

Excerpted from
A Notion at Risk: Preserving Public Education as an Engine for Social Mobility,
Richard D. Kahlenberg, Editor

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3.

EQUALIZING EDUCATION RESOURCES ON BEHALF OF DISADVANTAGED CHILDREN

RICHARD ROTHSTEIN

The achievement gap between students from socially and economically disadvantaged families and others has narrowed since the mid-1960s, but it remains substantial. For the better part of a generation, reform energies have emphasized a litigation strategy to reduce differences in average per pupil spending between districts within a state. These efforts have partly succeeded in closing the differential between high- and low-spending districts, consistent with the gains in achievement made by disadvantaged children. Yet, “no one has been able to show that the narrowed spending differentials achieved by successful school finance equity cases in the 1970s and 1980s directly led to a narrowing of educational achievement differentials.”¹

While narrowing intra-state inequalities may be helpful, these are not the only, and perhaps not even the most important, sources of blame for the achievement gap, despite the priority given to them in reform strategies. Differences in real resources consumed by schools

within districts also may make substantial contributions to differences in student performance. Further, a systemic approach that focuses on the social and economic background issues that figure in student achievement may recommend governmental action outside the educational sphere that may be as productive in terms of equipping students to learn as school spending itself.

Strictly within the realm of schooling, the most important policy initiative should be a new focus on differences in per pupil spending *between* states, which are a greater cause of disadvantaged students falling behind their counterparts than any other school resource inequality. The least well-off students in high-spending states receive considerably more school spending than the most privileged students in low-spending states. Existing federal aid to education programs, notably Title I, do little to ameliorate this inequality and, because Title I distributions are adjusted to existing per pupil spending levels in states, may actually exacerbate it in some cases.

A new system for redistributing federal education aid is the only solution to these problems. Federal support to education should be adjusted not only for regional cost differences between states but also for the intensity of child poverty and for states' ability to pay. States with relatively low levels of personal income per student and relatively high levels of child poverty cannot be expected to mount an effort to increase revenues dedicated to the schooling of disadvantaged children that is comparable to what wealthier states can sustain. Litigation aimed only at the distribution of school resources within a state cannot solve this problem. Stepped-up federal aid is the one sure way to overcome inequalities rooted in disparities between states and regions in regard to overall levels of prosperity and concentrations of disadvantaged families.

ENHANCING RESOURCES TO NARROW THE ACHIEVEMENT GAP

The gap in mean academic outcomes between students from disadvantaged backgrounds and others is substantial. (I use the terms "advantaged" and "disadvantaged" children to encompass differences in children's economic circumstances as well as their racial minority status. Children can be disadvantaged because of family economic circumstances, racial minority status, or both.) In 1998, 58 percent of

poor and near-poor fourth graders had reading scores that the National Assessment Governing Board considers below the “basic” level of proficiency for children that age. Only 27 percent of nonpoor children had below “basic” proficiency.²

By some measures, the gap between advantaged and disadvantaged children has narrowed in the past quarter century, with the former maintaining or slightly improving their achievement levels while the latter posted more rapid gains. In 1996, black seventeen-year-olds had an average reading-scale score on the National Assessment of Educational Progress (NAEP) that was at about the twenty-seventh percentile of white scores. But this is a much smaller gap than in 1971, when black seventeen-year-olds had an average reading score at about the ninth percentile of white scores.³ Only a portion of the gains made by black students during that period can be attributed to circumstances relating to improved social and economic background, so it is likely that more effective schooling is at least partially responsible.⁴ Students of all races and ethnicities in 1996 whose parents had not graduated from high school had an average reading-scale score that was 29 points below that of students whose parents had attended college. In 1971, the gap had been 32 points. Trends have been similar in mathematics.⁵

There is no scholarly consensus either about what caused the gap to narrow or about the reasons why it has not narrowed further, but some oft-repeated explanations seem reasonable. Some portion of the narrowing of the achievement gap may not have resulted from greater school resources but rather from the improved use of existing ones. For example, teacher expectations regarding the academic proficiency of disadvantaged children may have increased during the past quarter century. Resource enhancements may also have played a role. In particular, class sizes and pupil-teacher ratios have declined; smaller classes and more individualized instruction may have had more of an impact on the achievement of disadvantaged than other children. But even if the resources money can buy do make a difference, it is unlikely that disadvantaged children’s academic outcomes would improve significantly, relative to those of their peers, if all children had access to equal school funding. Narrowing the gap more may require further enhancements in the instruction of disadvantaged children. Further reductions in class size for these children, as well as expanded summer school and the addition of prekindergarten programs, are widely believed to be measures likely to narrow the achievement divide further. Disadvantaged children

are often concentrated in larger schools in overcrowded, inner-city communities. Breaking up such large institutions into smaller ones characterized by less anonymity is another expensive reform likely to generate significant results. Another major expenditure that could be helpful is salary inducements to attract more qualified teachers to inner-city placements. However, even if school resources for disadvantaged children are made greater, it is impractical to expect that this alone can eliminate the performance gap entirely. Bringing underachieving students from circumstances of deprivation fully into the mainstream of accomplishment would require addressing the large differentials in background social and economic advantages themselves.

In an important 1995 report (based on 1989–90 figures) from the National Center for Education Statistics, Thomas Parrish, Christine Matsumoto, and William Fowler examined expenditure data from all school districts nationwide to determine variations in resource use.⁶ They found that districts with the greatest poverty spent considerably less than those with the least poverty. Specifically, high-poverty districts spent, on average, only 79 percent of the level of the most affluent districts. Spending in high-poverty districts was virtually identical to that in moderately affluent districts and was actually about 9 percent higher than spending in moderate-poverty districts.⁷ Parrish, Matsumoto, and Fowler found lesser disparities when disadvantage was defined more narrowly, as not poverty alone but also living with a single mother who had not graduated from high school: districts with a large proportion of students at risk by this definition spent 5 percent less than districts where few students were deemed at risk but 7 percent more than districts with a moderate number of at-risk students.⁸

In a multivariate analysis, Parrish, Matsumoto, and Fowler found smaller disparities in spending between districts when they controlled for socioeconomic background and student need. However, their findings reflect suppositions that require further consideration. (While scholars of school finance as well as litigants now frequently conduct “need-adjusted” analyses of school spending, it often seems that more effort is devoted to making the calculations than to examining the underlying assumptions.) For example, Parrish and colleagues assume that children living in poverty or having limited English proficiency require 20 percent more resources than other children; students who are both poor and come from non-English-speaking households are deemed to require 40 percent more. There is no research basis for such assumptions, however.

The report's authors attribute this estimate to Henry Levin, but Levin actually guesses that the weighting for disadvantaged students should be 1.5, not 1.2 (that is, disadvantaged students require 50 percent more resources than regular students, not 20 percent).⁹ The 1.2 figure was apparently derived from Levin's calculation of actual Chapter 1 (federal aid for districts with disadvantaged students, now referred to as Title I) spending patterns, which Levin did not presume adequate.

Indeed, the 1.2 estimate does not even accurately describe the additional funding currently applied to the education of disadvantaged children, because approximately two-thirds of the states have their own compensatory education programs that supplement Title I funds and about half the states provide extra resources for limited-English-proficient students as well.¹⁰ In states that do provide such additional funds, most allocate them according to formulas that weight recipients at between 1.2 and 1.3 of the norm.¹¹ When added to Title I funds, these generate a pupil weight in excess of 1.5 for the disadvantaged. While some policymakers consider this level of extra aid sufficient, others do not. William Clune, for example, cites a figure closer to 2.0, while Andrew Reschovsky and Jennifer Imazeki estimate that 2.1 would work.¹²

However, the approach of estimating a fixed weight for the additional costs of educating students in poverty is probably flawed regardless of the number chosen. Because of the powerful influence of peer expectations and role models, the concentration of school poverty probably has a more important impact on the cost of educating poor children than an individual's poverty status itself. Thus, the weight given ought to be smaller in schools where there are few poor children and greater in schools where there are many.¹³ Nonetheless, the flawed 1.2 estimate has now become the conventional definition of the extra resources required for disadvantaged children and is used frequently in authoritative analyses of school spending.¹⁴

The implication of any statistical weighting system for student need is that if financing in the specified increments is applied, equal outcomes can be achieved. There is no evidence, though, that school resources, even with the most effective deployment, can on their own fully compensate for the social and economic disadvantages that hinder academic achievement. There is a conspicuous need for research on school finance to specify how much of the achievement gap any resource weighting system is capable of closing.

Parrish, Matsumoto, and Fowler also control for differences in purchasing power in various districts utilizing median household income adjusted for cost-of-living disparities and for the value of owner-occupied housing, not adjusted on a regional cost basis. There are reasonable technical arguments for such an approach, but the matter has not been settled definitively.

It is unfortunate that the multivariate regressions were not reported using alternate assumptions, to see how results might have differed. In particular, it would be useful to know how the adjusted distribution of funds would be affected by a disadvantaged pupil weight that was closer to 1.5 than to 1.2.

The NCES authors conclude that high-poverty districts spent 93 percent as much as affluent districts, and that spending in high-poverty, moderate-poverty, and moderately affluent districts was almost identical in cost-adjusted (for differences in purchasing power) and need-adjusted (for differences in poverty) dollars.¹⁵ They also found that districts with high proportions of minority students spent more in cost- and need-adjusted terms. Different definitions of cost and need controls would, of course, cause these estimates to change.

Because the American education system is not a unitary one, an examination of inequality of funding that merges all districts into a single statistical analysis can provide only partial policy guidance. Because school finance is primarily a state and local matter, this chapter focuses on spending inequalities between and within states.

FIVE TYPES OF SCHOOL RESOURCE INEQUALITY

The pages that follow refer to five types of resource inequalities, corresponding to five institutional levels at which disadvantaged children could be shortchanged.

Type I: Disadvantaged children may live disproportionately in states that spend less money on education than do other states.

Type II: Within any state, disadvantaged children may attend schools in districts that spend less on education.

Type III: Within any district, disadvantaged children may attend schools that command fewer real resources than others.

Type IV: Within any school, disadvantaged children may be placed in classrooms that have fewer real resources at their disposal.

Type V: Within any classroom, disadvantaged children may be offered less adequate assistance than others.

Type IV and Type V resource inequalities result primarily from tracking systems within schools and classrooms; from the assignment of teachers of uneven qualities to the different tracks, or from different class sizes for faster and slower tracks, or from variable facility access (for example, to computers or laboratories), or even from teacher attitudes or approaches toward certain kinds of students. Types IV and V inequality are not addressed in this chapter, for reasons of space and the fact that these types of inequality are more difficult to quantify. Economists recognize that a less capable teacher represents a lesser “real” resource than a better teacher, but if both are paid on the same salary schedule, available school finance data will not be able to measure this (Type IV) inequality. Similarly, if teachers have lower expectations of disadvantaged children than their ability warrants and therefore devote less time and energy to them, there is no fiscal measure of this (Type V) inequality. While these forms of resource inequality will not be discussed further here, they can have a significant impact on student outcomes.¹⁶ This chapter is primarily concerned with resource inequalities of Types I to III, differences in spending between states, between districts within states, and between schools within districts.

TYPE I INEQUALITY: DIFFERENCES IN SCHOOL SPENDING BETWEEN STATES

Table 3.1 (pages 38–41) presents data related to Type I resource inequalities for the school year 1996–97. Column 1 shows total dollars raised by state and local governments for education, divided by total public elementary and secondary school enrollment. This column does not include revenues received by states or school districts from the federal government, and it only includes what is generated from tax sources—it does not include funds raised by school districts from student tuitions or fees (for summer school, transportation, textbook sales, school lunch sales, student activities, etc.).¹⁷ Column 2 displays the total state and local spending for each state as a percentage of average per pupil spending nationwide. Considerable disparities exist in state and local nominal (unadjusted) spending for education. New Jersey, New York, and Connecticut are the

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		1996-97 NOMINAL STATE AND LOCAL PER PUPIL SPENDING	1996-97 STATE AND LOCAL PER PUPIL SPENDING ADJUSTED FOR REGIONAL COST DIFFERENCES	1996 % OF CHILDREN, AGES 5-17, IN POVERTY			PERSONAL INCOME PER ENROLLED STUDENT		
		AS % OF U.S. AVG.	AS % OF U.S. AVG.	AS % OF U.S. AVG.			ADJUSTED FOR REGIONAL COST DIFFERENCES AS % OF U.S. AVG.	ADJUSTED FOR REGIONAL COST DIFFERENCES AS % OF U.S. AVG.	
		(\$)	(\$)	(\$)	(%)	(%)	(\$)	(\$)	(%)
United States	6,081	100	6,081	100	19	100	140,553	140,553	100
Alabama	4,525	74	4,943	81	21	110	113,784	124,926	89
Alaska	8,031	132	7,356	121	10	52	113,247	103,035	73
Arizona	4,868	80	4,973	82	30	157	116,848	118,599	84
Arkansas	4,516	74	5,055	83	20	103	103,020	115,894	82
California	5,500	90	4,592	76	24	124	140,400	116,456	83
Colorado	5,487	90	5,632	93	11	59	145,128	147,962	105
Connecticut	8,714	143	7,172	118	24	124	210,393	172,986	123
Delaware	7,232	119	6,692	110	12	66	178,410	165,923	118
Dist. of Col.	8,054	132	7,255	119	38	202	234,755	212,497	151
Florida	5,490	90	5,563	91	20	105	153,333	156,163	111

Georgia	5,503	90	5,806	95	20	104	124,711	132,222	94
Hawaii	5,829	96	4,635	76	16	83	158,718	125,376	89
Idaho	4,674	77	4,993	82	16	86	95,485	101,334	72
Illinois	6,094	100	6,063	100	17	87	159,632	159,295	113
Indiana	7,231	119	7,742	127	8	42	131,755	141,498	101
Iowa	5,645	93	6,114	101	12	62	124,784	135,571	96
Kansas	5,982	98	6,441	106	11	57	125,865	135,947	97
Kentucky	5,151	85	5,571	92	27	143	115,247	125,268	89
Louisiana	4,495	74	4,927	81	28	147	107,273	118,167	84
Maine	6,619	109	6,309	104	14	74	121,418	115,621	82
Maryland	6,766	111	6,059	100	15	79	168,667	151,796	108
Massachusetts	7,266	119	6,100	100	13	69	192,738	161,663	115
Michigan	7,293	120	7,641	126	16	83	138,668	145,727	104
Minnesota	6,624	109	6,865	113	13	69	138,447	143,950	102
Mississippi	3,704	61	4,129	68	26	138	93,558	104,813	75
Missouri	5,579	92	5,933	98	11	60	134,733	143,722	102
Montana	5,206	86	5,542	91	25	132	100,506	106,301	76
Nebraska	5,927	97	6,564	108	12	63	128,960	143,255	102
Nevada	5,574	92	5,434	89	8	44	146,783	142,136	101
New Hampshire	6,079	100	5,378	88	7	36	154,472	136,521	97

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TABLE 3.1. PUBLIC EDUCATION SPENDING BY STATE, 1996-97 (CONT.)									
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
	1996-97 NOMINAL STATE AND LOCAL PER PUPIL SPENDING	1996-97 STATE AND LOCAL PER PUPIL SPENDING ADJUSTED FOR REGIONAL COST DIFFERENCES		1996 % OF CHILDREN, AGES 5-17, IN POVERTY	PERSONAL INCOME PER ENROLLED STUDENT		ADJUSTED FOR REGIONAL COST DIFFERENCES AS % OF U.S. AVG.		
	(\$)	As % of U.S. Avg.	(\$)	As % of U.S. Avg.	(%)	As % of U.S. Avg.	(\$)	As % of U.S. Avg.	
New Jersey	9,667	159	8,166	134	14	74	204,755	172,816	123
New Mexico	4,687	77	4,945	81	32	170	95,679	100,285	71
New York	8,748	144	7,506	123	25	132	185,144	158,731	113
North Carolina	4,841	80	5,170	85	18	93	133,194	142,973	102
North Dakota	4,429	73	4,800	79	10	54	108,081	117,513	84
Ohio	6,134	101	6,351	104	17	88	139,616	145,014	103
Oklahoma	4,537	75	5,039	83	24	128	102,707	114,653	82
Oregon	5,813	96	6,001	99	18	97	136,015	139,495	99
Pennsylvania	7,418	122	7,004	115	16	84	163,630	154,347	110
Rhode Island	7,359	121	6,804	112	12	66	159,043	146,914	105
South Carolina	5,196	85	5,588	92	21	112	112,456	121,548	86

South Dakota	4,548	75	5,068	83	12	61	106,183	117,325	83
Tennessee	4,151	68	4,529	74	21	109	127,829	140,163	100
Texas	5,246	86	5,625	92	23	119	111,074	119,678	85
Utah	4,159	68	4,322	71	9	46	80,646	83,246	59
Vermont	7,141	117	6,998	115	16	86	122,286	119,722	85
Virginia	6,034	99	5,607	92	18	95	151,767	141,725	101
Washington	6,206	102	6,095	100	16	82	141,345	137,897	98
West Virginia	6,183	102	6,857	113	22	119	108,455	120,894	86
Wisconsin	7,133	117	7,482	123	10	55	135,273	142,323	101
Wyoming	6,072	100	6,413	105	9	49	104,313	109,448	78

Note: State and local spending does not include funds raised from tuition payments, lunch sales, bus passes, textbook sales, or other nontax sources.

Sources:

Column 1: U.S. Department of Education, Office of Educational Research and Improvement, *Statistics in Brief: Revenues and Expenditures for Public Elementary and Secondary Education, School Year 1996-97*, NCEES 1999-301, National Center for Education Statistics, 1999, Table 1; Spreadsheet provided to author by National Center for Education Statistics, July 12, 1999, LOCREY97.wki; U.S. Department of Education, Office of Educational Research and Improvement, *Digest of Education Statistics 1998*, NCEES 1999-036, National Center for Education Statistics, 1999, Table 40.

Column 2: Calculated from column 1.

Column 3: See text.

Column 4: Calculated from column 3.

Column 5: U.S. Department of Education, *Digest of Education Statistics 1996*, Table 20.

Column 6: Calculated from column 5.

Column 7: U.S. Department of Commerce, Bureau of Economic Analysis, "Regional Accounts Data, State Personal Income," 1999, <http://www.bea.doc.gov/bea/regional/spi1p1.htm>.

Column 8: See text.

Column 9: Calculated from column 8.

highest-spending states. The District of Columbia, Alaska, Pennsylvania, and Rhode Island also spend considerably more per pupil than the national average. At the other extreme, Mississippi, Tennessee, Utah, North Dakota, Louisiana, Arkansas, Alabama, Oklahoma, and South Dakota spend only about half as much per pupil as the three highest-spending states. Other low-spending states include Idaho, New Mexico, North Carolina, and Arizona.

Adjusting Interstate Disparities for Differences in Regional Costs

These data, however, are misleading, because there are substantial differences in the costs of education between states. School districts in states with low prices for goods and services (most importantly the services of teachers) can operate with budgets considerably below what it would take for districts to purchase resources of comparable quality in high-cost states. Column 3 adjusts for these differences, displaying a cost-adjusted per pupil spending figure for each state. It takes the nominal per pupil spending figure of column 1 for each state and expresses that outlay as though the education dollars in that state had average nationwide purchasing power.¹⁸

Disparities in state education spending are narrower after this adjustment is made but still substantial. New Jersey spends at a rate more than a third above the national per pupil average, and Indiana and Michigan spend more than 25 percent above the average. Other high-spending states include New York, Wisconsin, Alaska, the District of Columbia, Connecticut, Pennsylvania, and Vermont. At the other extreme, Mississippi, Utah, and Tennessee spend much less than the national average. The next-lowest-spending states are California, Hawaii, North Dakota, Louisiana, Alabama, New Mexico, Arizona, Idaho, Oklahoma, Arkansas, and South Dakota.

Interstate Disparities in the Context of Differences in Need—Child Poverty

Column 5 displays the percentage of children in each state, aged five to seventeen, whose families had income below the poverty line in 1996.

Column 6 shows the ratio of this percentage to the national child poverty average of 19 percent. Here again there is great disparity. The District of Columbia had a child poverty rate more than twice that of the nation as a whole, and seven other states (New Mexico, Arizona, Louisiana, Kentucky, Mississippi, New York, and Montana) had relatively high child poverty rates. At the other extreme, five states (New Hampshire, Indiana, Nevada, Utah, and Wyoming) had child poverty rates that were less than half the U.S. average, and another six states (Alaska, North Dakota, Wisconsin, Kansas, Colorado, and Missouri) also had rates considerably below the national average.

Differing Capacities of States to Pay for Education

The last three columns of Table 3.1 present data on the capacity of states to provide public education for their children. Column 7 shows the total personal income of the residents of each state divided by the number of enrolled public school students in 1996–97.¹⁹ This gives a figure of state personal income per student (PIPS). Column 8 adjusts these data for cost of living differences between states.²⁰ As column 9 shows (in terms of percentage of the national average), the capacity of states to provide for the education of their children also varies greatly. Citizens of the District of Columbia have the means to provide for public education with the greatest ease; total PIPS is 51 percent greater than the national average.²¹ Connecticut and New Jersey have PIPS that is more than 20 percent greater than the national average; Delaware and Massachusetts have PIPS that is more than 15 percent greater than the national average. At the other extreme, citizens of Utah must make the greatest sacrifice to provide for public education—PIPS is only 59 percent of the national average. Six other states (New Mexico, Idaho, Alaska, Mississippi, Montana, and Wyoming) have PIPS that is less than 80 percent of the national average.²²

States with High Poverty and Low Capacity Spend Less in Real Terms

Nominally, Type I inequality exists simply to the extent that unadjusted per pupil spending differs from state to state. Real Type I inequality

is based not only on school spending after regional cost adjustment but also on educational need and the capacity of a state's citizens to bear this burden. If a truly equitable school spending regime would dedicate more resources to disadvantaged than to other children, then states with greater need (that is, those with more disadvantaged children) should also be those states that spend more of their own resources, on average, per pupil. And from a standpoint of concern with Type I equality, ideally states with greater need and higher per pupil spending of state and local resources should also be those states where fiscal capacity is greater. On the other hand, a system with great Type I inequality would exist if in places where poverty was high, state and local per pupil spending and fiscal capacity were both low.

Simple statistical analyses confirm Type I inequality. There is a positive, statistically significant relationship between cost-adjusted average per pupil spending by state (1996–97) and cost-adjusted PIPS. An additional \$1,000 in PIPS corresponds to approximately \$25 in increased per pupil spending.²³ And there is a negative, statistically significant relationship between spending and poverty. A 1 percent increase in a state's child poverty rate corresponds to a \$35 decline in spending.²⁴ These relationships, taken together, indicate the presence of Type I inequality—states with greater need and lower capacity spend less. Both coefficients are quite small, but they point in the opposite direction from what we should expect of a system that worked to minimize Type I inequality.

Table 3.2 compares the rankings of states on three measures. Column 1 displays states in order of cost-adjusted per pupil spending (1 to 51, with 1 being the state with the highest spending, calculated from columns 3 or 4 of Table 3.1).²⁵ Column 2 displays state ranks in the intensity of child poverty (calculated from columns 5 or 6 of Table 3.1). Column 3 displays how states fare in regard to fiscal capacity (calculated from columns 8 or 9 of Table 3.1).

Column 4 calculates the disparity between a state's rank in cost-adjusted per pupil spending and its rank in the intensity of child poverty. (Column 4 equals the difference between column 2 and column 1.) A very high positive number in column 4 indicates that, in comparison to other states, a state has high per pupil expenditure while having less need for spending because it has relatively few children in poverty.²⁶ The state with the greatest disparity in this respect is Indiana: it ranks second in per pupil spending but fiftieth in child poverty. Other states

TABLE 3.2. RANKINGS OF PUBLIC EDUCATION SPENDING BY STATE, 1996-97

	(1) 1996-97 STATE AND LOCAL PER PUPIL SPENDING, ADJUSTED FOR REGIONAL COST DIFFERENCES (RANK)	(2) 1996 PERCENTAGE OF CHILDREN, AGES 5-17, IN POVERTY (RANK)	(3) 1996 PERSONAL INCOME PER ENROLLED STUDENT, ADJUSTED FOR REGIONAL COST DIFFERENCES (RANK)	(4) DISPARITY IN RANK (SPENDING VS. NEED)	(5) PIPS RANK COM- PARED TO SPEN- DING/NEED DISPARITY
Alabama	44	15	32	-29	-61
Alaska	6	46	48	40	-8
Arizona	42	3	37	-39	-76
Arkansas	39	19	42	-20	-62
California	48	10	41	-38	-79
Colorado	28	42	11	14	3
Connecticut	8	11	2	3	1
Delaware	14	36	4	22	18
Dist. of Col.	7	1	1	-6	-7
Florida	33	17	8	-16	-24
Georgia	27	18	29	-9	-38

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TABLE 3.2. RANKINGS OF PUBLIC EDUCATION SPENDING BY STATE, 1996-97 (CONT.)

	(1) 1996-97 STATE AND LOCAL PER PUPIL SPENDING, ADJUSTED FOR REGIONAL COST DIFFERENCES (RANK)	(2) 1996 PERCENTAGE OF CHILDREN, AGES 5-17, IN POVERTY (RANK)	(3) 1996 PERSONAL INCOME PER ENROLLED STUDENT, ADJUSTED FOR REGIONAL COST DIFFERENCES (RANK)	(4) DISPARITY IN RANK (SPENDING VS. NEED)	(5) PIPS RANK COM- PARED TO SPEND- ING/NEED DISPARITY
Hawaii	47	28	30	-19	-49
Idaho	41	25	49	-16	-65
Illinois	23	24	6	1	-5
Indiana	2	50	22	48	26
Iowa	20	39	28	19	-9
Kansas	16	43	27	27	0
Kentucky	32	5	31	-27	-58
Louisiana	45	4	38	-41	-79
Maine	19	32	43	13	-30
Maryland	24	31	10	7	-3
Massachusetts	21	34	5	13	8
Michigan	3	29	13	26	13

Minnesota	11	35	15	24	9
Mississippi	51	6	47	-45	-92
Missouri	26	41	16	15	-1
Montana	34	8	46	-26	-72
Nebraska	15	38	17	23	6
Nevada	35	49	20	14	-6
New Hampshire	36	51	26	15	-11
New Jersey	1	33	3	32	29
New Mexico	43	2	50	-41	-91
New York	4	7	7	3	-4
North Carolina	37	22	18	-15	-33
North Dakota	46	45	39	-1	-40
Ohio	18	23	14	5	-9
Oklahoma	40	9	44	-31	-75
Oregon	25	20	24	-5	-29
Pennsylvania	9	27	9	18	9
Rhode Island	13	37	12	24	12
South Carolina	31	14	33	-17	-50
South Dakota	38	40	40	2	-38

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TABLE 3.2. RANKINGS OF PUBLIC EDUCATION SPENDING BY STATE, 1996-97 (CONT.)

	(1) 1996-97 STATE AND LOCAL PER PUPIL SPENDING, ADJUSTED FOR REGIONAL COST DIFFERENCES (RANK)	(2) 1996 PERCENTAGE OF CHILDREN, AGES 5-17, IN POVERTY (RANK)	(3) 1996 PERSONAL INCOME PER ENROLLED STUDENT, ADJUSTED FOR REGIONAL COST DIFFERENCES (RANK)	(4) DISPARITY IN RANK (SPENDING VS. NEED)	(5) PIPS RANK COM- PARED TO SPEND- ING/NEED DISPARITY
Tennessee	49	16	23	-33	-56
Texas	29	12	36	-17	-53
Utah	50	48	51	-2	-53
Vermont	10	26	35	16	-19
Virginia	30	21	21	-9	-30
Washington	22	30	25	8	-17
West Virginia	12	13	34	1	-33
Wisconsin	5	44	19	39	20
Wyoming	17	47	45	30	-15

Sources: Column 1 calculated from Table 3.1, column 3; column 2 calculated from Table 3.1, column 5; column 3 calculated from Table 3.1, column 8; column 4 calculated from columns 2 and 3; column 5 calculated from columns 3 and 4.

with great positive disparities include Alaska, Wisconsin, New Jersey, Wyoming, Kansas, Michigan, Minnesota, Rhode Island, Nebraska, and Delaware.

A very low negative number in column 4 indicates that, in comparison to others, a state spends relatively little per pupil in spite of having greater need for such spending because of its relatively large number of children in poverty. The state with the greatest disparity in this respect is Mississippi: it ranks at the very bottom in adjusted per pupil spending but close to the top (sixth) in child poverty. Other states with great negative disparities include New Mexico, Louisiana, Arizona, California, Tennessee, Oklahoma, Alabama, Kentucky, and Montana.

Policies to correct Type I inequality could either encourage greater state expenditure in low-spending states with severe need or arrange a redistribution of spending from the federal government. (The term “redistribution” used here encompasses policies that supplement spending in needy states without necessarily requiring an offsetting reduction in federal contributions to states with lesser need.) The first option would make sense in cases where states have reasonably sufficient fiscal capacity (PIPS) but choose not to utilize it for education. Redistribution would make sense in cases where low-spending states also have limited fiscal capacity with which to address their own considerable needs.

Column 5 of Table 3.2 compares a state’s ranking in PIPS to the disparity in its cost-adjusted spending and child poverty rankings (the difference between columns 3 and 4). A very low negative number in column 5 suggests that while a state may spend little given its need, it has relatively little ability to address this shortfall without outside help. States falling most clearly into this category include Mississippi, New Mexico, Louisiana, California, Arizona, Oklahoma, Montana, Idaho, Arkansas, Alabama, and Kentucky. States with less negative or positive numbers are those that have greater ability than the first group to correct, without federal aid, spending shortfalls in relation to how widespread are their conditions of child poverty. Some states that have great spending versus need disparities yet may have capacity to increase the flow of revenues to education to solve this problem on their own are North Carolina, Virginia, Florida, the District of Columbia, and Oregon.

These calculations are only suggestive, not definitive. Differences between rank numbers on any of these measures do not necessarily reflect equal intervals. Determining whether a state is spending sufficiently to address its own needs, or whether its mean personal income

is adequate to increase such spending as much as necessary, depends on a calculation of the cost of an adequate education for disadvantaged children. Because there is no consensus regarding this amount, it is not possible to gauge, in anything but a suggestive manner, whether federal aid is required to correct Type I inequality in school spending and, if so, how much. However, based on these rankings, it appears that there is a positive relationship between inadequate spending and low state income. Table 3.2a illustrates this relationship more vividly. It is identical to Table 3.2 but is sorted by column 4, "Disparity in Rank." States appearing at the top of Table 3.2a are those with low rankings in per pupil spending combined with relatively high percentages of poor children. As can be seen by examining column 3, these states tend to be those with low levels of personal income per student. Of the ten states with the greatest spending versus need disparity, only one (Tennessee) is above the median in PIPS.

The Limitations of Existing Federal Education Aid

Federal aid to education does very little to redress these inequalities because federal funds represent only about 7 percent of school expenditures.²⁷ The largest federal education category is the child nutrition (free and reduced-price lunch) program of the Department of Agriculture. Next is Title I, grants to schools serving disadvantaged students. Other federal aid (for example, bilingual and immigrant education, "school improvement," and "Goals 2000" funds) could also be used by states to enhance teaching, materials, or facilities at schools serving students in poverty. However, federal spending does not seem to have reduced Type I resource inequalities. It may even exacerbate them. Title I funding is distributed to states based on the number of children in poverty, which should tend to reduce Type I inequality. But allocations are adjusted based on each state's average per pupil spending.²⁸ This adjustment could actually aggravate the problem because states that spend less typically are also those with less fiscal capacity.

Table 3.3 (pages 55–56), column 1, shows total per pupil spending by state, including state, local, and federal funds, adjusted for regional cost differences. Column 2 shows each state's rank on this measure, with the highest-spending state (New Jersey) ranked 1 and the lowest-spending state (Utah) ranked 51. Column 3 (identical to column 1 in

TABLE 3.2A. RANKINGS: PUBLIC EDUCATION SPENDING BY STATE, 1996-97, SORTED BY DISPARITY IN RANK (SPENDING VS. NEED)

	(1) 1996-97 STATE AND LOCAL PER PUPIL SPENDING, ADJUSTED FOR REGIONAL COST DIFFERENCES (RANK)	(2) 1996 PERCENTAGE OF CHILDREN, AGES 5-17, IN POVERTY (RANK)	(3) 1996 PERSONAL INCOME PER ENROLLED STUDENT, ADJUSTED FOR REGIONAL COST DIFFERENCES (RANK)	(4) DISPARITY IN RANK (SPENDING VS. NEED)	(5) PIPS RANK COMPARED TO SPENDING/NEED DISPARITY
Mississippi	51	6	47	-45	-92
Louisiana	45	4	38	-41	-79
New Mexico	43	2	50	-41	-91
Arizona	42	3	37	-39	-76
California	48	10	41	-38	-79
Tennessee	49	16	23	-33	-56
Oklahoma	40	9	44	-31	-75
Alabama	44	15	32	-29	-61
Kentucky	32	5	31	-27	-58
Montana	34	8	46	-26	-72

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**TABLE 3.2A. RANKINGS: PUBLIC EDUCATION SPENDING BY STATE, 1996-97,
SORTED BY DISPARITY IN RANK (SPENDING VS. NEED) (CONT.)**

	(1) 1996-97 STATE AND LOCAL PER PUPIL SPENDING, ADJUSTED FOR REGIONAL COST DIFFERENCES (RANK)	(2) 1996 PERCENTAGE OF CHILDREN, AGES 5-17, IN POVERTY (RANK)	(3) 1996 PERSONAL INCOME PER ENROLLED STUDENT, ADJUSTED FOR REGIONAL COST DIFFERENCES (RANK)	(4) DISPARITY IN RANK (SPENDING VS. NEED)	(5) PIPS RANK COM- PARED TO SPEND- ING/NEED DISPARITY
Arkansas	39	19	42	-20	-62
Hawaii	47	28	30	-19	-49
South Carolina	31	14	33	-17	-50
Texas	29	12	36	-17	-53
Florida	33	17	8	-16	-24
Idaho	41	25	49	-16	-65
North Carolina	37	22	18	-15	-33
Georgia	27	18	29	-9	-38
Virginia	30	21	21	-9	-30
Dist. of Col.	7	1	1	-6	-7
Oregon	25	20	24	-5	-29

Utah	50	48	51	-2	-53
North Dakota	46	45	39	-1	-40
Illinois	23	24	6	1	-5
West Virginia	12	13	34	1	-33
South Dakota	38	40	40	2	-38
Connecticut	8	11	2	3	1
New York	4	7	7	3	-4
Ohio	18	23	14	5	-9
Maryland	24	31	10	7	-3
Washington	22	30	25	8	-17
Maine	19	32	43	13	-30
Massachusetts	21	34	5	13	8
Colorado	28	42	11	14	3
Nevada	35	49	20	14	-6
Missouri	26	41	16	15	-1
New Hampshire	36	51	26	15	-11
Vermont	10	26	35	16	-19
Pennsylvania	9	27	9	18	9
Iowa	20	39	28	19	-9

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**TABLE 3.2A. RANKINGS: PUBLIC EDUCATION SPENDING BY STATE, 1996-97,
SORTED BY DISPARITY IN RANK (SPENDING VS. NEED) (CONT.)**

	(1) 1996-97 STATE AND LOCAL PER PUPIL SPENDING, ADJUSTED FOR REGIONAL COST DIFFERENCES (RANK)	(2) 1996 PERCENTAGE OF CHILDREN, AGES 5-17, IN POVERTY (RANK)	(3) 1996 PERSONAL INCOME PER ENROLLED STUDENT, ADJUSTED FOR REGIONAL COST DIFFERENCES (RANK)	(4) DISPARITY IN RANK (SPENDING VS. NEED)	(5) PIPS RANK COM- PARED TO SPEN- DING/NEED DISPARITY
Delaware	14	36	4	22	18
Nebraska	15	38	17	23	6
Minnesota	11	35	15	24	9
Rhode Island	13	37	12	24	12
Michigan	3	29	13	26	13
Kansas	16	43	27	27	0
Wyoming	17	47	45	30	-15
New Jersey	1	33	3	32	29
Wisconsin	5	44	19	39	20
Alaska	6	46	48	40	-8
Indiana	2	50	22	48	26

Source: Table 3.2.

**TABLE 3.3. RANKINGS: PUBLIC EDUCATION SPENDING BY STATE,
1996-97, WITH AND WITHOUT FEDERAL FUNDS INCLUDED**

	(1)	(2)	(3)	(4)
	TOTAL PER PUPIL SPENDING ^a		STATE AND LOCAL PER PUPIL SPENDING ^a	DIFFERENCE IN RANK, WITH AND WITHOUT FEDERAL SPENDING
	(\$)	(RANK)	(RANK)	
Alabama	5,495	45	44	-1
Alaska	8,373	2	6	4
Arizona	5,496	44	42	-2
Arkansas	5,511	42	39	-3
California	5,006	48	48	0
Colorado	5,954	33	28	-5
Connecticut	7,438	9	8	-1
Delaware	7,252	12	14	2
Dist. of Col.	8,113	4	7	3
Florida	6,025	32	33	1
Georgia	6,241	27	27	0
Hawaii	5,050	47	47	0
Idaho	5,358	46	41	-5
Illinois	6,480	21	23	2
Indiana	8,089	5	2	-3
Iowa	6,461	22	20	-2
Kansas	6,834	17	16	-1
Kentucky	6,151	28	32	4
Louisiana	5,597	38	45	7
Maine	6,671	19	19	0
Maryland	6,401	25	24	-1
Massachusetts	6,413	24	21	-3
Michigan	8,190	3	3	0
Minnesota	7,189	14	11	-3
Mississippi	4,826	50	51	1
Missouri	6,323	26	26	0
Montana	6,144	29	34	5

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TABLE 3.3. RANKINGS: PUBLIC EDUCATION SPENDING BY STATE, 1996-97, WITH AND WITHOUT FEDERAL FUNDS INCLUDED (CONT.)

	(1)		(2)	(3)	(4)
	TOTAL PER PUPIL SPENDING ^a			STATE AND LOCAL PER PUPIL SPENDING ^a	DIFFERENCE IN RANK, WITH AND WITHOUT FEDERAL SPENDING
	(\$)	(RANK)		(RANK)	
Nebraska	7,006	15		15	0
Nevada	5,679	36		35	-1
New Hampshire	5,576	40		36	-4
New Jersey	8,470	1		1	0
New Mexico	5,681	35		43	8
New York	7,943	6		4	-2
North Carolina	5,586	39		37	-2
North Dakota	5,497	43		46	3
Ohio	6,782	18		18	0
Oklahoma	5,519	41		40	-1
Oregon	6,416	23		25	2
Pennsylvania	7,416	10		9	-1
Rhode Island	7,194	13		13	0
South Carolina	6,127	30		31	1
South Dakota	5,622	37		38	1
Tennessee	4,983	49		49	0
Texas	6,106	31		29	-2
Utah	4,620	51		50	-1
Vermont	7,345	11		10	-1
Virginia	5,910	34		30	-4
Washington	6,487	20		22	2
West Virginia	7,486	8		12	4
Wisconsin	7,826	7		5	-2
Wyoming	6,873	16		17	1

^a Adjusted for regional cost differences

Note: Nontax revenues not included.

Sources: Column 1 same as Table 3.1, column 1 (see text for adjustment methodology); column 2 calculated from column 1; column 3, Table 3.2, column 1; column 4 calculated from columns 2 and 3.

Table 3.2) shows these rankings without federal funds included. Column 4 shows how the addition of federal funds affects a state's rank in regard to per pupil spending. It is apparent that there is very little change. Federal aid is currently too insignificant to have much of an impact in this regard. Except for New Mexico and Louisiana, those with the greatest need for subsidy (Mississippi, New Mexico, Louisiana, California, Arizona, Oklahoma, Montana, Idaho, Arkansas, Alabama, and Kentucky) show virtually no change in rank.²⁹

Federal aid for the education of disadvantaged children could be considered to have zero impact on nominal Type I inequality if each state received the same proportion of total federal education dollars as its proportion of the total number of children in poverty. Federal aid could be said to offset inequality if states with less ability to pay (PIPS) for education received a greater share of federal dollars than their share of children in poverty, and could be said to exacerbate inequality if the opposite were true.

Table 3.4 (pages 58–61), parts A and B, shows that federal aid does not reduce Type I inequality, but rather may exacerbate it in many cases. Part A includes the twenty-two states whose PIPS is greater than the national average. Column 1 shows the percentage of total cost-adjusted Title I funds received by each state; column 2 shows the percentage of all cost-adjusted federal elementary and secondary education funds received by each state;³⁰ column 3 shows the percentage of the nation's population of poor children residing in each state. If federal funds neither diminished nor exacerbated Type I inequality, one would expect columns 2 and 3 to be identical; column 1 should also be similar to column 3. Instead, with the exception of six states (Connecticut, New York, Virginia, Massachusetts, New Jersey, Maryland), states with greater than average PIPS also get a greater than proportional share of federal funds. Indiana is the most extreme case—with only 0.8 percent of the nation's poor children, it receives 1.7 percent of the nation's Title I funds, 211 percent of its proportional share. Rhode Island, with only 0.2 percent of the nation's poor children, receives 0.3 percent of Title I funds, or 50 percent more than its proportional share.

Part B of Table 3.4 features the twenty-nine states whose PIPS is less than the national average. If federal funds had the effect of compensating for this disadvantage, one would expect these states to receive a greater ration of federal funds than their share of the nation's poor children. This is true for twenty of these states. But for the remaining

TABLE 3.4. SHARE OF FEDERAL EDUCATION SPENDING BY STATE, 1996-97, COMPARED TO STATES' SHARES OF THE NATIONAL POPULATION IN POVERTY AND ABILITY TO PAY FOR EDUCATION

	(1) 1998 TITLE I ALLOCATIONS BY STATE, ^a AS % OF TOTAL TITLE I ALLO- CATIONS	(2) 1996-97 TOTAL FEDERAL SPENDING BY STATE, ^b AS % OF TOTAL SPENDING	(3) 1996 CHILDREN, 5-17, IN POVERTY AS % OF TOTAL CHILDREN IN POVERTY	(4) RATIO, % OF TOTAL FEDERAL SPENDING TO % OF CHILDREN IN POVERTY (%)	(5) RATIO, % OF TITLE I SPENDING TO % OF CHILDREN IN POVERTY (%)	(6) PERSONAL INCOME PER ENROLLED STUDENT AS % OF U.S. AVG.
PART A. STATES WITH GREATER ABILITY TO PAY FOR EDUCATION:						
Indiana	1.7	1.7	0.8	206.8	211.2	101
Rhode Island	0.3	0.3	0.2	156.6	171.4	105
Wisconsin	1.9	1.5	1.1	138.0	170.7	101
Michigan	4.9	4.6	3.0	155.0	163.1	104
Missouri	1.9	1.8	1.3	140.0	152.3	102
Delaware	0.2	0.3	0.2	174.7	136.5	118
Pennsylvania	4.4	3.7	3.6	101.8	121.9	110
Nevada	0.3	0.3	0.3	136.6	121.2	101
Nebraska	0.5	0.6	0.4	151.1	117.0	102
Massachusetts	1.7	1.5	1.5	96.7	115.7	115
Ohio	4.4	4.0	3.8	103.8	115.3	103

Illinois	4.6	4.1	4.0	101.7	113.9	113
Colorado	1.0	1.1	0.9	117.1	110.6	105
New Jersey	1.9	1.8	1.9	96.7	102.5	123
Florida	4.9	5.2	4.8	108.5	101.7	111
Minnesota	1.3	1.4	1.4	100.9	94.3	102
North Carolina	2.1	2.5	2.3	108.8	92.1	102
New York	8.3	6.2	9.1	68.2	91.4	113
Maryland	1.3	1.4	1.4	98.0	89.0	108
Dist. of Col.	0.3	0.3	0.3	104.5	87.1	151
Virginia	1.5	1.7	1.9	87.2	76.9	101
Connecticut	0.8	0.7	1.7	42.1	48.3	123
PART B. STATES WITH LESSER ABILITY TO PAY FOR EDUCATION:						
Wyoming	0.2	0.2	0.1	240.3	257.5	78
North Dakota	0.3	0.4	0.1	308.5	202.6	84
West Virginia	1.2	1.0	0.6	163.7	199.7	86
South Dakota	0.3	0.4	0.2	242.3	184.1	83
New Hampshire	0.2	0.2	0.1	143.9	162.6	97
Maine	0.4	0.4	0.3	142.0	144.4	82
Kansas	0.8	0.9	0.6	156.8	144.0	97

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TABLE 3.4. SHARE OF FEDERAL EDUCATION SPENDING BY STATE, 1996-97, COMPARED TO STATES' SHARES OF THE NATIONAL POPULATION IN POVERTY AND ABILITY TO PAY FOR EDUCATION (CONT.)

	(1) 1998 TITLE I ALLOCATIONS BY STATE, ^a AS % OF TOTAL TITLE I ALLO- CATIONS	(2) 1996-97 TOTAL FEDERAL SPENDING BY STATE, ^b AS % OF TOTAL SPENDING	(3) 1996 CHILDREN, 5-17, IN POVERTY AS % OF TOTAL CHILDREN IN POVERTY	(4) RATIO, % OF TOTAL FEDERAL SPENDING TO % OF CHILDREN IN POVERTY (%)	(5) RATIO, % OF TITLE I SPENDING TO % OF CHILDREN IN POVERTY (%)	(6) PERSONAL INCOME PER ENROLLED STUDENT AS % OF U.S. AVG.
Alaska	0.2	0.7	0.2	368.9	125.8	73
Louisiana	3.0	2.7	2.5	108.7	122.6	84
Vermont	0.2	0.2	0.2	92.8	122.5	85
Utah	0.5	0.7	0.4	174.5	118.8	59
Mississippi	2.0	1.8	1.7	103.5	117.2	75
Alabama	2.0	2.1	1.8	116.6	111.3	89
Arkansas	1.2	1.0	1.1	95.2	110.5	82
Texas	9.7	9.2	8.9	103.1	108.4	85
Iowa	0.8	0.9	0.7	117.9	108.2	96
Georgia	2.9	2.9	2.9	101.3	101.3	94
Kentucky	2.0	1.9	2.1	89.8	93.4	89
Washington	1.5	1.9	1.6	114.8	90.9	98

	1.8	1.6	109.8	90.3	86	
Oregon	1.0	1.1	1.2	94.5	84.8	99
Tennessee	2.0	2.1	2.4	85.3	83.3	100
Montana	0.4	0.5	0.5	102.2	79.5	76
Idaho	0.3	0.4	0.4	105.9	78.8	72
Oklahoma	1.4	1.5	1.8	82.7	76.6	82
Hawaii	0.2	0.4	0.3	115.4	67.5	89
New Mexico	0.9	1.2	1.4	85.3	65.3	71
California	9.8	11.6	15.4	75.7	63.4	83
Arizona	1.6	2.1	3.0	67.8	53.6	84

^a Adjusted for regional cost differences.

Sources:

Column 1: Calculated from U.S. Department of Education, "FY 1998 Title I Allocations to States for School Year 1998-99," 1999; <http://www.ed.gov/offices/OUS/us98.htm>; for adjustment methodology, see text.

Column 2: Calculated from U.S. Department of Education, Office of Educational Research and Improvement, *Statistics in Brief, Revenues and Expenditures for Public Elementary and Secondary Education, School Year 1996-97*, NCES 1999-301, National Center for Education Statistics, 1999, Table 1. For cost adjustment methodology, see text.

Column 3: Calculated from U.S. Department of Education, Office of Educational Research and Improvement, *Digest of Education Statistics 1998*, NCES 1999-301, National Center for Education Statistics, 1999, Table 20.

Column 4: Calculated from columns 2 and 3.

Column 5: Calculated from columns 1 and 3.

Column 6: Table 3.1, column 8.

nine, federal funds have the effect of worsening inequality. Five of these states are in the West or Southwest, three are in the Southeast, and one (Vermont) is in the Northeast.

In 1996–97, the coefficient of variation (a statistical measure of inequality) of cost-adjusted per pupil state and local spending by state was about 16 percent. With federal funds added, the coefficient of variation was reduced only to about 15 percent. The results are barely different if each state's per pupil spending is readjusted, utilizing the assumption that it costs 50 percent more to educate disadvantaged students. In that case, the coefficient of variation is 17.5 percent without federal funds and about 16 percent after federal funds have been added.³¹

The conclusion that federal aid makes a minimal contribution toward ameliorating inequality differs from that of the Parrish, Matsumoto, and Fowler analysis of school districts nationwide (without regard to the state in which they are located). They find that school districts confronting high poverty receive more than four times as much federal funding as affluent districts, two and one-half times as much as moderately affluent districts, and 68 percent more than moderate-poverty districts.³² However, even in the high-poverty cases, federal aid represents only 10 percent of total spending, so the equalizing effect is weak.

Estimating the Cost of Reducing Type I Inequality

Because federal funds are so small a share of elementary and secondary education budgets, new policies to reduce Type I inequality must augment as well as redirect federal spending. A state's ability to pay for education (as measured, for example, by PIPS) should become an explicit criterion for the distribution of federal education funds to states. How much federal spending should be enhanced depends on judgments, first, about what states should be expected to allot to education at a given PIPS level and, second, about what constitutes an adequate level of spending per child, and particularly per poor or near-poor child.

Because the financing of public education has always been primarily a state and local, not a federal, matter, very little policy attention has been devoted to Type I inequality. Yet this might be the most serious financing problem in American education. As noted, per pupil expenditures in the lowest-spending states, on average, amount to only about half of per pupil expenditures in the highest-spending states. Kentucky, the

state at the seventy-fifth percentile of states' school spending distribution (state and local funds), spends only 72 percent of what Wisconsin, the state at the twenty-fifth percentile, does. The highest-spending districts in Kentucky allocate less than the lowest spending districts in Wisconsin.³³ And the poorest children in high-spending states receive an education richer in resources than the wealthiest children in low-spending states. Thus, even if all intrastate school spending were equalized, inequalities—interstate (Type I) inequalities are as significant, if not more so, as intrastate (Type II) inequalities—would remain. A national program to subsidize all states whose mean state and local per pupil spending is below average, bringing these states' spending up to the national mean, would have cost \$23 billion in 1996. If subsidies were restricted only to those states that spent below the national average and whose PIPS was also below the national average, the total cost would have been \$21 billion. If subsidies were restricted only to those states that spent below the national average and whose PIPS was less than 85 percent of the national average, the total cost would have been \$11 billion. In 1996–97, federal elementary and secondary spending was about \$20 billion, so a program to correct Type I inequalities could easily double federal education spending.³⁴

While there has been considerable policy focus on Type II school spending inequality, Type I inequality has barely changed in over a generation. As mentioned, in 1996–97, the coefficient of variation of cost-adjusted per pupil state and local spending by state was 16 percent. In 1969–70 it had been 19 percent. For per pupil state and local spending at the seventy-fifth percentile, the ratio was 74 percent of spending by the state at the twenty-fifth percentile in 1969–70, barely distinguishable from the 72 percent figure just cited for Kentucky versus Wisconsin in 1996–97.³⁵ An analysis of 1992 school district expenditures nationwide found that about 65 percent of the variance was interstate, and only 35 percent was attributable to differences within state. These percentages were about the same as twenty years earlier.³⁶

TYPE II INEQUALITY: DIFFERENCES IN SPENDING BY DISTRICTS WITHIN STATES

In the American fiscal system, the federal government has mostly relied for revenue on personal income taxes; state governments have mainly depended on sales taxes, and local governments, primarily on property

taxes. These distinctions are a matter of tradition and convenience and are not absolute: the federal government gets revenue from sales (excise) taxes and other sources; some states lean heavily on business license or mineral severance fees, while others increasingly rely on income and property taxes; and certain localities top off property tax revenue with local sales and income taxes.

Throughout American history, public education has been controlled mostly at the local level and as a result has relied primarily on property taxes for revenue. But state governments have increasingly supplemented local financing for schools. In 1930, states provided only 17 percent of school funds, while localities provided 83 percent. The state share increased to about 40 percent in 1950 and then continued to grow, surpassing the local share in 1979.³⁷ By 1996–97, state and local shares were about equal (48 and 45 percent, respectively), with the federal government making up the rest.³⁸ The federal government has not traditionally provided general (“block grant”) support to schools but has restricted its financing to “categorical” grants—that is, funds provided for schools to carry out specific, federally designed programs, with the most important of these being nutrition and compensatory education for poor children.

Reliance on local property taxes for a substantial part of school funding has generated Type II inequalities for several reasons: Localities differ in property wealth, so the same tax “effort” (tax rate per dollar of assessed value) by citizens might yield vastly different revenue streams in property-rich and property-poor communities. Moreover, citizens in different localities might differ in the importance they place on education, leading to variations in rates of property taxation. Inequalities could result simply from communities with unusually valuable property being able to fund schools at a high level while making very little effort at revenue raising to do so. Inequalities also result from intercommunity differences in the ratio of children to adults; a district with a large number of children might generate less per pupil revenue with the same property wealth and tax effort as others.

Many states have, for decades, taken responsibility for “equalizing” property tax revenue by ensuring, with subsidies, that equal “effort” generates a minimally required revenue stream. In general, this approach has rested on the stipulation of a “foundation level” of per pupil funding, guaranteed by the state—if a community taxes its own property at a state-standardized rate, and if this does not generate sufficient funds to reach the “foundation level,” the state makes up the difference. The rationale for

such adjustment is that the democratic choice of local citizens to provide their children with better or worse schools should be respected, but the result should not be determined by the accidental wealth of the community.

The foundation formula, however, has proved inadequate to equalize resources between districts because the level of guaranteed support has not kept pace with Americans' more demanding definition of a minimally adequate level of resources for education. States with foundation systems have seen their finance systems grow increasingly unequal as the per pupil revenue in high-property-wealth communities rises over time relative to the state's guarantee of the minimum.

This potential for inequality is not inherent in the tradition of having local communities depend on property rather than sales or income taxes. A similar potential for inequality would exist if schools depended primarily on local sales or income taxes. Communities with a higher concentration of retail businesses, or with high average incomes, would still be able to support schools at a high level more readily than would communities without high sales revenues or with a lower-income population.

It is generally the case that children who are poor and members of disadvantaged minority groups suffer from this local autonomy of school finance, but this is not always the case. Poor children may live in communities with high tax bases, either because these have valuable industrial property or because the local jurisdiction is large enough to include both very wealthy and very poor residents. Our largest cities have great property wealth coexisting with schools that enroll relatively poor populations. The extremes in school financing inequality occur, rather, in poor rural or homogeneous satellite urban communities on the one hand and very wealthy suburbs on the other. Recall that, when all school districts nationally are compared, districts with large percentages of poor children spend about as much per pupil as moderately affluent districts (that have few poor children), and they actually spend more per pupil than moderately poor districts.

Litigation to Reduce Interdistrict Spending Disparities

For the past quarter century, efforts to reduce school finance inequality have concentrated on Type II inequalities. This pattern was stimulated by the U.S. Supreme Court's 1954 *Brown v. Board of Education*

desegregation decision that applied the Fourteenth Amendment's equal protection clause to education. Although the Court did not define education as a constitutionally significant "fundamental right," it did say that "education is perhaps the most important function of state and local governments."³⁹ This being the case, it was hardly a giant leap for the advocates of school finance reform to assume that the equal protection clause not only required racial minorities to have access to education equivalent to that enjoyed by the majority but that those living in communities with little property wealth should have access to education that was comparable in quality to that enjoyed by those living in communities with great property wealth. The blossoming of litigation as a reform tool inevitably directed reformers' attention to Type II, not Type I, inequalities because the Fourteenth Amendment restricts the extent to which a state can discriminate against its own citizens; it does not require that citizens of different states be treated equally. An almost exclusive focus on litigation (or to some extent, on state legislative action to preempt litigation) in the wake of the *Brown* decision thus excluded from policy concern the most important source of financing inequality. While no constitutional provision precludes congressional action to equalize spending between states, or political action to provoke Congress to take up the issue, those concerned with inadequate school spending for disadvantaged children, committed to a strategy of litigation to redress these grievances, reserved their energies for that area where they stood on the firmest legal ground, inequities among districts within a state.

The movement to make litigation a central plank in school finance reform was initiated with a 1971 California Supreme Court decision (*Serrano v. Priest*) finding that education was a "fundamental right" and that the state's property-tax-based education finance framework violated the U.S. Constitution's equal protection clause because it left students in districts of differing property wealth with educational systems having greatly varying funding levels. In California as in other states, disparities could be substantial even between neighboring communities. The *Serrano* court noted that per pupil spending in Beverly Hills was twice that in Baldwin Park, although both were in the same county. But in 1973, the U.S. Supreme Court negated the California court's constitutional interpretation, ruling (in *San Antonio Independent School District v. Rodriguez*) that education was *not* a fundamental right and that states were therefore free to balance the values of local control and equality of

educational resources.⁴⁰ With education declared not to be a fundamental right, property wealth that varied from community to community was not to be regarded as a “suspect classification,” and thus inequality in school spending was not unconstitutional. Although the case was decided by only a 5–4 margin, there have been no indications that the Court is prepared to reconsider the *San Antonio* decision.⁴¹

Following *San Antonio*, advocates of school finance equalization reoriented their tactics to focus on language in state constitutions that might be more sympathetic to equity among school districts. Only a month after the Supreme Court’s ruling, the New Jersey Supreme Court found (in *Robinson v. Cahill*) that, while education was not a fundamental U.S. constitutional right, wide disparities in average spending by school districts, owing to differences in community property wealth, violated New Jersey’s own constitutional requirement that the state maintain a “thorough and efficient” system of education. The state legislature was ordered to design a new system. Similar litigation in other states soon followed. By 1976, the California Supreme Court reaffirmed its *Serrano* decision, concluding that if the state’s property-tax-based education finance system did not violate the U.S. Constitution, it violated the California Constitution’s own equal protection clause.

Since *San Antonio*, state court judicial decisions have invalidated the school finance systems of nineteen states while upholding the arrangements in twelve states (or, at least, rejecting challenges to them on procedural grounds). In some of the latter cases, however, methods of financing were upheld only after legislative reform to avoid adverse judicial action.⁴² In twelve additional states, cases are still being litigated or are on appeal. In only six states has there been no significant school finance equalization litigation.⁴³ Table 3.5 (pages 68–70) displays states by litigation status.

The divergent outcomes of these cases are partly attributable to differences in status given to education in state constitutions, but mostly they result from varying state court interpretations of similar language. For example, while the New Jersey Supreme Court ruled that its state constitutional requirement of a “thorough and efficient” school system necessitated equality of resources, the Oregon Supreme Court in 1976 found that its constitutional requirement of a “uniform and general” school system did not.⁴⁴ Yet, “uniform” did imply equality according to the Wyoming Supreme Court in 1980.⁴⁵

TABLE 3.5. CHANGES IN STATE SPENDING, GROUPED BY SCHOOL FINANCE LITIGATION STATUS

	(1) YEAR OF DECISION	(2) REAL PER PUPIL SPENDING GROWTH, STATE AND LOCAL FUNDS, 1969-70 TO 1996-97 ^a (%)
United States, nationwide		34
United States average ^b		50
1. STATE COURT INVALIDATED SCHOOL FINANCE SYSTEM		
California	1971	-5
New Jersey	1973	71
Connecticut	1977	83
West Virginia	1979	100
Wyoming	1980	31
Arkansas	1983	93
Kentucky	1989	86
Montana	1989	10
Texas	1989	65
Alabama	1993	90
Massachusetts	1993	37
Missouri	1993	45
Tennessee	1993	55
Arizona	1994	13
New Hampshire	1997	36
North Carolina	1997	73
Ohio	1997	68
Vermont	1997	43
Washington	1998	23
Group average ^b		54
Average of states with 1970s decisions		62
Average of states with 1980s decisions		57
Average of states with 1990s decisions		48

	(1) YEAR OF DECISION	(2) REAL PER PUPIL SPENDING GROWTH, STATE AND LOCAL FUNDS, 1969-70 TO 1996-97 ^a (%)
2. STATE COURT REFUSED TO INVALIDATE SCHOOL FINANCE SYSTEM (INCLUDES CASES WHERE COURT LEGISLATIVE REFORM PRECEDED COURT DECISION)		
Idaho	1975	38
Georgia	1981	85
Michigan	1984	76
Oklahoma	1987	65
Kansas	1992	55
Nebraska	1993	93
North Dakota	1994	33
Virginia	1994	60
Maine	1995	66
Rhode Island	1995	54
Florida	1996	37
Alaska	1997	61
Group average ^b		60
3. LITIGATION PENDING (INCLUDES CASES WHERE SCHOOL FINANCE SYSTEM WAS NOT INVALIDATED BUT DECISION IS ON APPEAL OR A NEW CASE HAS BEEN FILED)		
Colorado	1982	34
Maryland	1983	28
Pennsylvania	1987	55
South Carolina	1988	68
Wisconsin	1989	59
Minnesota	1993	46
New York	1995	21
Illinois	1996	17
Oregon	1997	13
Louisiana	no decision	45
New Mexico	no decision	38
South Dakota	no decision	56
Group average		40

cont. on next page

TABLE 3.5. CHANGES IN STATE SPENDING, GROUPED BY SCHOOL FINANCE LITIGATION STATUS (CONT.)

	(1)	(2)
	YEAR OF DECISION	REAL PER PUPIL SPENDING GROWTH, STATE AND LOCAL FUNDS, 1969-70 TO 1996-97 ^a (%)
4. NO LITIGATION, OR DORMANT CASE		
Delaware	—	21
Iowa	—	33
Mississippi	—	64
Nevada	—	15
Utah	—	9
Indiana	—	117
Group average ^b		43
5. UNITARY SYSTEMS		
Hawaii	—	3
Dist. of Col.	—	88
Group average ^b		46

^a Adjusted for regional cost differences.

^b Simple average of state growth rates.

Sources:

Column 1: Paul Minorini, "School Finance Litigation: Box Score (4/15/98)," chart distributed at panel on educational adequacy at the annual meeting of the American Education Research Association, San Diego, April 1998.

Column 2: Table 3.1; 1969-70 data provided to the author by the National Center for Education Statistics from its Common Core of Data. For inflation and regional cost adjustments, see text.

Increased, and More Equal, Spending within States

Even if Type II inequality has diminished in the wake of litigation and legislative remedies, this does not necessarily imply increased school spending overall. The early suits did not require states to raise their school spending, and parity can be accomplished by capping or reducing expenditures in rich districts while increasing them in poor ones. If taxpayers in property-rich school districts resent reforms that increase the share of their taxes that benefit children in less wealthy districts,

these taxpayers could conceivably vote to reduce their own spending, leading to an equalized system but with fewer total resources. In New Jersey and Texas, legislators initially attempted to enact “Robin Hood” laws to take property tax revenues from wealthy school districts and give them to poor districts, but these met with strong political resistance. After such a scheme was enacted by the legislature in Texas, it was reversed in a 1993 statewide referendum by the overwhelming margin of 63 percent to 27 percent. Kansas, on the other hand, disguised a redistribution plan by having state government assume control of the local property tax system, collect all property taxes directly, and make per pupil grants to districts. At the present time, Vermont is involved in a dispute in which, following a court-mandated plan to redistribute property tax revenues, property-rich districts (“gold towns”) have been reducing their tax rates so that no excess will be generated and instead have established private foundations through which citizens voluntarily donate substantial funds to their local schools.⁴⁶ In general, however, state legislatures have avoided conspicuous redistribution and have reacted to equalization pressures by “leveling up,” adding money to the local property tax receipts of poor districts from state revenues while keeping rich districts whole, or by placing some limits on the right of rich districts to increase spending further while poorer districts were catching up. California, where litigation to promote equity first appeared, was, until recently, a conspicuous exception to this trend. *Serrano* was followed there by a taxpayers’ revolt, and real school spending actually declined over the next two decades.⁴⁷ Recently, however, average school spending in California as well has begun to increase.

Michigan’s experience illustrates the complexities of education finance reform. Twice, in 1973 and 1984, the state’s supreme court upheld a school finance system that was among the nation’s most dependent on property taxes (these provided two-thirds of all school funds). Voters in 1989 rejected a proposal for the state to take over the financing of schools by raising sales taxes.⁴⁸ By 1993, property-rich districts were spending nearly \$11,000 per pupil, while poor, rural districts spent barely \$3,000.⁴⁹ Then, a small, rural, low-property-wealth district at the northern tip of the state voted to close its public schools rather than further raise its tax rate, which was already higher than that of better-endowed districts. Embarrassed, Republican governor John Engler, supported by both Democratic and Republican legislative leaders, agreed to replace much of the local property tax system with state revenues, to

be raised by a tripling of the cigarette tax and an increase in the state sales tax rate from 4 to 6 percent.⁵⁰ The tax hike was submitted to a referendum, with the threat that if the proposal were defeated, the legislature would instead raise the state income tax.⁵¹ The referendum passed with 69 percent of the vote, and Michigan suddenly had one of the most state-dependent school finance systems in the nation, with nearly 80 percent of funds coming directly from Lansing.⁵²

Michigan's new system immediately raised per pupil spending in the poorest districts by one-third. To reduce inequality further, it also prohibited the richest districts from raising their local property taxes more than 1.5 percent a year; yet voters in the rich districts also supported the new proposal by substantial margins.⁵³ Overall, Michigan's average per pupil spending continued to increase (about 3 percent a year, after inflation) in the 1990s.

The range of real average per pupil spending increases seems to have been similar in states whose courts have equalized spending, in those where courts have declined to do so (sometimes because legislatures acted before court decisions), in those where litigation is pending, and in those where no litigation has been filed. Column 2 of Table 3.5 lists states, grouped according to their litigation status, by their real growth in per pupil spending from 1969–70 (prior to the first *Serrano* decision) to 1996–97.⁵⁴ From this column, it seems that, while school spending growth varied considerably across states, the range of variation is similar within each litigation category. These calculations are only suggestive because they compare spending growth for the full 1970 to 1997 period for all states, although states varied greatly in the time frame for which a litigation decision might be presumed to be influential. Nonetheless, even when states are grouped more narrowly, similar patterns prevail. States with equalization court decisions in the 1970s had real spending growth of 62 percent from 1969–70 to 1996–97 (although California's atypical history influences this number); states with decisions in the 1980s had real spending growth of 57 percent over the entire period; and states with decisions in the 1990s had real spending growth of 48 percent. On an annual basis, these are small differences over a twenty-seven-year period. Clearly, litigation was not the only force driving growth in school spending during these decades. Overall, states with successful litigation had spending growth of 54 percent, compared to 60 percent in states where courts declined to invalidate funding systems. Again, this is a very small difference—between

a 1.6 percent average annual increase in the first case and 1.8 percent in the second.

In a more sophisticated econometric analysis, Sheila Murray, William Evans, and Robert Schwab estimate that if a state court finds a school finance system unconstitutional, subsequent reform causes a 23 percent increase in school spending over what would have occurred absent such a court finding.⁵⁵ This may understate the impact of litigation because the analysis cannot account for spending increases enacted by legislatures to preempt a court-ordered solution.

While spending has increased across the board, litigation seems to have been effective in decreasing Type II inequalities within the context of broad, overall spending growth. G. Alan Hickrod calculated that the coefficient of variation of district spending in states with successful equalization litigation declined by 22 percent; in states with moderately successful litigation, by 8 percent; in states with unsuccessful litigation, the coefficient of variation increased by 2 percent; in states with unsuccessful litigation but with further litigation filed, it increased by 23 percent; in states with no court decision yet, it increased by 6 percent; and in states with no litigation filed, it decreased by 6 percent.⁵⁶ Murray, Evans, and Schwab found that court decisions themselves were responsible for a reduction in interdistrict inequality of from 19 to 34 percent. This happened because court-ordered reforms increased education outlays in the lower-spending and median districts while leaving spending in the higher-spending districts unchanged.⁵⁷

There is, however, less evidence that the successes in remedying Type II inequality have consistently benefited the disadvantaged students who most need additional help. This is because an assumption that low-income families are clustered in low-spending districts may not be entirely accurate. Indeed, lack of evidence for a strong inverse correlation between student poverty and district property wealth was an important reason given by the Supreme Court in *San Antonio* for declining to get involved in disputes about equity in interdistrict finances. While a strong negative relationship between poverty and property may have been commonplace when most poverty was rural, the poorest children now are concentrated in urban areas, some of which (New York City, Los Angeles, Chicago) are quite prosperous and have substantial commercial and residential property. And, as described in the discussion of Type I inequalities, the District of Columbia has some of the nation's poorest children, along with some of its most affluent taxpayers.

While districts with concentrations of poor children may not raise as much money per pupil as low-density, very wealthy, suburban communities, they may raise more than the typical district that is more uniformly middle class.⁵⁸

The Shift from “Equity” to “Adequacy” in Litigation

Recently, therefore, the focus of state equity litigation has changed. The seeds of change were planted in the very first judicial decision, *Robinson v. Cahill* in New Jersey, where the court used not only spending data but an outcome standard by which to measure whether the state’s school system was “thorough and efficient”: the schools, the *Robinson* court decreed, must provide adequate education so that all students have equal opportunities to play roles as citizens and to compete in the labor market. Other courts increasingly have taken a similar approach. What matters is not merely whether funding is equalized between districts but rather whether funding is sufficient to provide the resources needed to deliver a quality education as implied by state constitutions. Courts in Kentucky, Massachusetts, Ohio, West Virginia, Wyoming, and elsewhere now insist that an equal amount of too little is not enough. Their decisions demand, instead, that the state guarantee to each district an “adequate” level of resources. Further, the court decisions recognize that what is adequate for ordinary children may not be so for disadvantaged children. In consequence, several courts have now explicitly interpreted their state constitutions as requiring not equality, but resources matched to the unequal needs of students in the state.

While applying unequal resources to unequal needs may be good social and educational policy, the resolution of such questions in state courts has required a degree of judicial activism for which courts are poorly suited. It is one thing to litigate whether school districts have equal funding. Judges can easily compare the revenues produced by comparable tax “effort” and can mandate states to compensate for resulting inequalities. But how are judges to decide how much it costs to deliver an “adequate” education and how costs vary according to student needs? These are questions to which educators and social scientists have only the most tentative answers. Requiring judges to go beyond what even experts can determine has spawned a huge industry of competing expert witnesses, traveling from state to state, from one

“adequacy” hearing to another. Litigants (both plaintiffs and defendants, usually state attorneys general) have thus become important funders of education policy research.

Courts cannot figure out what an adequate level of resources might be without first determining what results these resources should aim to produce.⁵⁹ Consider one of the early attempts by a state court to define adequate outcomes, that of the West Virginia Supreme Court in 1979, requiring the legislature to fund schools to develop “in every child” these capacities:

- u literacy;
- u ability to add, subtract, multiply, and divide;
- u knowledge of government to the extent that the child will be equipped as a citizen to make informed choices among persons and issues that affect governance;
- u self-knowledge and knowledge of his or her total environment to allow the child to intelligently choose life work—to know his or her options;
- u work training and advanced academic training as the child may intelligently choose;
- u recreational pursuits;
- u interests in all creative arts, such as music, theater, literature, and the visual arts; and
- u social ethics, both behavioral and abstract, to facilitate compatibility with others in this society.

Other courts have required funding adequate to develop similar competencies. Few of these developments can be measured by standardized reading and math tests that states increasingly utilize for purposes of accountability. Whether, for example, the same resources that produce mathematical competency also train for adequate performance in, or appreciation of, the fine and performing arts is a question that as

yet has been barely addressed by education finance theory. Nor have theorists assessed whether disadvantaged children need the same resources in all of these domains, or whether the degree of necessary augmentation differs from one domain to another.

How, then, can a state, whether because of court mandate or political desire, determine how much money each district requires to provide not only an equal education but an adequate one? In attempting to comply with court decisions, the Ohio state board of education set an impossibly high bar for adequacy: it assumed that a “thorough and efficient” (the state’s constitutional language) education meant that schools should not merely narrow the gap between the achievement of disadvantaged and other children. Rather, the board implied, schools should produce the same outcomes for all children, regardless of the differences in social and economic background that children bring to schooling: a practical test, the board stated in 1990, would be to ask parents whether they would “be willing to have [their] children educated in any of the 612 school districts in Ohio.” If not, then “the system would appear to be suspect.”⁶⁰

The state then hired experts John Augenblick and John Myers to identify school districts that generated adequate outcomes and then calculate how much these districts spent.⁶¹ Ohio assumed that if these districts could generate adequate student achievement with the funds available to them, then any district could generate similar results with identical funding. However, the Augenblick approach has been rejected by the Ohio Supreme Court on appeal, and the state is now struggling with new methods to satisfy the judiciary’s demand for “adequacy.”

Augenblick and Myers’s pioneering Ohio work still left important questions unanswered:

- u It utilized academic test scores to identify districts with adequate outcomes, yet such test scores may not suffice to form judgments of what constitutes an adequate education. But no other objective measures of adequacy currently exist.
- u Districts with large numbers of at-risk students fail to generate outcomes given the same funding levels—similar to districts with mainly middle-class students. But should adequacy be defined differently for poorer districts, or should Ohio assume that they can achieve satisfactory performance if only given more money? This question remains unanswered.

- u The obligation to generate adequate achievement requires only that districts have the funds necessary to generate it. But some districts are more efficient than others. By assuming that what adequately performing districts spend is the same as what they must necessarily spend, this method incorporates inefficient spending patterns into the definition of adequacy.

Illinois governor James Edgar's Commission on Education Funding used a similar "empirical" method in 1996 to estimate the cost of an adequate education and retained Fordham University professor Bruce Cooper, acting on behalf of the Coopers & Lybrand accounting firm, to calculate it. He tried to solve some of the problems raised in Ohio. Cooper grouped schools by prevalence of poverty and in each group identified schools where scores on the Illinois Goals Assessment Program were in the top quartile of that group. This implicitly adopts a different definition of adequacy for various socioeconomic groups. Of these high-performance schools, those for which per pupil expenditures were below average were presumed to be efficient and, therefore, to have adequate funding. The commission's report, however, was never adopted by the state legislature.⁶²

Augenblick, Myers, and Amy Anderson report that a similar empirical approach has now been adopted by Mississippi, which has identified thirty successful schools based on test scores and concluded that the costs of operating these schools is "reasonable."⁶³ What is spent on education in these thirty schools is being defined as the cost of adequacy, with adjustments made for districts with varying costs of living, student poverty rates, and so forth. As of this writing, however, the Mississippi method has not been described in the published education finance literature.

Two states, Wyoming and Maine, have taken a different approach, modeling prototypically adequate schools and then pricing the resources that go into realizing these prototypes. In 1995 the Wyoming Supreme Court ordered the legislature to design a new school finance system that delivered the "best" education to each student in the state, a system in which all per pupil spending differences had to be justified in terms either of differences in districts' special needs (for example, percentages of at-risk students) or in cost (for example, higher living costs might make it more expensive for some districts to attract qualified teachers). A team led by James Guthrie surveyed national research

along with the informed opinions of nationally and state-recognized expert educators to estimate the resources required to deliver an adequate education.⁶⁴

Although school prototypes designed by the Guthrie team were adopted by the legislature, another round of appeals is now under way. One group of plaintiffs claims that the level of teacher salaries funded by the legislature is inadequate in today's market to attract college graduates of sufficiently high quality to deliver an adequate education. Another group of plaintiffs allege that the additional resources in the legislature's model are insufficient for areas of the state where the cost of living is higher than elsewhere.

In Maine, prototypes were commissioned by the legislature (but have not yet been fully implemented or adopted) in 1995, the year that the Maine Supreme Court dismissed a challenge to the state's school finance system. David Silvernail and others relied on examination of resource patterns in Maine schools that performed particularly well on state tests, as well as on national research literature and the opinions of experts about necessary levels of resources, to guide the construction of prototypes.⁶⁵

It is noteworthy that this method, delving into national research and expert opinion to model prototypical resources, has been adopted by two states where the number of disadvantaged children is relatively small. Nowhere have prototypical models been litigated with the primary purpose of prescribing how much additional money districts must expend to provide adequate educations to disadvantaged children.

The prototypical-model method also has disadvantages, namely, that professional opinion seems more subjective than empirical analysis. One expert may decide that well-funded athletic programs are necessary to build character, while another concludes that athletics are an option, not part of the state's obligation to fund a minimally adequate education. There are no test scores on character whereby such disputes can be resolved. Policymakers, educators, and voters must enter these debates, comparing their own best judgments to those of the "experts." The success of a model depends on the integrity and credibility of those who design it, and on the thoroughness with which they distill and synthesize available research about effective means of delivering adequate achievement.

It is certain, however, that courts will continue to adjudicate the "adequate" resource level for different categories of students, and judges

will continue to make decisions about educational theory that go far beyond what is known by educators and researchers themselves. These decisions may, however, reflect a consensus of educators' opinions in one regard: bringing underprivileged children up to the level of the mainstream is likely to require spending more per pupil on them.

The latest New Jersey decision again breaks new ground. In 1990, the New Jersey Supreme Court issued a decision that almost fully dispatched the notion that nominal "equalization" could be a constitutional goal. *Abbott v. Burke* decreed that not only must poor urban school districts receive funds comparable to those of wealthy suburban districts; they must be granted additional funds because of their special needs. Initially, the court ordered that "special-needs" districts be awarded an increment of 5 percent of the foundation guarantee.⁶⁶ But the court soon was persuaded that this was insufficient to guarantee adequacy. The final court order in *Abbott* requires the state to finance full-day preschool for three- and four-year-olds in the special-needs districts as well as make substantial expenditures for repair and renovation of their school buildings.⁶⁷

TYPE III INEQUALITY: DIFFERENCES IN SPENDING IN SCHOOLS WITHIN DISTRICTS

Even if inequality of Types I and II were corrected—states and districts had at their respective levels equalized financial support, adjusted for differences in student need—resources might still be distributed unequally if schools within districts were unequally endowed or if some schools were failing to meet the particular needs of their students. Inequality between schools locally (Type III) could exist because, for example, population growth within a district is unequal, leaving children in rapidly growing poor communities in more overcrowded schools and larger classes. If the disadvantaged population is isolated—as in many cities—in inner-core areas that have been abandoned by the middle class, facilities attended by poor children may not only be more crowded but deteriorating and in need of replacement.

The most serious cause of Type III inequality, however, is the maldistribution of teachers within urban districts. In most, union contracts permit senior teachers to transfer to fill openings in the schools they choose, before new teachers are hired. The result is that, in diverse

metropolitan districts, predominantly suburban-style, middle-class, and white schools generally have a more experienced teaching force than do inner-city, poor, and minority schools. The problem is aggravated by the time consumed by seniority moves: each opening that occurs in a middle-class school and is filled by a transferring senior teacher then triggers an opening in another city school that the teacher leaves. By the time seniority moves are complete, it may be very close to the beginning of the school year, forcing inner-city schools suddenly to scramble to fill unexpected vacancies with unqualified personnel. More difficult (because their students come to school less prepared to learn) inner-city schools already have fewer experienced teachers; seniority rules exacerbate the situation.

Senior teachers are not always better than junior ones, nor do teachers gain in quality in direct proportion to their experience. It is typically the case that teachers gain in effectiveness during their first seven to ten years on the job, at which point their effectiveness levels off but does not decline.⁶⁸ In other words, even if they were paid the same, an inexperienced teacher is not comparable in human resource value to an experienced one. The fact that teacher salary schedules reward teachers for years of experience confirms this inequality but does not cause it. The problem cannot be solved by leveling teacher pay, increasing that of junior teachers and reducing that of senior ones. Students in schools with a high proportion of teachers with less than seven years' experience are likely to receive educations inferior to those of students in schools with a low proportion of such teachers.

Simply demanding that teacher unions in urban districts abandon their seniority rights will not itself solve this problem. It is unreasonable to insist that teachers who have accumulated experience should have no opportunity to move to teaching positions where discipline is easier, children come to school more ready to learn, and schools (and teachers) get public credit for their students' easier-to-achieve successes. Not all experienced teachers will want to make such moves, but a district cannot prevent those who wish to transfer from doing so. If it attempts to eliminate seniority considerations from teacher assignments, it will ensure that more of its experienced teachers simply abandon the profession, or apply for openings in nearby suburban districts.

Even with some restriction on seniority transfer rights, however, the solution to this problem is ultimately economic: districts must pay teachers in hard-to-staff schools enough of an increment to compensate

for the more difficult working conditions. Teacher unions, as well as tax-conscious school boards, will resist this solution, primarily because unions are naturally dominated by more experienced teachers who work in less challenging locations and will not support bargaining platforms that distribute new monies disproportionately to recently hired, inner-city staff. Yet the problem is negotiable: in some big cities, teacher unions have agreed to inner-city pay increments, though the amounts have been token, insufficient to bring parity to teacher experience levels in schools attended by poor and middle-class children. Unless a lot of new money becomes available to urban districts, union resistance to this important reform is moot.

New York City, however, recently offered 15 percent bonuses to experienced teachers who volunteer for its forty lowest-scoring schools.⁶⁹ This is probably close to \$10,000 per year per teacher in additional compensation. If this incentive turns out to be sufficient to attract more seasoned teachers back to schools with large numbers of disadvantaged children, massive amounts of money will be required to replicate it on a nationwide scale. In 1996, there were about 8.6 million poor children in America's schools. If we assume that half of them were in hard-to-staff schools and that attracting experienced teachers to these schools will cost, on average, about \$7,000 each in additional compensation (somewhat lower than what New York put forward because costs are higher there than elsewhere), then this reform alone would require nearly \$2 billion in additional funds for elementary and secondary education across the country.

***Hobson v. Hansen*: Mandating Intradistrict Equality**

There has been only one judicial decision regarding Type III inequality, in a federal desegregation case decided in 1968.⁷⁰ The plaintiff in *Hobson v. Hansen* charged the District of Columbia school system with a variety of practices that perpetuated a pre-Brown-era segregated system, not all of which are relevant for our purposes.⁷¹ (Some important issues litigated in the case involve Type IV and Type V inequalities, school and classroom tracking.) But the court also found Type III inequalities characteristic of segregated school districts in Washington, D.C. It discovered that predominantly black schools were more overcrowded, had fewer experienced teachers, fewer instructors with advanced

degrees, and more temporary positions. An overcrowded school realizes apparent administrative economies of scale, spending less per pupil, for example, on a principal's salary than an ordinary school of similar size. Salary costs for less experienced, less credentialed or less degreed teachers are lower. In large schools, teacher assignment can be more efficient as well, leading further to lower per pupil costs—for instance, a music teacher can instruct more pupils in a single school than when traveling between smaller schools.

The court's initial order required Washington, D.C., schools to adopt a "color-conscious" teacher assignment policy to facilitate faculty integration: voluntary transfers of highly paid white teachers from predominantly white to predominantly black schools were encouraged, and new teachers were subsequently assigned to schools in ways to achieve a target of having no school deviate by more than 10 percent from the racial composition of teachers citywide. However, there were too few volunteers and too few new teachers to make much of a difference. Three years after the court's decision, per pupil teacher expenditures were still 40 percent higher in some predominantly white schools than in some predominantly black ones, and total per pupil expenditures at some schools were nearly three times as great as at other schools. Plaintiffs returned to court, seeking an order requiring per pupil expenditures at any school to vary by not more than 5 percent from the districtwide average. The court instead adopted an order with the plus-or-minus 5 percent requirement applying only to teachers' salaries, not all expenditures. The court's reasoning was that other expenditure variations (for example, stemming from more dilapidated buildings in poorer areas) were more beyond district officials' control than teacher assignment policies.

This remedy, too, was ineffective. The District of Columbia complied primarily by redistributing "resource" teachers (music, art, enrichment) between schools, not by reshuffling teacher experience in regular classrooms. To the limited extent that regular classroom teachers' assignments changed, it is not clear that this truly represented a real resource equalization because the relationship between teacher experience and quality is hardly perfect. Since most researchers believe that the learning curve flattens out after about seven to ten years' experience, teachers with twenty years' experience may not generally be better at their job than those with ten, though the former may receive 25 percent greater compensation. In the District of Columbia case, a court

would have to believe that the twenty-year teacher provides 25 percent more effective instruction than the ten-year teacher if distributing teachers among schools so as to equalize salaries were to be deemed a valid strategy. Education research has yet to identify the precise relationship between teacher experience and quality. Thus, in districts resembling those of many big cities, where more experienced teachers cluster in schools serving the relatively well-off, it is not clear how to fashion a legal remedy for an acknowledged injustice.

The Los Angeles Consent Decree: Equalizing School Resources within a District

Perhaps because of this difficulty, there have been no further court decisions regarding Type III inequality. But in 1986 a Los Angeles lawsuit made allegations similar to those underlying the *Hobson* case, and in 1992 the Los Angeles Unified School District negotiated a settlement. The consent decree in *Rodriguez v. LAUSD* required the district, within five years, to bring the per pupil spending of 90 percent of its elementary schools to within \$100 of the districtwide average.⁷²

While the consent decree allowed for more nuance than a judicial order, still the mechanical formulas of the decree were imperfect approximations of greater equality. The decree relied on the fact that senior, higher-paid teachers tended to transfer to more middle-class and white schools, while inexperienced teachers were typically hired to fill vacancies in inner-city, poor, and heavily minority schools. Prior to the decree, per pupil spending varied by as much as \$400 per pupil between schools, largely because of the differences in teacher experience and salaries but also because of economies of scale reflected in the lower administrative costs associated with bigger, overcrowded, inner-city schools—the school district’s highest-spending elementary school enrolled 185 students, while the lowest-spending enrolled 1,467.

But while these patterns were unmistakable, they were not universal. Some inner-city schools had a full complement of senior teachers, and some suburban schools had mostly junior teachers. Under the consent decree, the former were also required to reduce spending, whereas the latter could increase it.

The Los Angeles teachers’ union was a party to the settlement, and it insisted on a provision prohibiting mandatory transfers of

teachers to fulfill the consent decree's goals. While high-spending schools complied by hiring only junior teachers when they had vacancies, other techniques were employed as well. These were possible because the Los Angeles consent decree attempted to equalize a variety of school resources and gave schools some discretion about how to spend their budgets. Thus, it went farther than *Hobson*, in which only teacher salary costs had been put on an even footing. In Los Angeles, schools with concentrations of inexperienced teachers were given additional funds to spend on other necessities. Compliance was achieved by such means as hiring mentor teachers, counselors, or nurses; reducing class sizes in schools with low payrolls; or requiring principals of high-spending small schools to supervise more than a single facility. The five-year period for phasing in compliance made the adjustments more palatable than they otherwise might have been.

Resources Required by Schools Serving Disadvantaged Children

It is impossible to say whether, in general, Type III inequalities have more significance in major urban areas than Type I or II inequalities because of the difficulty of establishing a precise method of assessing the relationship of teacher quality to experience. Suffice it to say that, while a broad, Type II judicial remedy, directing more resources to districts with large proportions of disadvantaged children, might be effective, a more targeted policy would steer funds not only to those districts but to particular schools within them.

There is a growing consensus of educational researchers and policy-makers that such a targeted resource policy should include:

- u differentiated pay scales, so that schools with large numbers of disadvantaged children can utilize pay increments to attract highly skilled teachers to schools where their talents and experience are most needed;⁷³
- u smaller class sizes for disadvantaged children;⁷⁴
- u prekindergarten programs that begin at age four or earlier for disadvantaged children;

- u summer school: credible research has concluded that the biggest gaps between the academic skills of disadvantaged children and others develop in the summer, when advantaged children repair to intellectually stimulating environments while disadvantaged children lose some of the skills gained in the previous year;⁷⁵
- u mentor teachers to assist inexperienced teachers in inner-city schools;⁷⁶ and
- u downsizing of large, urban schools to prevent student anonymity and create communities for learning.⁷⁷

The Importance of Concentrated Disadvantage

Formulas that allocate additional resources to schools with disadvantaged children in direct proportion to the numbers of such children are inadequate. It is the concentration of disadvantage itself that requires the strongest remediation. An expectation of the social and academic benefits a disadvantaged child would derive from being schooled alongside advantaged peers was a fundamental sociological support of the *Brown v. Board of Education* decision to desegregate schools. This insight was confirmed in James S. Coleman's pathbreaking 1966 report, *Equality of Educational Opportunity*: the achievement and socioeconomic status of a disadvantaged student's peers is a better predictor of that student's achievement than his or her own socioeconomic status.⁷⁸ Because we have failed, since *Brown*, to integrate schools either racially or by social class, concentrated disadvantage reinforces itself in urban schools. Schools with intensive poverty require not simply additional resources but disproportionately more than others.

INEQUALITIES IN SOCIAL CAPITAL

Secretary of Education Richard Riley noted recently that today everybody demands more from schools: "You know, people didn't expect much from Title I fifteen years ago. Now they expect [disadvantaged students] to do the same thing as every other kid. The bar has been lifted."⁷⁹ But this expectation may be inappropriate.

Even if all (Types I through V) school resource inequalities could be eliminated, it is unlikely that achievement differences between disadvantaged and more privileged children would vanish. For decades, education researchers have been able to associate only about 25 percent of the variation in student achievement with the influences of schools. The other 75 percent results from differences in the educational habits and attitudes (social capital) that children get from their families, their communities, and their peers.

Of course, the statistical analyses upon which these conclusions rest are limited by the real-world nature of the data they describe. It is possible that school influences are relatively weak only within the parameters of resource allocation currently found in American schools. Perhaps if disadvantaged children had vastly improved access to quality education, good schools could remedy more than 25 percent of the gap. But while this is conceivable, there is yet no solid evidence to support such an inference. Indeed, those schools that seem to produce relatively better results for disadvantaged children are characterized not merely by better resources but also by organizational cultures that meld existing assets and personnel into focused teams emphasizing high expectations with incentives and accountability for results. But there is no certainty that even in such high-performing schools the achievement gap can be entirely eliminated.

Improving Achievement through Expenditures to Improve Social Capital

It may be, however, that the greatest opportunities for lifting the academic achievement of disadvantaged children lie not in school spending but in spending to improve these children's social capital. What is needed is a systemic approach in which, with the goal of academic achievement in mind, the opportunity costs of dollars spent in schools and other institutions are compared.

For example, children with abnormally low weights for their age, a result of nutritional deficiencies, perform more poorly on academic tests than well-nourished children. In experimental studies, children given vitamin and mineral supplements "showed test score gains that significantly exceeded the controls."⁸⁰ These supplements are relatively inexpensive. Dollars spent to combat nutritional deficiencies in poor

communities might, in addition to their direct benefits, be more effective levers for raising achievement than class size reduction or similar school interventions.

One study found that children from families who received housing subsidies (as through the federal Section 8 housing program)⁸¹ were less likely to have abnormally low weights for their ages than were children from families who were on waiting lists for such subsidies. Families with housing assistance spend more of their incomes on food than eligible families without them, thereby averting low-weight crises and the consequent depressing effects on academic achievement.⁸²

Keeping Students from Transferring Repeatedly between Schools through Investments in Housing

Housing subsidies may also improve outcomes by making accessible lower-cost apartments with more adequate space for children to study and do homework. Or subsidies may help achievement by stabilizing families' living arrangements, permitting their children to remain in the same schools. Repeated student transfers may be an important cause of low achievement in poor communities: "Moving generally keeps children of lower SES [socioeconomic status] from attaining their normally expected achievement and grade level."⁸³ About one-sixth of all third-graders nationwide have attended three or more schools since first grade. These frequent movers are disproportionately low income and minority: 30 percent of children from families with incomes below \$10,000 have attended at least three different schools by the third grade, while only 10 percent of children from families with incomes above \$25,000 have done so.⁸⁴ An analysis of Chicago mobility found that in a *typical* elementary school, half the students are not enrolled in the same school after three years; over a two-year period, 5 percent of Chicago students attended four or more different elementary schools; three-fourths of these students on the move were African American.⁸⁵ In the Los Angeles Unified School District, the average annual elementary school transiency rate (students who enter or leave school during a single year) was 43 percent in 1989–90, and at one site it was 96 percent.⁸⁶ This mobility may contribute more to poor academic performance than the teacher seniority differences dealt with in the *Rodriguez v. LAUSD* consent decree.

Too-mobile students suffer from discontinuity of instruction, lose familiar peer relationships that provide security for learning, and cannot readily take advantage of remedial programs for which diagnoses emerge only over time or programs for which eligibility must be established, such as Title I reading services.⁸⁷ Not only are test scores depressed and dropout rates elevated for these students themselves, but achievement of all students in schools characterized by this sort of instability suffers because teachers must devote instructional time to reviews for newcomers and to the organizational tasks of incorporating them into classrooms. Schools with high rates of students moving around frequently reconstitute classroom lists to avoid placing all newcomers in a single class. In one typical inner-city school, a research team observed class rearrangements affecting stable as well as mobile students four times in a single academic year.⁸⁸ Even without such reorganization, teaching strategies falter in schools confronted with high student mobility: instructors are more likely to teach discrete units rather than integrating instruction across subjects and are more likely to spend time reviewing old material than introducing new concepts.⁸⁹ The American public's stress on greater accountability is also frustrated in schools facing these conditions: students who remain in one place may make achievement gains that are disguised by including in school averages the test scores of recent arrivals for whose lack of progress the new school is not fully responsible.

Student mobility can have several causes, including dislocations resulting from parental job loss or transfers, school choice programs, or family breakup or reorganization. But in poor communities, an important cause is inadequate housing. A serious housing shortage challenges low-income urban residents, and many families with children intermittently double up with friends or relatives, or move when they cannot keep up with rent payments. In extreme cases, families move in and out of shelters or other nonstandard housing.

Of 1.7 million renter families with children in 1995 who were "working poor" (that is, whose income from work equaled at least half-time, year-round work at the minimum wage), 80 percent spent more than 30 percent of their incomes for rent and utilities, and 42 percent spent more than 50 percent of their incomes for rent and utilities. One-third of these families with children either lived in overcrowded housing or were doubled up with other families.⁹⁰

A long history of research showing the deleterious effects of excessive student mobility on achievement drives policymakers to consider

how schools can accommodate special needs—by improving the speed with which student records follow school transfers, by providing busing so students can avoid changing schools when families move, or by offering remedial tutoring for students who are subject to repeated moves.⁹¹ Some educators believe that residential stability can be encouraged by urging parents to consider the impact on their children's lives before deciding to move, and some school policymakers have attempted such an approach.⁹² Educational research, however, rarely considers whether steering resources directly toward keeping families settled, by means, for example, of housing subsidies, might be a cost-effective approach to improving test scores, quite aside from producing other beneficial results. If dollars are available either to reduce school finance inequalities or to improve students' social capital by guaranteeing more stable housing to their families, which expenditure would generate the greater academic achievement gains?

Publicly funded housing subsidies are necessary to reduce student mobility. New York City families in homeless shelters who received housing subsidies within the next five years were twenty-one times more likely to be stable (in the same apartment for at least twelve months) than families who did not receive subsidies.⁹³ Nationwide, only one-quarter of working poor families with children received public housing assistance in 1995: 569,000 working poor families received no housing assistance and paid more than 50 percent of their incomes for rent and utilities; another 463,000 paid between 30 and 50 percent of their incomes.⁹⁴ The Department of Housing and Urban Development estimated in 1997 that the average cost of housing subsidies is \$5,499 per year per unit.⁹⁵ Thus, an immediate expansion of the Section 8 program to cover all working families with children who at present spend more than 50 percent of their incomes for rent would cost only \$3.1 billion annually. Covering all working families with children spending more than 30 percent of their incomes for rent would cost \$5.7 billion annually.

An annual housing expenditure of \$5.7 billion is equivalent to a per pupil spending increase of about \$121, spread across all elementary and secondary pupils. No research has yet been undertaken to determine relative gains in student achievement from the expenditure of \$5.7 billion on Section 8 housing vouchers—as opposed to school interventions like class size reduction or recruitment of more qualified teachers—but the possibilities are sufficiently intriguing that such research should be a high priority.

CONCLUSION

Although the academic achievement differential between disadvantaged children and others has narrowed, it stubbornly persists. Part of the remaining gap could be attributable to lesser resources received by disadvantaged children, and part could be attributable to less efficient use of resources directed at disadvantaged children. Children may be disadvantaged when they receive fewer material, social, and cultural resources in their families, their communities, their schools, or in all of these. Improving the level and quality of resources in schools serving such children should be one important tool for improving their achievement.

Schools can be inadequate for disadvantaged children because the states in which they reside provide fewer resources generally to schools than do other states. This interstate inequality (termed here Type I inequality) is the source of the greatest disparities in school funding, although it receives relatively little attention from policymakers.

Disadvantaged children can also be shortchanged because they live in districts that provide fewer resources to schools than do others in their state (Type II inequality). Type II, interdistrict inequality attracts the greatest public attention. Disadvantaged children also can lose out because they attend schools that are less adequately endowed than other schools in their district (Type III inequality), because they are tracked into classrooms that are allocated fewer resources than others in their schools (Type IV inequality), or because their classrooms are organized to deliver instruction and support unequally (Type V inequality). This chapter has explored Types I, II, and III inequality, as well as the relative importance of resources given directly to schools as opposed to measures taken outside the educational arena to enhance students' social capital.

For the past thirty years, public policy has addressed issues of equity for disadvantaged children primarily by leveling expenditures by districts within a state. Districts serving large proportions of poor children may have fewer resources than others, yet these same districts require more because of the greater educational challenges they face. Advocates for disadvantaged children have pursued strategies to equalize school spending between districts within states, relying on both legislation and litigation. These strategies have been reasonably successful in many states; intrastate spending inequality has been reduced more in states with successful litigation, although per pupil spending (benefiting the

disadvantaged as well as children generally) has grown in all states, regardless of whether litigation was successfully pursued. As these cases have evolved, attention has shifted from attempts to equalize resources, regardless of their adequacy, to questions of how to define a minimally adequate level of spending for disadvantaged students, with their greater than typical needs.

Little policy effort has been directed toward the remediation of Type III (intradistrict) inequalities. To do so would require, primarily, attracting higher-quality teachers to poorer areas and reducing class sizes, particularly for the youngest children, to a greater extent than is done in more affluent parts of the district. This will prove politically difficult, although a recent consent decree in Los Angeles, requiring the district to increase per pupil spending in some schools, may be a preview of future trends. Attracting more qualified teachers to inner-city communities could cost about \$2 billion annually on a nationwide basis.

More important, public policy has failed to focus on Type I (interstate) inequalities, which are generally greater in magnitude than the widely acknowledged Type II (intrastate) disparities. Even if all resources were distributed equally to districts within states, most of the inequity overall would remain. This is because, at present, the most disadvantaged students in states with the highest average spending receive substantially more public funding than the most advantaged students in states with the lowest average spending.

States that spend too little cannot necessarily correct this problem easily because many of them also have a low capacity to raise revenue for education. (A state's capacity to fund education is defined here as its total personal income per enrolled student.) A serious effort to provide equal, or at least adequate, school resources to the nation's disadvantaged children must help the low-spending states, and in particular those states that have higher than typical rates of poverty and less capacity to boost spending for education.

Thus, the most important initiatives to improve school conditions for disadvantaged students require federal funds. Existing programs, particularly Title I, have done little to equalize educational opportunity because federal funds represent only a small (about 7 percent) share of total school expenditure and because the distribution formula for Title I funds includes an adjustment for current state spending levels. States that spend less per disadvantaged pupil because of lower fiscal capacity also receive fewer Title I funds per disadvantaged pupil owing to their

low spending levels. A national program to subsidize all states whose state and local per pupil spending is currently below the national average, and whose fiscal capacity is also below average, bringing these states up to par, would have cost about \$21 billion in 1996.

While public attention is drawn to whether disadvantaged children have adequate school funding, enhancing their school resources may not necessarily be the only or even the most efficient strategy for improving their academic performance and narrowing the achievement gap. Devoting efforts to enhancing the social capital of disadvantaged families and communities may have effects on academic achievement that compare favorably with supplementing school finances. For example, significant achievement gains for inner-city children might be brought about by reducing the frequency with which they change schools, a task that requires improving the housing stock available to their families. Expansion of the Section 8 housing voucher program to cover all working families with children that presently allocate more than 30 percent of their incomes to rent would require \$5.7 billion annually. The cost-effectiveness of such expenditures as a way of narrowing the educational achievement gap, relative to outlays to reduce school resource inequalities, has not been examined by policymakers. It should be a priority.