & tbl.1 (1999) (reviewing research on Project STAR and finding that "[i]n most comparisons, the benefit for minority students was about *two to three times as large* as that for Whites").

[30] *See* Ronald F. Ferguson & Helen F. Ladd, *How and Why Money Matters: An Analysis of Alabama Schools*, *in* HOLDING SCHOOLS ACCOUNTABLE: PERFORMANCE-BASED REFORM IN EDUCATION 265, 287–88 (Helen F. Ladd ed., 1996) (finding in Alabama that increased spending had large effects on student achievement concentrated in districts spending below the state median); Jonathan Guryan, *Does Money Matter? Regression-Discontinuity Estimates from Education Finance Reform in Massachusetts* 22–23 (Nat'l Bureau of Econ. Research, Working Paper No. 8269, 2001)

1960s to early 1990s, increased education spending largely in the form of compensatory programs for low-income children coincided with robust gains in reading and math by black, Latino, and low-scoring white students, with the greatest gains in the South, even as the broad majority of whites made little or no improvement.[31] Changes in parental income and education explain only part of the gains by disadvantaged students,[32] and investments in schooling over this period, including substantial reductions in pupil-teacher ratios, had differential positive effects for disadvantaged students.[33] In sum, this body of evidence supports the common-sense inference that additional resources are likely to produce educational benefits—indeed, the greatest benefits—for the disadvantaged children concentrated in the lowest-spending states.

II. STATE FISCAL CAPACITY AND EFFORT

Now, an important question for policymakers: Do interstate disparities reflect differences in state *effort* in support of public schools or differences in state *fiscal capacity*? If the problem is mainly one of effort, then the emphasis of law and policy should be on encouraging low-spending states to devote more of their own resources to education. If the problem is mainly one of capacity, then it is important to consider the federal role in expanding resources available to low-spending states. I begin by defining capacity and effort, and then compare the relationship of each to state education revenue.

State fiscal capacity is "a state's *potential* ability to raise revenue from its own sources."[34] In other words, fiscal capacity is an inherent characteristic of a state's economy and revenue base rather than a function of its decisions about

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(finding increased per-pupil spending produced higher fourth-grade test scores in math, science, and social studies primarily due to gains by lowest-achieving students).

[31] *See* David Grissmer et al., *Why Did the Black-White Score Gap Narrow in the 1970s and 1980s?*, *in* THE BLACK-WHITE TEST SCORE GAP 182, 185-95 (Christopher Jencks & Meredith Phillips eds., 1998); Larry V. Hedges & Amy Nowell, *Black-White Test Score Convergence Since 1965*, *in* THE BLACK-WHITE TEST SCORE GAP, *supra*, at 149, 159-61.

[32] *See* Grissmer et al., *supra* note 31, at 195–201 (family characteristics explain one-quarter or less of narrowing of black-white achievement gap between 1970 and 1990); Hedges & Nowell, *supra* note 31, at 161–66 (similar finding with multiple data sets).

[33] *See* Grissmer et al., *supra* note 31, at 212–16 (comparing reduction in pupil-teacher ratio between 1960 and 1990 to Tennessee class size reduction experiment, and positing parallel differential effects on blacks and whites). Desegregation likely also played a role in producing gains in the South, although it does not explain minority gains in regions where segregation increased between the late 1960s and early 1990s. *See id.* at 206–11.

[34] Michael Compson & John Navratil, *An Improved Method for Estimating the Total Taxable Resources of the States* 1 (U.S. Dep't of Treas., Treas. Research Paper No. 9702, 1997) (emphasis added), *available at* http://www.treas.gov/offices/economic-policy/resources/wpnewm.pdf.

how to raise revenue.[35] So defined, fiscal capacity can be measured in various imperfect ways.[36] Although state personal income (SPI) and gross state product (GSP) are two common measures, here I choose a more comprehensive measure of state fiscal capacity called Total Taxable Resources (TTR).[37] Introduced in 1985 by the Treasury Department, TTR is estimated by taking GSP as a starting point, subtracting payments to the federal government that states cannot legally tax, and then adding several income flows, including resident wages from out-of-state employment, dividends and interest income, and payments from federal social insurance programs.[38] In recent studies by the U.S. Government Accountability Office (GAO), TTR has been GAO's preferred measure of state capacity to fund public services, including education.[39]

We can compare capacity to finance education across states by computing each state's cost-adjusted TTR per weighted pupil.[40] Column A of Table 5 lists these data for 2001 in rank order, along with each state's ratio to the national average. As Column A shows, there are substantial differences in state fiscal ca-

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[35] *See id.* at 3 ("The distinction between [income] flows which a state can potentially tax and the actual fiscal choices made by states is critical. [A capacity measure] says nothing about, nor does it consider, the actual fiscal choices made by the states."); Stephen M. Barro, *State Fiscal Capacity Measures: A Theoretical Critique*, *in* MEASURING FISCAL CAPACITY 51, 55 (H. Clyde Reeves ed., 1986) (fiscal capacity is "an inherent characteristic of a state's economy, determined by the state's resources or revenue bases . . . without regard to current public or private resource use decisions").

[36] *See* ADVISORY COMM'N ON INTERGOVERNMENTAL RELATIONS, MEASURING STATE FISCAL CAPACITY 107–120 (1987) (discussing alternative measures of fiscal capacity and their uses).

[37] *See* OFFICE OF ECON. POL'Y, U.S. DEP'T OF TREAS., TREASURY METHODOLOGY FOR ESTIMATING TOTAL TAXABLE RESOURCES 2 (2002), *available at* http://www.treas.gov/offices/-economic-policy/resources/nmpubsum.pdf ("TTR is defined as the unduplicated sum of the income flows produced within a state (GSP) and the income flows received by its residents (SPI) which a state can potentially tax."); Compson & Navratil, *supra* note 34, at 1.

[38] *See* OFFICE OF ECON. POL'Y, *supra* note 37, at 2-4.

[39] TTR is currently used in federal grant-making to states under the Community Mental Health Services and Substance Abuse Prevention and Treatment programs. *See* 42 U.S.C. §§ 300x-7(a)(6)(B)(i), 300x-33(a)(1)(A) (2000). GAO has used TTR to study trends in states' ability to raise revenue for public education. *See* U.S. GEN. ACCOUNTING OFFICE, SCHOOL FINANCE: TRENDS IN U.S. EDUCATION SPENDING 18–19 (1995). It has also recommended use of TTR to measure state fiscal capacity for purposes of distributing federal highway money, Medicaid funds, federal aid for home- and community-based elder care, and maternal and child health block grants. *See* U.S. GOV'T ACCOUNTABILITY OFFICE, FEDERAL-AID HIGHWAYS: TRENDS, EFFECT ON STATE SPENDING, AND OPTIONS FOR FUTURE PROGRAM DESIGN 42 n.39, 90 (2004); U.S. GEN. ACCOUNTING OFFICE, MEDICAID FORMULA: DIFFERENCES IN FUNDING ABILITY AMONG STATES OFTEN ARE WIDENED 14–15 (2003); U.S. GEN. ACCOUNTING OFFICE, OLDER AMERICANS ACT: FUNDING FORMULA COULD BETTER REFLECT STATE NEEDS 51–54 (1994); U.S. GEN. ACCOUNTING OFFICE, MATERNAL AND CHILD HEALTH: BLOCK GRANT FUNDS SHOULD BE DISTRIBUTED MORE EQUITABLY 50–51 (1992).

[40] For state TTR estimates, see OFFICE OF ECON. POL'Y, TOTAL TAXABLE RESOURCES (2005), *available at* http://www.treas.gov/offices/economic-policy/resources/2005est.pdf. I adjusted 2001 TTR data with the GCEI and pupil weights described *supra* at notes 6–12 and accompanying text.

pacity. Most states in the Northeast and upper Midwest are above the national average, while most states in the South and Southwest are below average. The fiscal capacity of the top quintile of states taken as a whole ($238,000 per weighted pupil) is over 57% greater than the capacity of the bottom quintile ($151,000 per weighted pupil).

Turning now to effort, each state's educational effort may be defined as the hypothetical tax rate that, when levied against the state's fiscal capacity, produces the observed level of nonfederal education revenue in that state. The tax rate is hypothetical because no such tax is actually levied; in almost all states, nonfederal education revenue is derived from a combination of state and local sources at various tax rates. At the same time, the definition assumes that the level of nonfederal education revenue in a state is a function of policy choices within the state's control. Thus, effort is an aggregate measure of the state's willingness to leverage available resources for education.[41]

To measure effort, I begin with each state's cost-adjusted revenue per weighted pupil from nonfederal sources in 2001–02; these appear in Column C of Table 5 along with ratios to the national average.[42] With these data, each state's educational effort can be determined by taking nonfederal revenue per weighted pupil as a percentage of state fiscal capacity per weighted pupil. The results appear in Column B, along with ratios to the national average. Like fiscal capacity, effort varies across states. However, a regional pattern is difficult to discern.

Table 5 provides some insights into the nature of school funding disparities across states. Some states, like New Jersey and New York, combine high fiscal capacity with above-average effort to generate a much higher level of education revenue than in most other states. Other states, like Maryland and Massachusetts, can achieve high revenue with below-average effort because of their high fiscal capacities. Delaware, home to many corporate headquarters, exerts the lowest level of effort but still has high revenue per pupil because it has the highest fiscal capacity in the nation. By contrast, some states generate high revenue (e.g., Maine, Michigan) or average revenue (e.g., South Carolina, West Virginia) by exerting high effort against low fiscal capacities. Among states with low revenue, many exert average effort (e.g., Arizona, Oklahoma) or even above-average effort (e.g., Arkansas, New Mexico) but draw limited revenue because of low capacity. Other states have low capacity and low effort (e.g., California,

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[41] So defined, effort is not simply the willingness of a state's residents to tax themselves, since fiscal capacity includes income to nonresidents who do business in the state. Conceptually, effort encompasses both the willingness of residents to tax themselves as well as policy decisions made by residents that shape the business climate (i.e., tax advantages or disadvantages) for nonresidents.

[42] Unadjusted revenue data for 2001–02 are published in COHEN & JOHNSON, *supra* note 7, at 8 tbl.1. The per-pupil revenue figures are slightly higher than the per-pupil expenditures in Column C of Table 2 because the expenditure data do not include capital outlays and debt repayment to which revenue is applied. Nevertheless, revenues and expenditures are highly correlated.

Louisiana), while some appear to have low revenue primarily because of low effort (e.g., Florida, Nevada).

These examples show that both effort and capacity play a role in explaining interstate disparities in educational resources. We can gauge the relative importance of the two factors by comparing the relationship between capacity and revenue with the relationship between effort and revenue. Table 6 describes these relationships with simple correlation coefficients using TTR, SPI, and GSP as alternative measures of fiscal capacity. Using unadjusted data on revenue and capacity, we find that, while revenue is positively associated with both capacity and effort (top panel), the relationship between revenue and capacity is much stronger. When the data are adjusted for geographic cost differences and pupil weights (bottom panel), there is an attenuated but similar difference between capacity and effort as a correlate of state revenue. Thus, while some states with low capacity manage to achieve high revenue with high effort, and while others with high capacity have low revenue because of low effort, Table 6 suggests that variation in fiscal capacity plays a larger role in explaining interstate differences in nonfederal education revenue than variation in effort.

The advantage of high fiscal capacity is further evident from the negative correlation between state capacity and state effort.[43] In other words, states with higher capacity tend to exert lower effort. Among the ten states with the highest fiscal capacity, only two exerted above-average effort in 2001–02, and neither one exceeded the average by more than 10%. By contrast, among the ten states with the lowest capacity, eight showed above-average effort, and four exceeded the average by more than 10%. Despite the generally higher effort exerted by states with lower capacity, nonfederal revenue per weighted pupil was almost 40% greater on average in the ten states with the highest capacity ($7615) than in the ten states with the lowest capacity ($5480). This pattern is analogous to the familiar inequality between school districts in states that rely heavily on local property taxes to fund education.

In sum, fiscal capacity and effort are both determinants of interstate disparities in educational resources, and between the two, capacity plays the larger role. States with higher capacity tend to make less effort yet raise more revenue than states with lower capacity. This reality highlights the need for a robust federal role in ameliorating interstate inequality.

III. The Federal Role in Interstate Inequality

Yet the federal government has done little to narrow educational inequality across states. The federal role in education, while greatly expanded by the No

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[43] Based on adjusted 2001–02 data using TTR as the measure of fiscal capacity, the correlation between state capacity and state effort is −0.53.

Child Left Behind Act, does not set common content or performance standards for schools in every state.[44] Nor does it seriously address interstate inequality in school funding. On the whole, federal spending on public elementary and secondary schools is small, comprising 7.9% of total education revenue in 2001–02.[45] Although federal aid disproportionately benefits poorer states, the equalizing effect is modest. Counting only state and local revenue, cost-adjusted revenue per weighted pupil in 2001–02 was 50% greater in the ten highest states as a whole ($8180) than in the ten lowest states ($5438). Taking federal revenue into account, cost-adjusted revenue per weighted pupil remained 44% greater in the ten highest states ($8,745) than in the ten lowest ($6056). The addition of federal funds to state and local revenue reduced the coefficient of interstate variation in cost-adjusted revenue per weighted pupil by only 11%.[46] In short, the federal government cannot buy much equality with eight cents of every education dollar.

The limited leverage of the federal share is a function not only of its small size but also of the way it is allocated. Federal education aid largely flows through categorical programs, not through general assistance grants. Among the three biggest programs, two—special education for children with disabilities and nutritional aid for low-income children—allocate funds largely in proportion to each state's share of the target population. These monies account for the mildly equalizing effect of federal aid across states because low-spending states tend to have higher shares of low-income children and because equal federal dollars per child provide a bigger boost, proportionally speaking, to low-spending states than to high-spending states. However, the single largest federal investment in the nation's public schools, Title I, does not reduce but instead *reinforces* interstate inequality in educational opportunity.

With over $13 billion appropriated in 2005, Title I aims to ensure equal educational opportunity for all children throughout the nation, whether poor, minority, or limited in English proficiency. Given this broad ambition, one might ex-

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[44] I address the subject of national standards in the unabridged version of this article. *See* Goodwin Liu, *Interstate Inequality in Educational Opportunity*, 81 NYU L. REV. __ (2006).

[45] *See* COHEN & JOHNSON, *supra* note 7, at 9 tbl.2. Here I address only federal *direct* expenditures on education. The federal government also provides *indirect* subsidies to education primarily through the federal income tax deduction for state and local property taxes. *See* 26 U.S.C. § 164(a)(1)(2000). These tax expenditures more than double the federal contribution to education and are so regressive that, even when they are combined with direct education spending, more federal funds go to high-income than to low-income school districts. *See* Susanna Loeb & Miguel Socias, *Federal Contributions to High-Income School Districts: The Use of Tax Deductions for Funding K–12 Education*, 23 ECON. EDUC. REV. 85 (2004). A comprehensive effort to rethink the federal role in school finance would have to take these tax expenditures into account.

[46] These figures are based on data in COHEN & JOHNSON, *supra* note 7, at 9 tbl.2, 12 tbl.5, adjusted for geographic cost differences and pupil weights. The enrollment-weighted coefficient of interstate variation for cost-adjusted nonfederal revenue per weighted pupil in 2001–02 was 16.2; with the addition of federal revenue, it was 14.4.

pect Title I to disproportionately benefit low-spending states, where disadvantaged students are concentrated. But the reality is otherwise. Like the bulk of equity-based policy and litigation in recent decades, Title I primarily works to reduce educational inequality within states, not between states.

The reason is simple. Each state's Title I allocation is largely a product of two factors. The first factor—the number and concentration of poor children in the school districts of each state[47]—tends to benefit low-spending states because they have disproportionate numbers of poor children. However, the second factor—"the average per-pupil expenditure in the State" (the state expenditure factor)[48]—causes the existing pattern of interstate inequality in education spending to be reproduced in the allocation of Title I funds. Although the statute limits the state expenditure factor to a range from 80% to 120% of the national average,[49] significant interstate disparities remain.

These disparities are evident in Table 7. Column A lists the number and percentage of the nation's poor children in each state in 2001, and Column B lists each state's share of Title I funds in 2001.[50] Together, Columns A and B show that high- and low-spending states do not receive Title I money in proportion to their shares of the nation's poor children. Michigan, for example, had slightly more poor children than North Carolina but received well over twice as much Title I aid. Similarly, Massachusetts had fewer poor children than Oklahoma but received almost 80% more Title I aid. Column C shows each state's Title I funding per poor child in rank order. Some of the highest amounts in Column C reflect statutorily guaranteed minimum allocations for small states.[51] Leaving those states aside, the amounts per poor child at the top are as much as double the

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[47] See 20 U.S.C. § 6333(a)(1)(A), (c) (basic grants), 6334(a)(2)(A) (concentration grants), 6335(b)(1)(A), (c) (targeted grants) (Supp. III 2004).

[48] *Id.* § 6333(a)(1)(B) (basic grants); *see id.* § 6334(a)(2)(B) (concentration grants), 6335(b)(1)(B) (targeted grants).

[49] *See id.* § 6333(a)(1)(B).

[50] *See* DIGEST 2002, *supra* note 2, at 27 tbl.20 (percentage of school-age children in poverty by state for 2001); COHEN & JOHNSON, *supra* note 7, at 12 tbl.5 (fall 2001 enrollment); U.S. Department of Education State Tables by Program 1 (Sept. 2005), http://www.ed.gov/about/overview/-budget/statetables/07stbyprogram.pdf (Title I expenditures by state) [hereinafter State Tables]. Although Table 7 lists Title I allocations and child poverty data from the same year (2001), Title I allocations in a given year are actually based on poverty data from the nearest prior year such figures are available. Before NCLB, the use of out-of-date child poverty data to compute Title I grants resulted in significant slippage between allocations and actual needs. *See* WAYNE RIDDLE & RICHARD APLING, CONG. RESEARCH SERV., EDUCATION FOR THE DISADVANTAGED: ALLOCATION FORMULA ISSUES IN ESEA TITLE I REAUTHORIZATION LEGISLATION 11–12 (2000). NCLB now requires Title I grants to be based on poverty data that are updated at least every two years. *See* 20 U.S.C. § 6333(c)(3)(A) (2000 & Supp. 2004).

[51] *See id.* §§ 6333(d), 6334(b), 6335(e), 6337(b)(1)(B) (Supp. 2004)

amounts at the bottom, with the variation essentially mirroring interstate variation in per-pupil spending.

Of course, by channeling aid to high-poverty districts, Title I has the effect of narrowing disparities in educational opportunity for poor versus non-poor children. Federal education aid is significantly more targeted to poor children than either state or local funding.[52] However, as Table 7 suggests, the equalizing effect occurs only within states, not across states, because of the state expenditure factor in the Title I formula.

The disparities in Table 7 are somewhat overstated because the dollar figures are not adjusted for geographic cost differences. But even when cost adjustments are applied, the state expenditure factor effectively neutralizes whatever interstate equalization Title I achieves as a result of targeting funds to poor children. Indeed, the addition of Title I funds leaves the extent of interstate variation in revenue per weighted pupil virtually unchanged.[53] What the poverty factor in Title I does for interstate equalization, the state expenditure factor negates. Thus, remarkably, the mildly equalizing effect that the totality of federal education aid has across states occurs not because of, but in spite of Title I.

What is especially troubling is that this distribution of federal aid serves no convincing policy rationale.[54] The state expenditure factor cannot be said to adjust Title I allocations for geographic differences in educational costs, since state expenditures vary for many reasons having nothing to do with interstate cost differences. Even on a cost-adjusted basis, Title I allocations per poor child vary substantially across states. Nor can Title I be said to reward state effort; as discussed above, state per-pupil expenditure is more closely associated with state fiscal capacity than with state effort.

Moreover, the Title I formula cannot be understood to create an incentive for states and school districts to devote more of their own resources to public education. Title I aid is simply too small for this purpose. Suppose, for example, that Mississippi in 2000–01 had raised its per-pupil spending by $100 from $5175 to $5275, a 1.9% increase.[55] Assuming that Title I aid increases proportionally, Mississippi would have received $160 million under Title I in 2003 instead of

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[52] *See* U.S. DEP'T OF EDUC., PROMISING RESULTS, CONTINUING CHALLENGES: THE FINAL REPORT OF THE NATIONAL ASSESSMENT OF TITLE I, at 78–79 (1999).

[53] In 2001–02, the coefficient of interstate variation in cost-adjusted state and local education revenue per weighted pupil was 16.6. With the addition of Title I funds, it was 16.3, a difference of less than 2%.

[54] *See* RIDDLE & APLING, *supra* note 50, at 15–16 (reviewing and rejecting various policy objectives purportedly served by state expenditure factor).

[55] *See* NAT'L CTR. FOR EDUC. STATISTICS, DIGEST OF EDUCATION STATISTICS 2003, at 208 tbl.170 (2004) [hereinafter DIGEST 2003].

$157 million, an increase of $3 million.[56]   However, this increment is just six percent of the $50 million that Mississippi would have had to spend to raise its per-pupil average by $100.[57]   As Congress's own researchers have observed, "[i]t seems unlikely that such a relatively small 'bonus' would provide substantial motivation to states and [school districts] in deciding whether to increase their level of spending for public elementary and secondary education."[58]

A further possible rationale for the state expenditure factor is largely historical. Four decades ago, when Title I was enacted, the weak condition of public education throughout the nation was evident not only in low per-pupil spending but also in feeble infrastructure at the state level. The Senate report on the Elementary and Secondary Education Act cited the example of "a medium-sized department in a middle-income State" where "75 professional staff members assist 1,300 schools and 20,000 local school people in the administration of State and Federal funds and programs . . . but these 75 State consultants can visit the schools of their State on the average of only one-half day every 7 years."[59] In this context, calibrating Title I aid to state expenditures might have ensured that states did not receive more funds than they could use efficiently. In 1965, Title I had the effect of significantly increasing the education budget of some states; in some schools, the new program increased funding by as much as 50%.[60] The ability of states and their subunits to effectively utilize this infusion of resources was not yet known, and the early years of Title I saw some instances of malfeasance.[61]

Forty years later, the educational infrastructure in most if not all states has become stronger. Their capacity to plan, implement, and evaluate educational programs has grown, as control of policy and funding has drifted upward from

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[56]   *See* State Tables, *supra* note 50, at 1. I have translated a $100 per pupil increase in 2000–01 into an increased Title I allocation in 2003 because, under the statute, the state expenditure factor is based on the state's per-pupil average in the third fiscal year prior to the allocation year. *See* 20 U.S.C. § 7801(2)(Supp. III 2004)

[57]   Mississippi's elementary and secondary school enrollment in the fall of 2000 was nearly 498,000. DIGEST 2003, *supra* note 55, at 57 tbl.37. Spending an additional $100 per pupil for 498,000 pupils would have required nearly $50 million.

[58]   RIDDLE & APLING, *supra* note 50, at 16. Because Mississippi has low per-pupil spending and a high child poverty rate, the example provides an estimate of the upper bound of Title I's incentive effect. For the vast majority of states, the Title I "bonus" generated by incremental state and local spending is far less than six percent.

[59]   S. REP. NO. 89-146, at 32 (1965); *see* JOHN F. HUGHES & ANNE O. HUGHES, EQUAL EDUCATION: A NEW NATIONAL STRATEGY 76 (1972) ("[T]he state agencies in all regions of the country were generally lacking in their capability for positive leadership in the critical areas of education priorities and policies.").

[60]   *See* HUGHES & HUGHES, *supra* note 59, at 78; *id.* at 74 (noting that magnitude of new money in 1965 was sufficient to bring Southern states into compliance with desegregation, a condition of Title I funding under regulations issued by the Department of Health, Education, and Welfare).

[61]   *See id.* at 62–69, 79.

local school boards to large and professionalized state departments of education. Equally important, Title I comprises a smaller share of education budgets today than forty years ago. As a result, Title I's marginal impact on state administrative capacity is much less now than it was in 1965. Moreover, the current statute authorizes states to devote a portion of Title I money to administration, evaluation, and technical assistance in order to enhance the efficacy of program funds.[62] These considerations tend to erode any justification for the state expenditure factor as a means of limiting Title I grants to what states can effectively use.

Nor is it convincing to suggest that the state expenditure factor reflects a policy of deference to diversity in educational approaches among the states. Of course, there is no single, optimal level of per-pupil spending given the many combinations of resources, accountability, choice, and other variables that potentially comprise an effective state education policy. At the margin, it may be unclear what difference an additional hundred dollars per pupil will make in a given state, and Congress may reasonably wish to encourage variation. But as Table 7 shows, the disparities in Title I allocations are not marginal but quite substantial. It is perverse to justify this scheme as a kind of national experiment to test whether low-spending states can educate poor children equally well with one-half or two-thirds of the resources available in high-spending states. Such inequality may spur innovation, but only with unacceptable risks. To my knowledge, the state expenditure factor has never been defended in these terms.

IV. REFORMING THE FEDERAL ROLE IN SCHOOL FINANCE

Just as a patchwork of state standards offers little guidance for educating a national citizenry, a patchwork of state funding practices reflecting disparate levels of fiscal capacity and effort cannot effectively support ambitious national education goals. Narrowing those disparities ought to be a central focus of the federal role in school finance. Here I offer some key principles to guide policy design, followed by two specific proposals.

A. *Principles for Federal Education Aid*

As it currently stands, Title I is best understood as a program of *intra*state equalization. Because low-income children face greater hurdles to achieving equal citizenship than their more advantaged peers in every state, Congress should continue to target education aid within each state to the highest-poverty districts and schools. *Across* states, however, federal aid should also work to

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[62] *See* 20 U.S.C. § 6303(a) (Supp. III 2004) (requiring states beginning in 2004 to reserve four percent of Title I funds to implement "statewide system of technical assistance and support" for schools and school districts needing improvement); *id.* § 6304(a) (allowing states to reserve one percent of Title I funds or $400,000, whichever is greater, for administration).

reduce inequality, not reinforce it as Title I currently does. This can be achieved with the following four guideposts for policy design.

First, because interstate differences in education funding primarily reflect interstate differences in fiscal capacity, the distribution of federal aid should compensate for differences across states in their ability to support education. Narrowing such differences is a school finance role that only the federal government can fulfill. It is the key reform that would orient the federal role toward treating the nation's schoolchildren as equal members of a single political community.

Second, in aiding states with low education spending, federal policy should distinguish between low fiscal capacity and low effort. Where low spending is due to low effort, the primary federal role should be to motivate states toward greater effort. Similarly, the federal government should ensure that states receiving increased federal aid do not reduce their effort or use federal money to supplant state or local funds. The reality is that, even with an expanded federal role, states will continue to bear most of the burden for school finance. Because a fully federalized finance system is neither realistic nor desirable, narrowing interstate disparities will require a progressive distribution of federal aid that is layered on top of a commitment by each state to do its fair share.

Third, federal aid should take into account geographic differences in educational costs. Because educational purchasing power varies significantly between states and within states, the efficacy of federal aid in reducing real differences in opportunity requires that cost differences be part of the equation.

Finally, federal aid will do much to reduce interstate disparities or motivate states to adopt high standards so long as it is only eight cents of every education dollar. Because the federal government has assumed a leading role in standards-based reform, it is fair to expect increased federal responsibility for the associated costs. Indeed, there is growing evidence that the ambitions of standards-based reform demand significantly more resources than what is now being committed.[63] Although Title I was once limited to remedial instruction for poor children, today it drives a *systemic* national agenda of standards and accountability. As Allan Odden and Lori Kim have observed, "some type of nationwide base per-pupil spending level is the logical school finance policy for the implementation of national education goals, especially since spending differs across states and spending differences are correlated with a variety of student outcomes."[64]

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[63]   *See, e.g.*, WILLIAM DRISCOLL & HOWARD FLEETER, PROJECTED COSTS OF IMPLEMENTING THE FEDERAL "NO CHILD LEFT BEHIND ACT" IN OHIO (2003); Jennifer Imazeki & Andrew Reschovsky, *Is No Child Left Behind an Un (or Under) funded Federal Mandate? Evidence from Texas*, 57 NAT'L TAX J. 571 (2004); William J. Mathis, *No Child Left Behind: Costs and Benefits*, 84 PHI DELTA KAPPAN 679, 680–82, 686 & nn.10–24 (2003) (summarizing cost studies in various states).

[64]   Allan R. Odden & Lori Kim, *Reducing Disparities Across the States: A New Federal Role in School Finance*, *in* RETHINKING SCHOOL FINANCE: AN AGENDA FOR THE 1990s, at 260, 291 (Allan R. Odden ed., 1992).

In sum, the federal role in school finance, in addition to targeting aid to the neediest districts and schools in each state, should (a) promote interstate equality by compensating for interstate disparities in fiscal capacity, (b) motivate states to exert reasonable effort in support of education, (c) adjust federal aid for geographic cost differences, and (d) provide foundation aid that is sufficient to enable even the poorest states to educate their children to national standards.

B. *Policy Recommendations*

With these principles in mind, I offer two recommendations for reshaping federal education aid. One is a modest proposal to reform Title I. The other is a more ambitious proposal to subsume Title I within a larger national program of foundation aid that would guarantee each state, whatever its fiscal capacity, a minimum level of educational resources per weighted pupil. A national foundation program would not achieve absolute equality, since states may always spend above the foundation level. But it would create a more equitable system of school finance and one that guarantees every child an adequate opportunity for equal citizenship in the national community.[65]

1. *Reforming Title I.* The state expenditure factor in the Title I formula should be eliminated. This reform would bring Title I into line with the aid formulas for special education, English language instruction, and child nutrition, all of which assign equal weight to eligible children regardless of the state where they reside. Title I should simply allocate aid in proportion to each state's share of poor children and apply a cost factor to adjust for geographic cost differences.

Although this reform would make Title I more equitable, its impact on interstate inequality would be modest because Title I would continue to provide only a thin layer of federal categorical aid on top of large interstate disparities in nonfederal education revenue. Any serious effort to reduce interstate inequality must directly address the wide variation in state effort and fiscal capacity. This can be done through a national program of foundation aid that complements the systemic reach of NCLB and the plausible evolution of federal policy toward national standards.

2. *Creating a national foundation plan.* There are many ways to design a foundation program that compensates for interstate disparities in fiscal capacity. One approach is a modified form of "power equalizing" whereby the federal government would guarantee each state a minimum amount per weighted pupil for a given level of state effort.[66] For example, the government could assure each state an amount per weighted pupil at least equal to what the state would have

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[65]   For a full elaboration of what I call "educational adequacy for equal citizenship," see Goodwin Liu, *Education, Equality, and National Citizenship*, 116 YALE L.J. 330 (2006).

[66]   *See* JOHN E. COONS ET AL., PRIVATE WEALTH AND PUBLIC EDUCATION 33–35, 255–56 (1970).

raised had it applied its tax effort against the average fiscal capacity among all states. For poorer states, whose actual revenue at a given level of effort is less than the guaranteed amount, federal aid would make up the difference. Richer states whose actual revenue exceeds the guaranteed amount would retain their revenue but would receive no aid. Under this scheme, federal aid would boost the fiscal capacity of poorer states while leaving wealthier states to their superior means, thereby narrowing (though not eliminating) interstate inequality. Moreover, by treating *weighted* pupils as the unit of analysis, the funding scheme integrates the compensatory thrust of categorical aid like Title I.

This type of program is a step in the right direction, although three modifications are warranted. First, if an important objective is to establish a national foundation of aid, then the program must specify a minimum level of effort that participating states must meet. The foundation program should not function as insurance against state indifference. Instead, it should serve as a framework for cooperation federalism in which the federal government would guarantee to every state exerting the minimum effort a foundation level of spending per weighted pupil.[67] Although a state conceivably could refuse to make the required minimum effort, any serious program of national foundation aid would involve large sums of federal money that states would find difficult to forgo.

Second, although it would be equitable to limit federal aid to low-capacity states, a power-equalizing foundation program is unlikely to succeed politically unless it spreads federal aid widely so that every state receives some. Instead of offering no aid to wealthier states that already exceed the federally guaranteed amount at any given effort level, a better approach would be a graduated system that provides some aid to every state. One example of this approach is the variable "federal medical assistance percentage" used by Medicaid. Under Medicaid, the federal government matches state spending on health-related services for low-income people at a rate that is different for each state depending on the square of the ratio of its per capita income to national per capita income.[68] States with lower per capita income have a higher federal matching rate, and states with

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[67] Because some states with high fiscal capacity will already meet or exceed the foundation level with less than the minimum effort, the requirement would apply only to states spending below the foundation level. For states already above the foundation level, the "maintenance of effort" requirement in federal law would apply to ensure that federal aid supplements rather than supplants state and local funding. *See* 20 U.S.C. § 7901 (Supp. III 2004).

[68] *See* 42 U.S.C. § 1396d(b) (West 2006) (defining "federal medical assistance percentage"). The federal aid formulas for foster care, adoption assistance, and the Children's Health Insurance Program also use the federal matching rate under Medicaid. *See id.* §§ 674(a)(1) (foster care), 674(a)(2) (adoption), 1397ee(a)(1) (children's health insurance). In addition, federal aid for technical and vocational education is allocated to states in inverse proportion to per capita income. *See* 20 U.S.C. § 2321(c)(1) (2000).

higher per capita income have a lower matching rate, with all rates bounded by a minimum of 50% and a maximum of 83%.[69]

An analogous "federal educational assistance percentage" could be created to provide foundation aid to public schools. For each state at or above a minimum effort level, the federal government would match its cost-adjusted education spending per weighted pupil at a rate that takes into account the state's fiscal capacity relative to the average fiscal capacity among all states. Fiscal capacity would be measured by a state's total taxable resources adjusted for geographic cost differences and then divided by its weighted pupil count. For poorer states, the federal matching rate would be higher and, for the poorest states, high enough to ensure an educationally adequate foundation. For wealthier states, the matching rate would be lower and, for the wealthiest states, bounded by a politically acceptable minimum (say, four percent).

Third, the federal aid program will not serve its purpose unless it furthers not only interstate but also intrastate equality. If we wish to ensure a foundation level of resources per weighted pupil, it makes little sense to allow states to channel large portions of federal aid toward the most advantaged districts or the most advantaged students. To participate in the program, each state should be required to use federal aid not only to bring all districts up to at least the foundation level[70] but also to narrow both interdistrict and intradistrict resource disparities.[71] One approach would be to require each state to use federal aid to reduce its coefficient of interdistrict variation by a minimum percentage, while offering small increases in the federal matching rate to states that reduce interdistrict disparities by more than the minimum percentage.[72] This requirement of intrastate equalization would drive federal aid to the neediest districts and schools within each state, thereby subsuming the objectives of Title I. To enhance continuity with Title I, the program could specify that within-state allocations in accordance with the current district- and school-level allocation formulas of Title I would presumptively satisfy the intrastate equalization requirement.

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[69] *See* 42 U.S.C. § 1396d(b)(1) (West 2006).

[70] It may not be realistic to expect the poorest states to bring *all* of their districts up to the national foundation level, for if federal aid is calibrated to provide those states with average per-pupil spending just equal to the foundation level, then they would have to eliminate *all* interdistrict disparities in order to ensure that every district spends at the foundation level. Some flexibility in the requirement for the poorest states seems warranted.

[71] Because wealthy, high-spending states may not need to use all of their federal aid to bring their lowest-spending districts up to the foundation level, this additional requirement is necessary to prevent those states from channeling the rest of the aid disproportionately toward already advantaged districts and schools.

[72] An example of a federal aid formula that rewards states that narrow interdistrict disparities measured by the coefficient of variation is the Education Finance Incentive Grant program under Title I. *See* 20 U.S.C. § 6337 (Supp. III 2004).

In sketching the basic contours of a national foundation program, I recognize that, in the hands of Congress, all of the parameters—pupil weights, cost adjustments, minimum state effort, federal matching rate, and the foundation level itself—would be informed by a complex mix of research, expert judgment, and politics. The practical balance of benefits and burdens is as important as any distributive principle in determining the shape of a viable program. Nevertheless, as long as public demand for high standards can be sustained, and as we learn more from cost studies about current shortcomings in financing a truly adequate education, the case for a robust federal role in narrowing interstate disparities and ensuring a national foundation level of resources will remain strong.

To gauge the potential impact of this reform, I compared the interstate equalizing effect of federal education aid in 2002–03 with the effect of a program with the following parameters:

   i.   *Foundation guarantee.* The program assures every state at least $6500 in cost-adjusted revenue per weighted pupil, an amount that Congress has hypothetically determined, based on the best available evidence, to be a reasonable estimate of the cost of adequate educational opportunity for equal national citizenship.

   ii. *Minimum state effort.* As a condition of federal aid, each state with non-federal per-pupil revenue below $6500 must devote (*a*) at least 3.25% of its total taxable resources to education or (*b*) the level of effort necessary to produce the $6500 foundation level, whichever is less. In other words, a state is ineligible for federal aid if it has not made sufficient effort to bring its per-pupil revenue up to the foundation level.

   iii. *Federal matching rate.* Each state's nonfederal revenue is matched by federal aid at a rate inversely proportional to the ratio of the state's fiscal capacity to the national average.

   iv. *Minimum matching rate.* The minimum federal matching rate is set at four percent, a figure hypothetically judged by Congress to be high enough to garner support for the program from relatively wealthy states.

Table 8 simulates the results of this program. Column A shows cost-adjusted revenue per weighted pupil from all sources for each state in 2002–03, and Column B shows cost-adjusted revenue per weighted pupil from nonfederal sources.[73] Column C shows per-pupil revenue after applying the minimum effort

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[73]   The revenue data are from U.S. CENSUS BUREAU, PUBLIC EDUCATION FINANCES 2003, at 1 tbl.1 (2005). The data are adjusted for geographic costs and pupil weighted using the method discussed *supra* at notes 6–12 and accompanying text. Pupil weighting is based on data in NAT'L CTR. FOR EDUC. STATISTICS, DIGEST OF EDUCATION STATISTICS 2004, at tbl.37 (2005), *available at*

requirement to states in Column B below the $6500 foundation.[74] Column D lists the federal matching rate for each state according to a formula that increases the rate as state fiscal capacity decreases, with a minimum rate of four percent.[75] Column E applies the matching rates to the figures in Column C to produce the total cost-adjusted revenue per weighted pupil for each state under the program.[76] The enrollment-weighted coefficient of interstate variation is shown at the bottom of the columns.

As the matching rates in Column D indicate, the simulated national foundation plan disproportionately benefits states with relatively low fiscal capacity that have exerted at least the minimum effort, such as Alabama, California, Idaho, Montana, New Mexico, and Oklahoma. The plan is less generous toward states with relatively high fiscal capacity, including not only states with historically high education spending, such as Connecticut, Massachusetts, and New York, but also states whose low education revenue is largely due to low effort, such as Florida, Nevada, North Carolina, and South Dakota. The plan thus ensures a base level of per-pupil funding by directing substantial aid to poorer states where additional money is likely to yield the greatest educational dividends, while encouraging wealthier states to do their fair share.

The parameters of the federal matching rate, foundation level, and minimum state effort can be adjusted to produce greater or lesser degrees of interstate equalization. The main point is that the program in its essentials is structured to deliver far more equality of opportunity across states than current federal policy. The program simulated in Column E would have narrowed interstate inequality

http://nces.ed.gov/programs/digest/d04/tables/dt04_037.asp (fall 2002 enrollment); *id.* at tbl.54 (number of children 6- to 21-years-old served under Part B of Individuals with Disabilities Education Act in 2002–03 by state); NCELA, *supra* note 12 (LEP enrollment data for 2002–03 by state); and American Community Survey, U.S. Census Bureau, Percent of Related Children Under 18 Years Below Poverty Level in the Past 12 Months (2002), http://www.census.gov/acs/www/-Products/Ranking/2002/R11T040.htm (child poverty rates for 2002 by state).

[74] Eight states in 2002–03—Arizona, Florida, Kentucky, Nevada, North Carolina, South Dakota, Tennessee, and Washington—had cost–adjusted nonfederal revenue per weighted pupil below $6500 and state effort below 3.25% based on nonfederal education revenue as a percentage of TTR. Five of the states (all but Arizona, Kentucky, and Tennessee) could have produced the $6500 foundation with less than 3.25% effort.

[75] Similar to the Medicaid formula, the federal matching rate here can take the general form $R_S = 1 - X*(C_S / C_{AVG})^Y$ where R_S is the federal matching rate for state S, C_S is the cost-adjusted fiscal capacity per weighted pupil of state S, C_{AVG} is the average fiscal capacity of all states, and X and Y are constants that can be adjusted to produce greater or lesser degrees of interstate equalization. In Column D of Table 8, I have set $X = 0.95$ and $Y = 1$, with R_S having a minimum value of 0.04. Column F uses the same values of X and Y but sets no minimum for R_S.

[76] For any state whose matching rate is insufficient to produce per-pupil revenue of $6500, the program contributes additional federal aid to ensure the foundation level. In Columns E and G, this is the case for Arizona and Utah.

in per-pupil revenue by nearly one-third (32%) at a cost of $43.5 billion in 2002–03.[77] By comparison, actual federal education revenue in 2002–03 totaled $36.8 billion and reduced the coefficient of interstate variation by only 12%.[78]

If Congress were to adopt this national foundation plan as a major reform and expansion of Title I, it would require approximately $30 billion in new money above the $13 billion currently spent under Title I.[79] Large as this increase may seem, it is consistent with other estimates of the cost of a national foundation plan,[80] and the federal share of the national education budget would still be less than 15%.[81] Moreover, a significant component of the $43.5 billion estimate in Table 8 is attributable to the four percent minimum federal matching rate. As Columns F and G show, the plan without any minimum would have produced an even greater degree of interstate equalization (a 37% reduction in the coefficient of variation) at a lesser cost ($37.2 billion) in 2002–03, although only thirty states—perhaps too few for an effective political majority—would have received significant federal aid.[82] Ultimately, any fair assessment of the desirability of new education spending must also take into account the social and economic costs of educational inadequacy.[83]

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[77] I computed the 32% figure by comparing the enrollment-weighted coefficient of interstate variation in cost-adjusted revenue per weighted pupil in Column B (16.5) with the coefficient in Column E (11.2). The $43.5 billion total is derived by subtracting the values in Column B from those in Column E to yield cost-adjusted federal aid per weighted pupil for each state, and then converting the cost- and need-adjusted aid into unadjusted amounts, multiplying the unadjusted per-pupil federal aid for each state by its fall 2002 enrollment, and summing across all states.

[78] The 12% figure is derived by comparing the coefficients of variation in Column B (16.5) and Column A (14.6). The $36.8 billion total is from PUBLIC EDUCATION FINANCES 2003, *supra* note 73, at 1 tbl.1.

[79] The $30 billion estimate assumes that the current $13 billion for Title I would go into the foundation plan and leaves untouched all non-Title I elementary and secondary education aid (roughly $25 billion in 2005-06). Because non-Title I aid tends to be equalizing across states, the total federal role would reduce interstate inequality even more than the foundation plan alone.

[80] *See* Richard Rothstein, *Equalizing Education Resources on Behalf of Disadvantaged Children*, *in* A NOTION AT RISK: PRESERVING PUBLIC EDUCATION AS AN ENGINE FOR SOCIAL MOBILITY 31, 63 (Richard D. Kahlenberg ed., 2000) (estimating that over $20 billion would have been required in 1996 (doubling federal K–12 spending) to bring per-pupil spending in all states up to national average); Odden & Kim, *supra* note 64, at 291 (arguing that "20 percent federal/80 percent state and local division does not seem to be unreasonable" for funding national foundation program).

[81] In 2002–03, an additional $30 billion in federal aid would have increased total education revenue to $470 billion while raising the federal share to $66.8 billion, or 14% of the total. *See* PUBLIC EDUCATION FINANCES 2003, *supra* note 73, at 1 tbl.1.

[82] Without the four percent minimum, the coefficient of variation in 2002–03 would have dropped from 16.5 in Column B to 10.4 in Column G, but 18 states would have received no federal aid and two would have received less than $100 per pupil.

[83] *See* GRISSMER ET AL., *supra* note 19, at 86–87 (cost-effectiveness of K–12 expenditures must account for effects on wages, delinquency, and government spending on social programs); Cam-

CONCLUSION

To be sure, the shortcomings of American public education are too complex and multifaceted to be remedied by simply "throwing money at the problem." The national foundation plan I propose must grow out of and bear a reasonable empirical relationship to learning standards that lend coherence and strategic direction to education policy in the area of school finance and beyond. Such reforms also must be nested within ongoing efforts to improve the accountability and efficiency of public schools. Moreover, districts and schools need concrete solutions to intensely practical challenges, such as how to provide teachers with sufficient time and professional development to align their knowledge and practice with higher standards, and how to implement and refine best practices for improving the performance of the most disadvantaged students. Given this context, the ideas presented here are not intended to be panaceas. To be effective, they must leverage and integrate other reform agendas in the policy environment.

At the same time, it is difficult to believe that our gaping interstate disparities in educational standards and resources have little or no bearing on unequal opportunity and outcomes. The problem is one that only the federal government can meaningfully address. The political alignment necessary for a solution is a topic beyond the scope of this paper. But the approach must bring together Southern moderates who see the benefits of federal assistance outweighing the threat to states' rights with Northern liberals who support a fairer distribution of the nation's wealth. Today the coalition might also include legislators from the West and Southwest, where high poverty and immigration have produced formidable educational challenges. The viability of any reform will of course depend on the balance of winners and losers. But without a new and concerted effort, it will continue to be more rhetoric than reality to speak of a national commitment to equal educational opportunity.

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paign for Educational Equity, Fall 2005 Symposium on the "Social Costs of Inadequate Education," http://www.tc.columbia.edu/centers/EquitySymposium/symposium/resource.asp (last visited Aug. 4, 2006) (collecting papers on consequences of inadequate education for crime, health, public assistance, voting, and taxes).

Table 1.   Per-pupil expenditures in public elementary and secondary schools,
1969–70 to 1999–2000

	(constant 1999–2000 dollars with state rank)							Change in rank 1969 to 1999
	1969–70		1979–80		1989–90		1999–00	
United States	$3,367		$4,554		$6,190		$6,911	
Alabama	2,293	47	3,316	48	4,191	47	5,638	42	+5
Alaska	4,747	2	9,305	1	10,103	1	8,806	5	−3
Arizona	3,022	28	4,067	29	4,956	39	4,999	49	−21
Arkansas	2,290	48	3,210	50	4,305	46	5,277	47	+1
California	3,735	10	4,855	17	6,003	23	6,314	28	−18
Colorado	3,075	25	4,924	15	5,809	25	6,215	32	−7
Connecticut	4,082	4	4,725	19	9,950	3	9,753	3	+1
Delaware	3,735	9	5,641	4	7,101	10	8,310	8	+1
Florida	3,059	26	4,000	30	6,129	19	5,831	37	−11
Georgia	2,415	45	3,251	49	5,333	34	6,437	26	+19
Hawaii	3,549	18	4,550	21	5,506	30	6,530	25	−7
Idaho	2,569	40	3,376	46	3,894	49	5,315	46	−6
Illinois	3,656	11	4,887	16	6,027	22	7,133	19	−8
Indiana	2,963	32	3,725	38	5,693	27	7,192	15	+17
Iowa	3,577	16	4,719	20	5,586	29	6,564	24	−8
Kansas	3,132	24	4,280	23	5,719	26	6,294	30	−6
Kentucky	2,250	49	3,396	44	4,511	44	5,921	36	+13
Louisiana	2,641	39	3,552	41	4,833	40	5,804	39	0
Maine	2,909	35	3,690	39	6,537	14	7,667	13	+22
Maryland	3,627	13	5,000	13	7,431	9	7,731	12	+1
Massachusetts	3,543	19	5,556	5	7,688	7	8,761	6	+13
Michigan	3,771	8	5,442	6	6,786	12	8,110	9	−1
Minnesota	3,831	5	5,008	12	6,264	17	7,190	16	−11
Mississippi	2,047	50	3,420	43	3,911	48	5,014	48	+2
Missouri	2,671	37	3,760	37	5,427	31	6,187	33	+4
Montana	3,261	21	4,936	14	5,653	28	6,314	29	−8
Nebraska	3,136	23	4,415	22	6,070	20	6,683	23	0
Nevada	3,163	22	4,161	26	5,087	37	5,760	40	−18
New Hampshire	2,985	29	3,777	36	6,381	16	6,860	21	+8
New Jersey	4,140	3	6,161	3	10,061	2	10,337	1	+2
New Mexico	2,980	30	4,079	28	4,594	42	5,825	38	−8
New York	5,352	1	6,434	2	9,400	4	9,846	2	−1
North Carolina	2,556	41	3,566	40	5,358	33	6,045	35	+6
North Dakota	2,969	31	4,234	24	5,199	35	5,667	41	−10
Ohio	3,032	27	4,131	27	6,041	21	7,065	20	+7
Oklahoma	2,482	43	3,946	32	4,391	45	5,395	44	−1
Oregon	3,779	7	5,260	7	6,486	15	7,149	18	−11
Pennsylvania	3,654	12	5,078	11	7,649	8	7,772	11	+1
Rhode Island	3,615	14	5,103	10	7,877	5	8,904	4	+10
South Carolina	2,542	42	3,483	42	5,026	38	6,130	34	+8
South Dakota	2,941	33	3,883	33	4,681	41	5,632	43	−10
Tennessee	2,379	46	3,322	47	4,540	43	5,383	45	+1
Texas	2,470	44	3,794	35	5,113	36	6,288	31	+13
Utah	2,667	38	3,393	45	3,436	50	4,378	50	−12
Vermont	3,538	20	4,209	25	7,693	6	8,323	7	+13
Virginia	2,933	34	3,978	31	6,253	18	6,841	22	+12
Washington	3,823	6	5,205	8	5,843	24	6,376	27	−21
West Virginia	2,785	36	3,813	34	5,359	32	7,152	17	+19
Wisconsin	3,554	17	4,851	18	6,693	13	7,806	10	+7
Wyoming	3,608	15	5,166	9	6,985	11	7,425	14	+1
Top 10 / bottom 10	1.74		1.75		2.05		1.76	
Weighted COV	0.237		0.205		0.239		0.192	

Table 2.   Per-pupil expenditures in public elementary and secondary schools, 2001–02

| | A | | B | | C | |
	Unadjusted		Cost-adjusted		Cost-adjusted pupil-weighted	
United States	$7,734		$7,678		$6,313	
New Jersey	11,793	*1*	10,237	*1*	8,500	*1*
Vermont	9,806	*5*	9,915	*3*	8,450	*2*
Wyoming	8,645	*12*	9,438	*4*	8,028	*3*
New York	11,218	*2*	9,998	*2*	8,007	*4*
Connecticut	10,577	*3*	9,189	*5*	7,856	*5*
Delaware	9,284	*8*	9,075	*6*	7,712	*6*
Wisconsin	8,634	*13*	9,031	*7*	7,553	*7*
Maine	8,818	*9*	8,989	*8*	7,418	*8*
Maryland	8,692	*10*	8,513	*14*	7,385	*9*
Massachusetts	10,232	*4*	8,730	*12*	7,252	*10*
Nebraska	7,741	*19*	8,737	*11*	7,221	*11*
Michigan	8,653	*11*	8,517	*13*	7,207	*12*
Rhode Island	9,703	*6*	8,797	*9*	7,133	*13*
Iowa	7,338	*27*	8,320	*16*	7,127	*14*
Pennsylvania	8,537	*14*	8,329	*15*	6,986	*15*
Indiana	7,734	*21*	8,272	*17*	6,934	*16*
West Virginia	7,844	*18*	8,754	*10*	6,911	*17*
Kansas	7,339	*26*	8,209	*18*	6,906	*18*
Ohio	8,069	*15*	8,167	*19*	6,806	*19*
Minnesota	7,736	*20*	7,886	*22*	6,770	*20*
Virginia	7,496	*23*	7,736	*26*	6,600	*21*
Georgia	7,380	*25*	7,927	*20*	6,532	*22*
Oregon	7,642	*22*	7,911	*21*	6,531	*23*
South Dakota	6,424	*40*	7,522	*30*	6,518	*24*
Montana	7,062	*30*	7,769	*24*	6,494	*25*
New Hampshire	7,935	*17*	7,572	*28*	6,489	*26*
North Dakota	6,709	*36*	7,865	*23*	6,440	*27*
Missouri	7,135	*29*	7,518	*31*	6,293	*28*
Illinois	7,956	*16*	7,709	*27*	6,290	*29*
Alaska	9,563	*7*	7,548	*29*	6,284	*30*
South Carolina	7,017	*32*	7,754	*25*	6,127	*31*
Hawaii	7,306	*28*	7,328	*34*	6,070	*32*
Kentucky	6,523	*38*	7,296	*35*	6,053	*33*
Colorado	6,941	*33*	7,040	*39*	6,023	*34*
Louisiana	6,567	*37*	7,346	*33*	5,924	*35*
North Carolina	6,501	*39*	7,089	*38*	5,853	*36*
Texas	6,771	*35*	7,180	*37*	5,745	*37*
Washington	7,039	*31*	6,781	*41*	5,728	*38*
Arkansas	6,276	*41*	7,206	*36*	5,699	*39*
New Mexico	6,882	*34*	7,408	*32*	5,625	*40*
Oklahoma	6,229	*42*	6,906	*40*	5,572	*41*
Idaho	6,011	*46*	6,534	*44*	5,506	*42*
Nevada	6,079	*44*	6,379	*47*	5,464	*43*
Alabama	6,029	*45*	6,751	*42*	5,456	*44*
California	7,434	*24*	6,661	*43*	5,426	*45*
Tennessee	5,959	*48*	6,527	*45*	5,356	*46*
Florida	6,213	*43*	6,492	*46*	5,181	*47*
Mississippi	5,354	*49*	6,140	*48*	4,928	*48*
Arizona	5,964	*47*	6,012	*49*	4,853	*49*
Utah	4,900	*50*	5,131	*50*	4,374	*50*
Top 10 / bottom 10	1.78		1.49		1.49	
Weighted COV	0.197		0.143		0.149	

Table 3a.   Demographics of school-age children, 2001–02

	(percentages)				
	White	Black	Latino	Poor	LEP
United States	60.1	17.0	17.0	15.0	8.3
Top third	70.2	16.2	9.4	12.4	3.9
Bottom third	49.3	16.2	27.3	17.2	13.4

Table 3b.   Enrollment as a percentage of national total by group, 2001–02

	(percentages)					
	All	White	Black	Latino	Poor	LEP
United States	100	100	100	100	100	100
Top third	28.9	33.8	27.6	16.0	23.9	13.2
Bottom third	46.8	38.4	44.5	75.1	53.6	75.5

Table 4.   Cost-adjusted expenditures per weighted pupil
            for unified school districts, 2001–02

	(percentile of spending within each state)		
	10th	50th	90th
Alabama	$5,044	$5,469	$6,222
Alaska	5,678	9,560	14,258
Arizona	3,904	4,832	6,509
Arkansas	4,757	5,279	6,713
California	4,620	5,098	6,685
Colorado	5,032	6,161	9,291
Connecticut	6,477	7,121	8,855
Delaware	6,189	7,262	8,368
Florida	4,671	5,016	5,699
Georgia	5,556	6,165	7,418
Idaho	4,825	5,936	8,375
Illinois	4,513	5,371	6,386
Indiana	5,568	6,177	7,558
Iowa	5,988	6,589	7,413
Kansas	5,901	6,960	8,654
Kentucky	5,291	5,772	6,581
Louisiana	5,247	5,886	6,872
Maine	6,175	7,022	8,474
Maryland	6,273	6,862	7,864
Massachusetts	5,600	6,495	8,368
Michigan	5,511	6,040	7,644
Minnesota	5,379	6,106	7,246
Mississippi	4,391	4,962	5,933
Missouri	4,838	5,644	7,109
Montana	5,673	8,237	15,017
Nebraska	5,995	7,182	8,966
Nevada	5,459	6,890	9,045
New Hampshire	5,659	6,667	8,377
New Jersey	6,782	7,728	9,812
New Mexico	5,070	6,706	9,871
New York	6,654	7,917	10,744
North Carolina	5,361	5,972	7,004
North Dakota	5,149	6,770	9,475
Ohio	5,057	5,686	7,245
Oklahoma	4,809	5,827	7,559
Oregon	5,554	6,233	9,209
Pennsylvania	5,377	6,239	7,651
Rhode Island	5,960	6,955	7,854
South Carolina	5,404	6,056	7,448
South Dakota	5,666	6,787	9,152
Tennessee	4,463	4,964	5,830
Texas	5,149	5,961	8,400
Utah	4,018	5,049	7,842
Vermont	6,304	7,282	9,629
Virginia	5,568	6,154	7,737
Washington	5,154	5,666	8,763
West Virginia	6,308	6,759	7,384
Wisconsin	6,417	7,258	8,257
Wyoming	7,308	8,715	11,771

Figure 1a. Adjusted per-pupil expenditures for unified districts at the 10th to 50th percentile, 2001–02
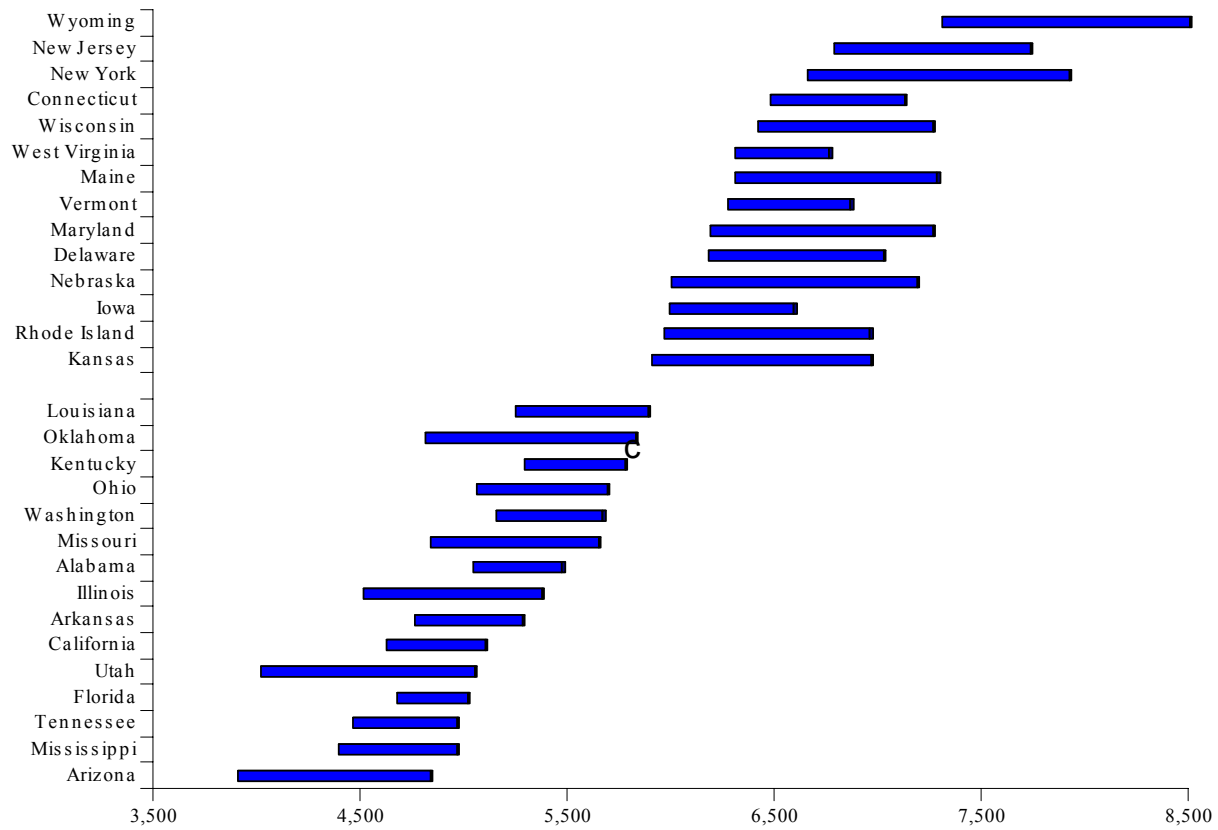
Figure 1b. Adjusted per-pupil expenditures for unified districts at the 50th to 90th percentile, 2001–02
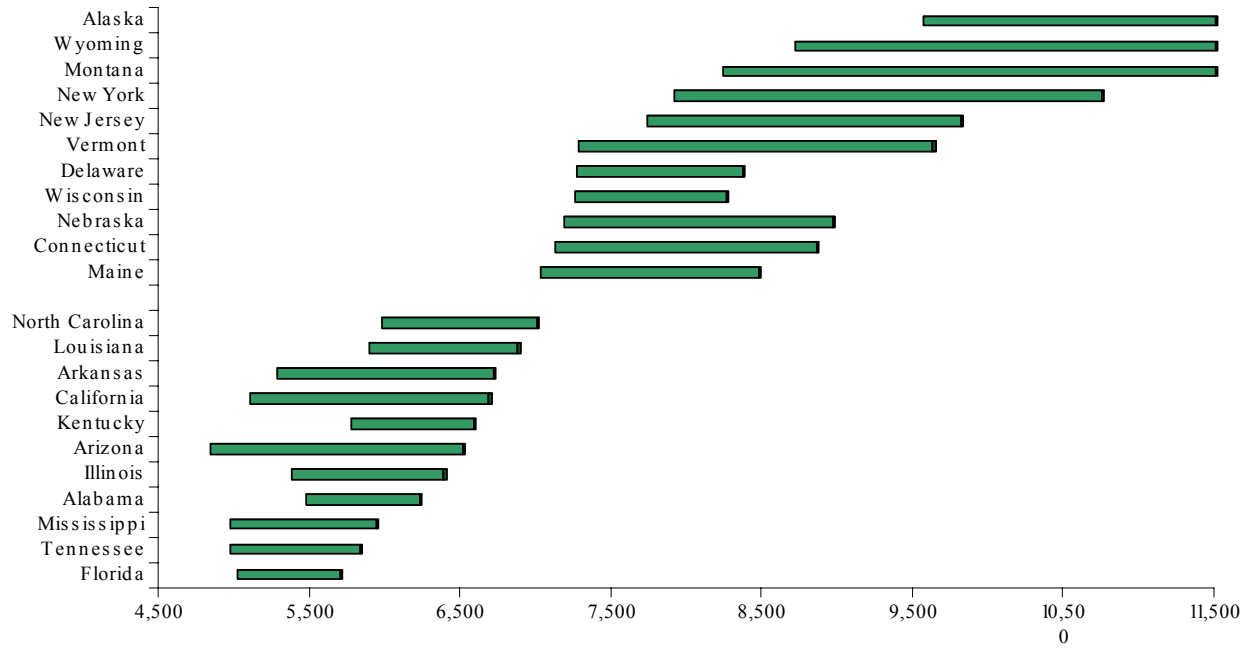
Figure 1c. Adjusted per-pupil expenditures for unified districts at the 10th to 90th percentile, 2001–02
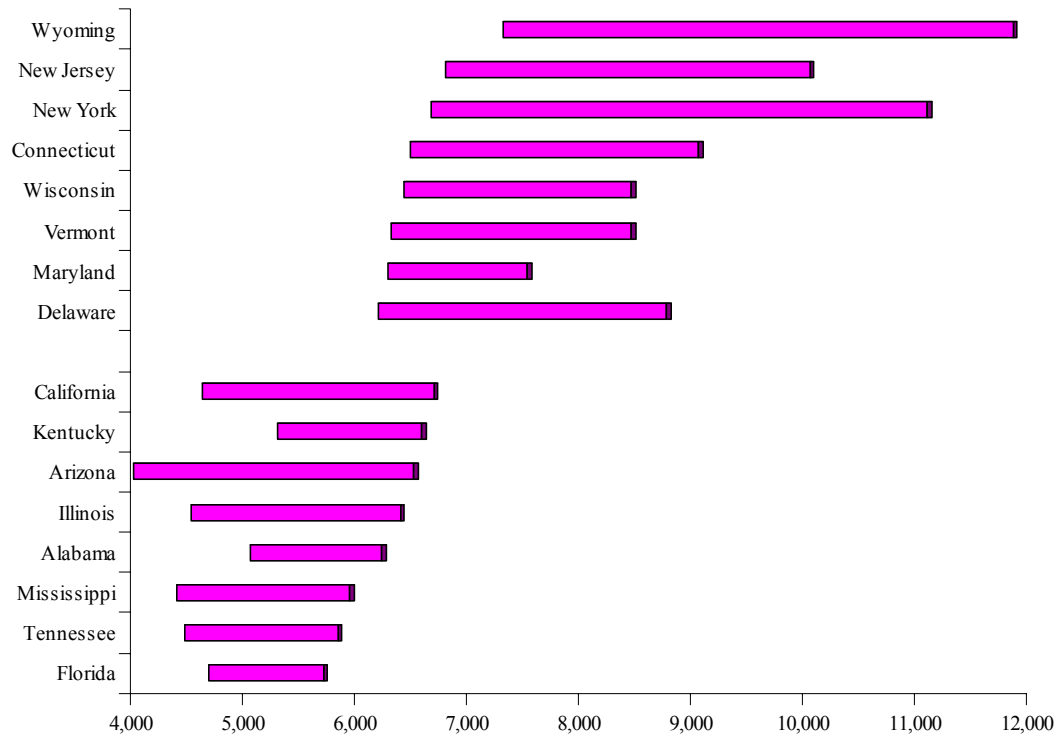
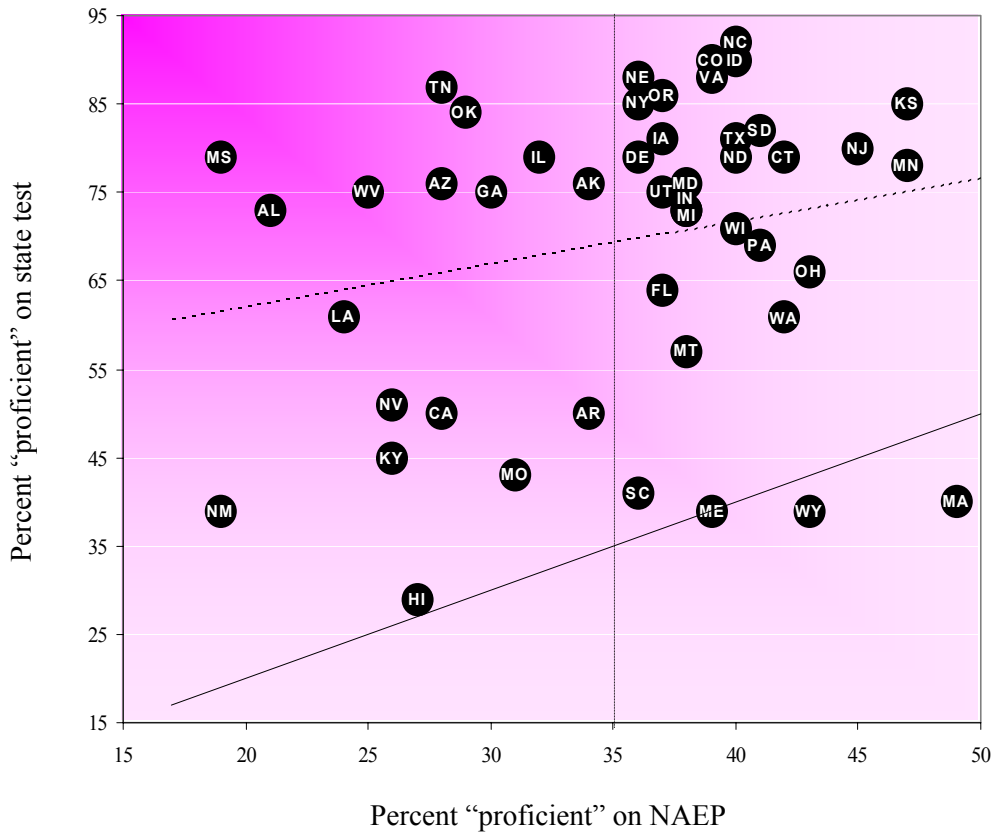Figure 2a.   Fourth-grade math performance, 2005

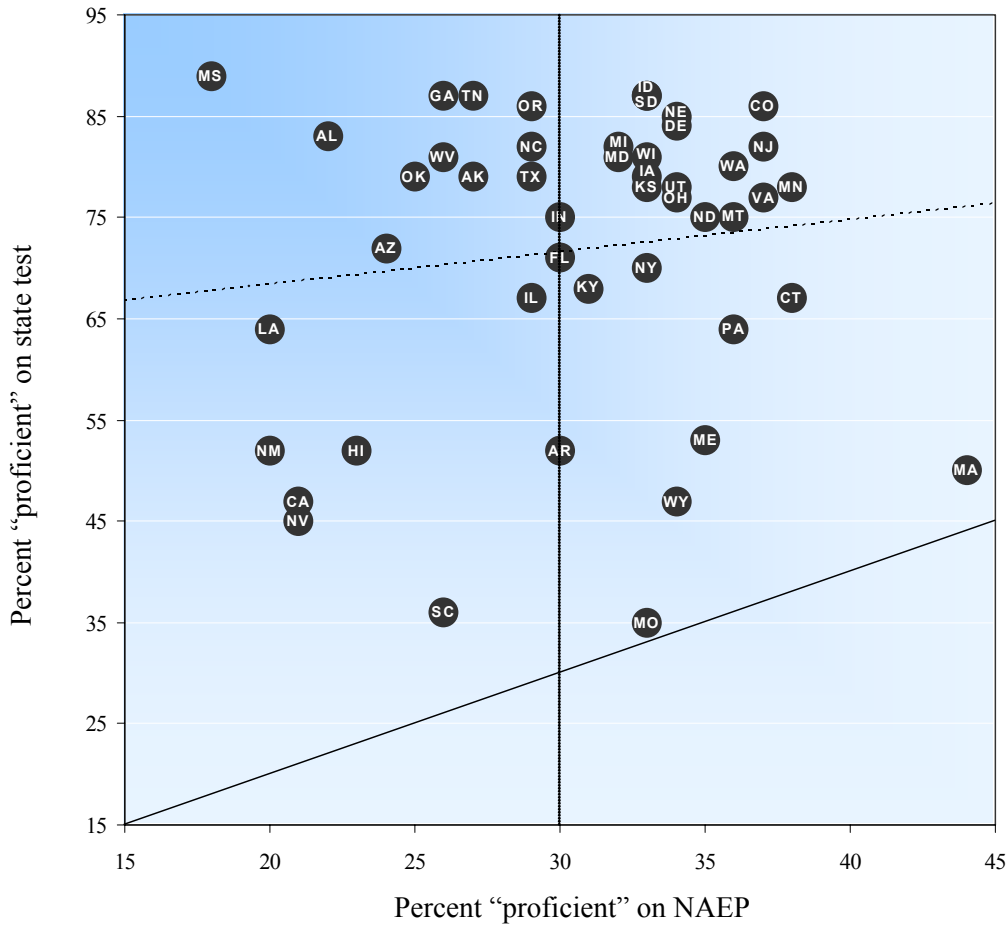Figure 2b.   Fourth-grade reading performance, 2005

Table 5. State fiscal capacity and educational effort, 2001–02

	(figures with percentage of national average)					
	A		B		C	
	Total taxable resources*		Educational effort		Nonfederal revenue*	
Alabama	$162,612	84	3.47	100	$5,643	85
Alaska	139,316	72	4.21	121	5,859	88
Arizona	160,091	83	3.40	98	5,439	82
Arkansas	154,396	80	3.73	108	5,765	87
California	166,550	86	3.34	96	5,560	84
Colorado	227,095	117	2.82	81	6,410	97
Connecticut	254,776	132	3.29	95	8,393	127
Delaware	356,062	184	2.10	60	7,472	113
Florida	198,904	103	2.71	78	5,386	81
Georgia	193,816	100	3.74	108	7,246	109
Hawaii	205,404	106	3.77	109	7,741	117
Idaho	153,727	79	3.63	105	5,583	84
Illinois	201,918	104	3.25	94	6,572	99
Indiana	197,808	102	3.82	110	7,556	114
Iowa	209,477	108	3.61	104	7,562	114
Kansas	202,020	104	3.57	103	7,208	109
Kentucky	184,717	95	3.19	92	5,900	89
Louisiana	178,749	92	3.20	92	5,725	86
Maine	173,205	89	4.45	128	7,701	116
Maryland	238,353	123	3.26	94	7,764	117
Massachusetts	231,755	120	3.27	94	7,583	115
Michigan	174,776	90	4.48	129	7,822	118
Minnesota	214,846	111	3.60	104	7,740	117
Mississippi	140,452	73	3.42	99	4,803	73
Missouri	198,517	103	3.39	98	6,735	102
Montana	159,272	82	3.85	111	6,135	93
Nebraska	210,804	109	3.54	102	7,458	113
Nevada	223,435	115	2.77	80	6,179	93
New Hampshire	218,728	113	3.14	90	6,859	104
New Jersey	233,517	121	3.81	110	8,906	134
New Mexico	146,888	76	3.90	112	5,722	86
New York	220,390	114	3.76	108	8,292	125
North Carolina	211,376	109	2.76	80	5,837	88
North Dakota	191,779	99	3.22	93	6,182	93
Ohio	191,108	99	4.00	115	7,645	115
Oklahoma	149,935	77	3.49	101	5,238	79
Oregon	192,655	100	3.51	101	6,762	102
Pennsylvania	207,423	107	3.60	104	7,469	113
Rhode Island	199,144	103	3.62	104	7,202	109
South Carolina	169,120	87	3.90	112	6,600	100
South Dakota	221,177	114	2.85	82	6,304	95
Tennessee	190,398	98	2.73	79	5,204	79
Texas	162,666	84	3.67	106	5,966	90
Utah	138,964	72	3.53	102	4,900	74
Vermont	183,494	95	4.80	138	8,801	133
Virginia	240,384	124	2.87	83	6,896	104
Washington	199,596	103	3.10	89	6,186	93
West Virginia	159,302	82	4.32	125	6,888	104
Wisconsin	202,675	105	3.96	114	8,022	121
Wyoming	235,231	122	3.73	107	8,770	132

* cost-adjusted figures per weighted pupil

Table 6.   Correlation of state fiscal capacity and educational effort
to nonfederal revenue per pupil, 2001–02

	Measure of fiscal capacity		
	Total taxable resources	State personal income	Gross state product
Unadjusted			
Capacity	0.70	0.78	0.66
Effort	0.35	0.48	0.41
Adjusted			
Capacity	0.56	0.64	0.51
Effort	0.39	0.50	0.45

Table 7.   Children in poverty and Title I allocations, 2001

(figures with percentage of national total)

	A Poor children		B Title I allocation		C Title I allocation per poor child
Wyoming	7,843	0.1	$19,569,782	0.2	$2,495
South Dakota	8,800	0.1	21,817,001	0.3	2,479
Delaware	9,823	0.1	22,823,695	0.3	2,324
Maryland	58,524	0.8	127,402,013	1.5	2,177
Rhode Island	14,382	0.2	27,777,184	0.3	1,931
Iowa	29,642	0.4	56,568,655	0.7	1,908
Vermont	10,017	0.1	18,495,475	0.2	1,846
New Jersey	119,407	1.7	214,945,797	2.6	1,800
Michigan	200,757	2.8	358,607,664	4.3	1,786
Alaska	13,839	0.2	23,678,445	0.3	1,711
Massachusetts	109,965	1.5	185,806,221	2.2	1,690
Virginia	86,069	1.2	142,093,625	1.7	1,651
Connecticut	54,742	0.8	86,043,713	1.0	1,572
New York	545,705	7.6	844,562,951	10.1	1,548
Pennsylvania	231,347	3.2	355,513,288	4.2	1,537
New Hampshire	14,686	0.2	21,967,666	0.3	1,496
Missouri	97,348	1.4	144,321,583	1.7	1,483
Maine	23,026	0.3	33,353,347	0.4	1,449
Minnesota	68,962	1.0	97,849,251	1.2	1,419
Montana	20,817	0.3	28,994,848	0.3	1,393
Indiana	95,629	1.3	132,224,535	1.6	1,383
Kentucky	101,426	1.4	134,102,960	1.6	1,322
West Virginia	57,991	0.8	75,714,969	0.9	1,306
Louisiana	155,773	2.2	196,676,713	2.3	1,263
Wisconsin	106,403	1.5	132,502,385	1.6	1,245
California	958,468	13.4	1,185,906,438	14.2	1,237
North Dakota	17,710	0.2	21,644,987	0.3	1,222
Illinois	316,923	4.4	366,758,858	4.4	1,157
Ohio	274,648	3.8	312,082,800	3.7	1,136
Kansas	57,835	0.8	62,890,292	0.8	1,087
Mississippi	118,442	1.7	128,122,836	1.5	1,082
Nevada	31,756	0.4	33,244,062	0.4	1,047
Colorado	77,925	1.1	80,654,322	1.0	1,035
Oregon	76,104	1.1	78,756,011	0.9	1,035
Washington	122,113	1.7	121,223,965	1.4	993
Hawaii	26,944	0.4	26,459,563	0.3	982
Georgia	270,597	3.8	257,548,311	3.1	952
Nebraska	35,637	0.5	33,811,476	0.4	949
Florida	437,584	6.1	411,516,369	4.9	940
Oklahoma	111,985	1.6	104,042,162	1.2	929
North Carolina	193,358	2.7	176,895,046	2.1	915
New Mexico	77,183	1.1	70,328,325	0.8	911
Alabama	155,547	2.2	137,362,747	1.6	883
Tennessee	160,008	2.2	141,008,400	1.7	881
Idaho	32,294	0.5	27,264,543	0.3	844
Texas	849,343	11.9	711,350,526	8.5	838
South Carolina	150,116	2.1	115,017,162	1.4	766
Arizona	185,358	2.6	141,106,004	1.7	761
Arkansas	112,451	1.6	85,474,705	1.0	760
Utah	52,345	0.7	38,414,963	0.5	734

Table 8.   Cost-adjusted revenue per weighted pupil under
          hypothetical national foundation plan, 2002–03

	A	B	C	D	E	F	G
	Total reve-nue	Nonfederal revenue	Nonfederal revenue (min effort)	Federal match % (min 4%)	Total revenue under plan (min 4%)	Federal match % (no min)	Total revenue under plan (no min)
Alabama	$6,296	$5,608	$5,608	19.3	$6,690	19.3	$6,690
Alaska	6,996	5,723	5,723	27.5	7,299	27.5	7,299
Arizona	5,615	4,974	5,278	22.2	6,500	22.2	6,500
Arkansas	6,596	5,820	5,820	22.0	7,101	22.0	7,101
California	6,560	5,904	5,904	20.8	7,130	20.8	7,130
Colorado	7,147	6,690	6,690	4.0	6,958	0.0	6,690
Connecticut	8,895	8,439	8,439	4.0	8,776	0.0	8,439
Delaware	8,478	7,832	7,832	4.0	8,146	0.0	7,832
Florida	6,393	5,753	6,500	4.0	6,760	3.9	6,754
Georgia	8,014	7,391	7,391	7.2	7,922	7.2	7,922
Hawaii	9,445	8,671	8,671	4.0	9,018	0.0	8,671
Idaho	6,155	5,562	5,562	24.3	6,914	24.3	6,914
Illinois	7,202	6,591	6,591	4.0	6,854	3.2	6,803
Indiana	6,959	6,452	6,452	5.0	6,772	5.0	6,772
Iowa	8,166	7,576	7,576	4.0	7,879	0.0	7,576
Kansas	7,982	7,371	7,371	4.0	7,666	3.2	7,605
Kentucky	6,670	5,980	5,999	11.5	6,690	11.5	6,690
Louisiana	6,571	5,684	5,684	19.8	6,808	19.8	6,808
Maine	8,361	7,702	7,702	15.0	8,855	15.0	8,855
Maryland	8,346	7,797	7,797	4.0	8,109	0.0	7,797
Massachusetts	8,228	7,718	7,718	4.0	8,026	0.0	7,718
Michigan	8,134	7,512	7,512	17.4	8,818	17.4	8,818
Minnesota	8,355	7,884	7,884	4.0	8,199	0.0	7,884
Mississippi	5,941	5,060	5,060	31.4	6,651	31.4	6,651
Missouri	7,030	6,509	6,509	6.9	6,958	6.9	6,958
Montana	7,140	6,115	6,115	22.4	7,482	22.4	7,482
Nebraska	8,297	7,561	7,561	4.0	7,863	0.0	7,561
Nevada	6,450	6,004	6,500	4.0	6,760	0.0	6,500
New Hampshire	7,678	7,280	7,280	4.0	7,571	0.0	7,280
New Jersey	10,002	9,585	9,585	4.0	9,968	0.0	9,585
New Mexico	6,621	5,654	5,654	29.0	7,292	29.0	7,292
New York	9,385	8,743	8,743	4.0	9,093	0.0	8,743
North Carolina	6,490	5,907	6,500	4.0	6,760	0.0	6,500
North Dakota	7,887	6,705	6,705	4.0	6,973	1.2	6,785
Ohio	8,068	7,570	7,570	7.3	8,120	7.3	8,120
Oklahoma	6,240	5,445	5,445	28.4	6,991	28.4	6,991
Oregon	6,939	6,322	6,322	7.8	6,814	7.8	6,814
Pennsylvania	8,350	7,721	7,721	4.0	8,030	0.0	7,721
Rhode Island	7,691	7,204	7,204	6.6	7,677	6.6	7,677
South Carolina	7,264	6,582	6,582	17.6	7,739	17.6	7,739
South Dakota	7,365	6,229	6,500	4.0	6,760	0.0	6,500
Tennessee	5,723	5,140	6,240	6.6	6,654	6.6	6,654
Texas	6,942	6,275	6,275	22.7	7,701	22.7	7,701
Utah	5,171	4,698	4,698	33.4	6,500	33.4	6,500
Vermont	9,735	9,043	9,043	6.9	9,667	6.9	9,667
Virginia	7,515	7,007	7,007	4.0	7,287	0.0	7,007
Washington	6,765	6,209	6,500	4.0	6,760	3.9	6,753
West Virginia	7,631	6,813	6,813	21.7	8,290	21.7	8,290
Wisconsin	8,712	8,189	8,189	4.0	8,517	0.5	8,227
Wyoming	9,902	9,033	9,033	4.0	9,394	0.0	9,033
Weighted COV	14.6	16.5	15.2		11.2		10.4