

Reinventing Education Finance: Alternatives for Allocating Resources to Individual Schools

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About the Author

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Prior to undertaking advanced study, Dr. Guthrie served as manager of a luxury hotel and as staff assistant to the Chairman of the Board of American Airlines. He was a high school science teacher and administrator. He was twice publicly elected to the Board of Education in Berkeley, California, employed by the California and New York State Educa-

tion Departments, served as Education Specialist for the United States Senate, and was a special assistant to the Assistant Secretary of the federal Department of Health, Education, and Welfare.

He holds a BA, MA, and Ph.D. from Stanford and undertook postdoctoral study at Harvard in economics and public finance. He is the author or co-author of ten books, and more than 200 professional and scholarly articles. He is the president of a private management consulting corporation, Management Analysis and Planning (MAP) which specializes in education finance and litigation support, which has offices in Sacramento, California, and Washington, DC. He resides in Nashville, Tennessee.

**Selected
Papers in
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Introduction

This paper alludes to the conventional manner in which the United States has chosen to finance its public elementary and secondary schools and suggests that these mechanisms should be altered to empower individual schools more fully. The paper's principal thesis is that education governance mechanisms have evolved in a manner which disconnects them from the practical operations of schools and the functional integrity of the latter has been badly impaired as a result. Presently, both accountability and practical decision making authority are misplaced. Those empowered to make education decisions do not operate schools. Existing financing mechanisms exacerbate this condition. Selective incremental changes, such as mandating that 90 percent of revenues be allocated to schools and that states require each district to maintain accounts for individual schools, or more radical reforms such as charter schools, contracting out, or vouchers could begin to alter the imbalance between governing authority

and operating discretion. The data availability alterations which might accompany school by school financing, could also enhance our analytic capacity and, eventually, render schools more efficient.

What is the Problem and What Explains It?

American public education apparently exhibits a kind of institutional schizophrenia. On one hand it is said to suffer from such an excess of democracy that it is overly vulnerable and dysfunctionally responsive to virtually every special interest that can print a letterhead and manage to mount a protest or campaign.¹ On the other hand, analysts claim that the loosely coupled manner in which public education's operating arm is connected with the governance systems renders schools remarkably resistant to any fundamental change shaped by the formal authority of the political system.²

¹ See Chubb and Moe (1990).

² See Weick (1982).

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This dual personality exposes public education to criticism of every imaginable stripe. There are those who claim that contemporary schools have lost their purpose amidst a bewildering sea of constituent demands for AIDS education, classroom prayers, multicultural sensitivity, consumer awareness, environmental consciousness, self esteem enhancement, feminine liberation, drug and alcohol prevention, driver education, etc. Similarly, there are other critics who contend that public education is the helpless captive of narrow self interests such as educationists, teacher unions, committed egalitarians, or professional administrators all of whom steadfastly resist any significant change.

Its public nature, political vulnerability, and operational magnitude make American education virtually a Rorschach test. Critics can impute to it almost any societal flaw or personal disappointment. It is almost as difficult to gain agreement regarding what is wrong with education as it is to reach consensus about a solution. However, the most widely publicized and currently fashionable governance and finance solutions, appear to have a common theme embedded within them. Proponents of breaking up big city districts, relying upon magnet schools, allowing open enrollment, establishing charter schools, permitting private contractors to operate public schools, and advocates of voucher plans seem to share several critical elements.

America's public education system has evolved governance and finance arrangements which are inappropriately or inadequately aligned with arenas of action. In effect, when it comes to the nation's public schools, power is poorly positioned to produce performance.

A succession of twentieth century governance and finance reforms has left a set of education officials publicly visible and politically vulnerable while simultaneously eroding the functional integrity of the very institution responsible for instructing students, the individual school. State legislators and governors

and local school board members and their superintendents have decision making authority and they can be held accountable. They are formally authorized to make policy for America's education systems and they can be elected, deselected, censured, recalled, and fired. Indeed, individuals in these offices turn over with regularity. However, these individuals, regardless of how important they appear on a formal chart of government organization, do not actually operate schools or provide instruction. Moreover, they have remarkably little ability to influence those who do.

Conversely, individuals who actually operate schools, upon whom the success or failure of a school is tightly tied, have exceedingly little formal authority, frequently have virtually no control over budgetary matters, and are virtually invulnerable to the conventional mechanisms of accountability. These are principals and teachers. It may indeed be just that since they are so poorly empowered they should be so powerfully protected from the consequences of poor performance.

How did matters come to be so disconnected? When it comes to public education, how come those in charge can do little and those who could do much have been empowered to accomplish so little? This misplaced authority and control over resources was not a conscious creation. It is the unintended result of numerous well meant education reforms. Size is the principal culprit. We have encouraged the formation of huge school districts which have outrun our capacity to manage. However, dysfunctional scale is not the only problem. Excesses resulting from Progressive Era political reforms, the "Scientific Management" movement among school administrators, community severing judicial decisions, and 1960s and 1970s federal and state government categorical aid fusillades have all contributed to this governance impasse. State school finance arrangements, by assuming the district as the central operating unit, reinforce the status quo and typically do little to improve the situation.

*Everything Got Bigger: The School District Consolidation Movement*³

America continues to be a nation of relatively small school districts. In 1990, 90 percent of the local school districts in the nation each enrolled 5,000 or fewer students. Smaller yet, 80 percent of all districts each enrolled fewer than 2,500 students. What then is the size problem?

The problem is on the other end of the distribution. Fifty percent of the nation's public school pupils are enrolled in only 5 percent of the nation's school districts. These large districts include the nation's premier cities such as New York, Los Angeles, Chicago, Washington, DC, and Dallas. They also contain the largest concentrations of low income, dropout prone, and low achieving students. These are the very districts whose elite populations have come most to depend upon private schooling. These are the districts most jeopardized by past and impending middle class flight. These are the very districts whose pupil populations are at the greatest risk of educational failure, and for whom one could argue the nation should have the greatest concern. Yet, these are the very districts in which the governance impasse is the most intense. The further irony is that the reforms which led to this condition were intended originally to make everything better.

In 1931 there are 127,531 U.S. local school districts.⁴ Thereafter, state officials responded to a coordinated plea by business leaders, college professors, and National Education Association experts to eliminate small, usually rural school districts and consolidate them into larger administrative units. The campaign was remarkably successful. Consolidation advocates made a common-sensical appeal asserting that small districts were educational ineffective and economically ineffi-

cient. They amassed almost no empirical data in support of their position. Nevertheless, within a 50 year period, even with major distractions such as the Great Depression, World War II, and the post war baby boom, the number of local districts was reduced eightfold, to slightly fewer than 16,000. This figure has continued to shrink, though at a slower rate. Today, there are estimated to be approximately 15,200 local school districts. (All but a few dozen of the non-operating districts have been eliminated.)

Among the less heralded consequences of this dramatic reduction in units of government is the status of representativeness. The number of school board members nationwide was reduced accordingly from a pre-reform estimate of more than 300,000 to today's level of approximately 50,000 to 55,000. Of course, the nation's population increased along the way. Thus, whereas there used to be a school board member for every 300 or so citizens, each such office today must represent approximately 5,000 constituents. Distribution around such mean figures is enormous. Central city school board members in districts such as New York and Los Angeles represent a million constituents. A few small districts conceivably have more school board members than students.

The school district consolidation movement may have created larger numbers of larger districts. However, it did not create large cities. They existed before the 1930s and their school districts already had large numbers of students for whom they were responsible. Something more must have been operating to transform these systems, which at the turn of the century were thought to have the nation's best schools, into the stultifying bureaucracies which critics claim they have become.⁵ The something more came in two waves. The first, before World War II, came in the form of a

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³ Data in this paragraph were derived from the *Digest of Education Statistics, 1990*. See U.S. Department of Education (1991).

⁴ These and other data in this paragraph were derived from *1991-92 Estimates of School Statistics*. See National Education Association (1992).

⁵ See Kozol (1967).

cadre of professional administrators, and growth of political centralization. The post World War wave came in the form of judicially imposed racial desegregation plans and a spate of Johnson Era categorical aid programs.

“Scientific Management” and the Growth of Educational Administration

Frederick Winslow Taylor (1911), an industrial engineer who pioneered widespread employment of time and motion studies and efficiency applications to business production was a cult hero in his time.⁶ He was a turn-of-the-century counterpart of contemporary business advisers and organizational gurus such as Demming, Drucker, Covey, Peters, and Senghe.

Taylor and his colleagues’ efficiency and time use notions, which came to be labeled “Scientific Management,” were quick to be adopted by the fledgling field of school administration. Who could resist rendering schools more efficient and who better to apply the new efficiency principles than trained school administrators. The long lasting effects upon instruction were few. Nevertheless, Taylorism had quite a dramatic impact. It vastly abetted school administration as a profession. While the growth of big city schools had already created the need for managers, which further eroded the sovereignty of school board members, it had not yet spawned a “profession.” Early big city administrators were more civil service clerks. “Scientific Management” assisted the field in transforming itself into one which had professional legitimacy. Because they “knew” how to operate schools efficiently, they could command authority and in that way began to draw power from school board members.

Progressive Era Reforms

The excesses uncovered by turn of the century literary “Muckrakers” were not restricted to the meat packing industry scandals disclosed in Upton Sinclair’s famous novel, *The Jungle*. Public institutions, particularly, in cities managed by big political machines, were found to suffer from similar corrupt practices such as rampant nepotism, illegal rebates, and sweetheart contracts. Progressive Era reformers diagnosed the problem as an excess of partisan politics and prescribed a heavy dose of government centralization as a cure. Their reasoning was that if small, relatively invisible, ward based decision making bodies were consolidated into highly prominent central city school boards, often appointed or selected in a manner which would separate their members from the dirty partisanship politics of machines, they would attract citizens of a higher caliber, more likely to make decisions in the best interest of the overall community.

Big city school districts all over the nation, but most particularly on the eastern seaboard and in the midwest, underwent a series of governance changes as a consequence. Ward based elected school boards were generally eliminated. Central city boards, often appointed, replaced them. Corruption probably was diminished. However, yet greater authority came to rest in the hands of fewer individuals. Close links to constituents probably suffered in the process. The biggest winners of all may have been the school managers just then beginning to burgeon as a profession.

Racial Desegregation⁷

The Warren Court’s unanimous 1954 decision to render racially segregated dual school systems unconstitutional must surely be one of the most significant domestic decisions of

⁶ See Taylor (1911).

⁷ See Kluger (1975) and Horowitz (1977).

. . . Taylorism had quite a dramatic impact. It vastly abetted school administration as a profession . . . “Scientific Management” assisted the field in transforming itself into one which had professional legitimacy.

the twentieth century. The repercussions are still being experienced five decades later. However, once the judicial genie of desegregation was released, it could not be restricted to the South.

The legal logic which impelled the U.S. Supreme Court to find explicitly segregated schools to be unconstitutional also persuaded state and federal district courts that more subtle forms of segregation were also illegal. Hence, cities as far from the South as Boston, Denver, and San Francisco found themselves wrestling with court ordered desegregation plans. Desegregation opponents resisted both militantly and passively. White dominated southern state legislatures rescinded compulsory school attendance statutes. One Virginia county (Prince Edward) actually suspended public schooling. White students flowed in droves to private, racially segregated “White Academies.” Resistance outside the south was sometimes more subtle, but often more effective. Many middle income white families sought refuge in the de facto segregated public schools located in suburban districts.

Where desegregation actually occurred, it was often black households which bore the brunt of transportation burdens. They disproportionately rode buses to attend schools outside their immediate neighborhoods. The numbers of black and white students attending school together may have increased. However, there was a price to pay. Particularly for many black households, an easy interaction with a conveniently located neighborhood school was no longer possible. Also, from the standpoint of many desegregating school districts, there was a new government authority with overarching power, a supervising federal judge. These judges were not simply another elected official with whom one negotiated on matters in conflict. Unlike a fellow school board member, a city council official, or a mayor, these judges held all the cards. Negotiations were not typically a part of their modus operandi. School governance and fi-

nance was all the more complicated as a consequence. Accountability was diluted also.

Federal and State Categorical Aid Programs

The early years of Lyndon Johnson’s administration benefited from a remarkable coincidence of political and economic circumstances. Johnson’s 1964 landslide Presidential victory over Barry Goldwater provided him with a hundred seat Democratic margin in the House of Representatives as well as a comfortable Senate majority. The economy, fueled by a Vietnam war military buildup, had recovered from a recession. These conditions, when mixed with Johnson’s master command of the political process provoked an outpouring of social legislation such as had not been seen since the Great Depression.

Among the bills were many that concentrated on education, K–12 schooling particularly. The centerpiece was the 1965 Elementary and Secondary Education Act (ESEA). However, professional development, vocational education, international education, bilingual education, and migrant education were also included in the President’s portfolio. The momentum was sufficient that even when LBJ forwent a second elected term, the bills kept coming under President Nixon. For example, as an aid to racial desegregation the Nixon Administration sponsored the Emergency School Assistance Act and education research initiatives. Subsequently, President Carter endorsed the Education for All Handicapped Children Act and the formation of a separate federal Department of Education.

While federal authorities were enacting new school programs, state officials were similarly engaged. Thus, the decade from mid-1960s through the middle of the 1970s witnessed literally dozens of new categorical aid programs, some state, some federal, intended to aid local school districts in coping with specialized problems.

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. . . State finance mechanisms reinforce existing dysfunctional relationships and big city budgeting procedures exacerbate [. . . the disjuncture in America between education's political accountability and practical authority].

An unanticipated outcome of this proliferation of special programs was a substantial increase in special program administrators. Both federal and state governments were anxious to ensure that their funds were appropriately deployed. Hence, they promulgated rules and the rules had to be properly overseen. Most federal and state categorical programs required a local school district central office administrators to assist individual school sites. These administrators drew their legitimacy not from the superintendent or local school board, but from more remote authorities in state capitals and Washington, DC. School principals now were beholden not only to the conventional chain of command, running up through their central office to the superintendent, but also to a categorical chain of command running from their central office, bypassing the superintendent, and leading to a state or the nation's capital. Administrative complexity resulted, and accountability at the school level was dealt yet another blow to the organizational solar plexus.

The Consequences for Education and for Schools

The above-described changes in education and education governance have accrued to three major consequences. First, district level decision making has become remote, diffuse, and divorced from the operating authority of schools. School board members and superintendents are accountable to the public, but they have relatively little direct influence over the operation of schools. Conversely, the persons who do operate schools, principals and teachers have been stripped of the governing and financing authority they need to perform effectively.

Second, the operational integrity of the school has been dysfunctionally disrupted. It is difficult for a principal and his or her staff to forge a unified vision of the manner in which a school should operate. Principals, and to some degree teachers, are perpetually being

second guessed by an authority structure which relies upon court decisions, state and federal categorical aid programs, teacher union contracts, and statutes which empower districts not schools.

Third, accountability mechanisms have become misdefined and misaligned. The proliferation over the past half century of out-of-school decisions makers has led to an enormous set of local district, state, federal, and judicial rules by which schools are expected to operate. These rules are relied upon by remote authorities to ensure that revenues are expended in a legal and equitable manner. The rules are seldom oriented toward ensuring either good practice or enhancing academic performance. The net result is that school administrators are now held responsible for complying with rules rather than creating and sustaining schools which power student achievement.

Principals, particularly in our largest school districts, are seldom significant decision makers. Personnel, budget, curriculum, special program, and even instructional material decisions are often made "Downtown." When decisions are made elsewhere, the accountability machinery is impeded. The answer to the question posed of schools, "Who is in charge here?" The answer is "Everybody is in charge here." When everyone is charge, it is difficult to hold anyone responsible.

Where Does School Finance Fit In All of This?

State level school finance arrangements are not the root cause of the disjuncture in America between education's political accountability and practical authority. Other predisposing conditions must assume the principal blame. However, state finance mechanisms reinforce existing dysfunctional relationships and big city budgeting procedures exacerbate the problem significantly.

State Distribution Mechanisms

Virtually since there were states, this level of government has possessed plenary authority for education. However, unlike most other nations, the United States has opted to exercise this authority through rules of law, rather than by constructing an institutional basis for state control over schooling. The financing of schools is part of this abstract state legal structure. State statutes assume the primacy, for school finance purposes, of local school districts. Taxation and distribution policies take the district to be the responsible operating unit upon which the state bases its calculations regarding effort and subsidy. It is also the local school district which is the recipient of categorical aid revenues and it is the local district which is fiscally accountable to the state.

These state mechanisms assume and reinforce the dysfunctional schism between accountability and authority. State statutes assume that local school district officials will make appropriate decisions regarding the allocation of revenues to schools. In fact, the majority of large districts have opted for a procedure which is mechanically easy and provides the appearance of fairness. However, they seldom opt for distribution procedures which enhance effectiveness or ensure equity.

Delimiting the Debate

Before condemning all of school finance, it should be understood that the problem is not all encompassing. Revenue generation, regardless of its many faults and accompanying inequalities, is not flawed by school district size, categorical aid programs, scientific management, etc. In fact, revenue generation has been, on some dimensions, aided or at least made more equitable by the United States having consolidated many small rural districts.

Similarly, the vast majority of United States districts do not suffer from the disjuncture of governance and operation. The 80 percent of districts which serve 2,500 students or fewer, and perhaps even the 90 percent of districts which serve 5,000 or fewer students, are not the ones for which finance distribution reform is a major problem. These smaller districts enroll approximately one-half of the nation's public school students.

Where is the Problem? In the Other (Larger) Half

The "problem" is most acute in America's large, and particularly in its largest, school districts. Fifty percent of the nation's public school students are enrolled in only 5 percent of the nation's school districts. These big, and usually big city, school districts typically rely on formulaic or mechanical budgeting procedures which, under the guise of promoting equity, actually eviscerate accountability and productivity and may well harm equity in the process.

In most large school districts, important resources are assigned to schools using mathematical formulas.⁸ What a school receives will depend on a few basic numbers, such as number of students and size of building. These numbers are inserted into district developed official formulas to allocate teachers, administrators, support staff, books, supplies, and other major resources.

Allocation of Teachers. Teachers will usually be allocated according to the number of students expected to enroll in a particular school and according to the class size the district seeks for that level of school. Total projected enrollment, divided by desired, or contractually determined, class size, will produce total teachers allocated to a school.

Revenue generation, regardless of its many faults and accompanying inequalities, is not flawed by school district size, categorical aid programs, scientific management, etc.

⁸ See U.S. Department of Education (1989).

Most districts are firm about using these formulas, because they are seen as essential to ensuring equity among schools . . . [However,] exceptions may . . . be allowed when a school faces unusual circumstances.

Typically, the allowed class size is smaller at the secondary level than at the elementary level. For example, a district central office may allocate one teaching position for each 25 students at a high school and one teaching position for each 28 students at an elementary school. Thus, a high school of 1,500 will then receive 60 regular classroom teaching positions, while an elementary school of 700 will receive 25.⁹

These allocations, like other personnel allocations, may be counted in numbers of “full-time equivalencies” or “FTEs.” When part-time staff are used, or a single person divides time between several school sites, the building is listed as having a fraction of an FTE. The FTE count gives a more precise sense of how a school is staffed than a statement which counts full-time and part-time staff equally.

Allocation of Other Personnel. Some other positions are also likely to be allocated according to number of students. A vice principal may be assigned, for example, for every 500 students. Librarians, clerks, department chairs, social workers, and so on may be assigned on the same basis.

Some positions, such as custodians and groundskeepers, may depend on other factors, such as building size. Custodians may be allocated based on size of the facilities, and gardeners or groundskeepers may be a function of total square footage around the school building.

Allocation of Materials. Many school supplies will be allocated on a per-pupil basis. Thus, the textbooks, chalk, paper, science materials, and student workbooks may be assigned based on expected enrollment. Alternatively, the school may be allocated a dollar amount per pupil to cover these costs, giving the principal or teachers some discretion about just which items to procure. If there is any discre-

tion allocated to school site personnel regarding the budget, this is a likely category.

Exceptions to the Formulas. Most districts are firm about using these formulas, because they are seen as essential to ensuring equity among schools. The district may make exceptions to provide a minimum level of staffing for a small school. For instance, if the standard formula allows a counselor for every 700 students, a school may receive one counselor even if it only has 500 students. Exceptions may also be allowed when a school faces unusual circumstances. For example, a school may have a good case for an additional teacher or counselor if it receives a sudden influx of students who do not speak English.

Centralized Services. Not all the district’s revenues in the budget will be allocated to individual school sites. Some noninstructional functions are provided at the district level, such as legal services and business. Some other functions serve two or more schools—such as transportation or a district maintenance office and these may also be organized centrally. Depending upon district practice, a greater or lesser amount of the total budget will be held centrally, its allocation determined by districtwide administrators.

There are large segments of school district resources which could easily be allocated to individual school sites, but typically are not. These budget lines are held centrally. For example, individual schools frequently do not have a substitute teacher budget, a line item for minor maintenance and repair, or a line item for utilities. The unwillingness to allocate these resources to school sites triggers inefficiency. Not believing they have responsibility for or control over utilities, for example, erodes school level inducements to turn out lights or save on heating or air conditioning. Substitute teacher use is an even larger problem.

⁹ Class size is typically a function of state law regarding maxima, teacher union-school district labor contracts, practices in surrounding and competing districts, and history.

An Important Omission. Capital costs are seldom allocated to schools. What is cost over time to construct and renovate a school are costs frequently born through some kind of debt instrument. These costs while borne by the taxpayers of a local school district or states are almost never conceived of in public school systems as something that should be embedded in data used for making school site decisions. Most American public school principals take their building for granted. A private school operator, of course, particularly one who rented instructional facilities, would have a far more intense conscious understanding of capital costs.

Inequality. Most districts have a clear policy of trying to provide equal education to all students. However, very few districts end up providing equal resources to each school.

One significant explanation for why two schools with similar enrollments may receive different dollar allocations is the conventional teacher salary schedule system. In the first place, teacher salaries and benefits are usually determined by seniority and training. A school district's highest paid teachers will generally be paid about twice as much as the lowest entry-level teachers. In the second place, senior teachers usually are granted greater discretion in where they are assigned. If senior teachers, with the highest salaries, all prefer a given school, their individual choices in the aggregate can create a situation in which total expenditures for that school are far higher than they are at a school with many newer teachers.

What is the Evidence That Anything is Wrong?

Existing resource allocation procedures, principally in large school districts, contribute to three kinds of problems, efficiency and productivity and equity both appear to suffer.

Efficiency and Productivity. Almost any reader is familiar with the general, and lamen-

table, pattern of student performance in America's large city school districts. The litany of problems regarding low academic achievement, high dropout rates, frightening pupil mobility, widespread parent dissatisfaction, and rampant school violence constitutes one of the nation's most worrisome conditions. Clearly, the full blame for this situation cannot be laid at the doorstep of existing school finance conditions. If school based management or some other simple means for restoring the connection between authority and operation were instituted tomorrow, it is not clear that student achievement would soar. It is likely that an integrated set of changes is need.

Still, until the reconnection occurs between authority structures and accountability, the probability is great that schools will be incapable of contributing forcefully to the solution of these problems. Thus, while school finance reform is by itself an insufficient remedy, it is still very much a necessary condition for improving matters in city schools.

Equity. Prevailing large school district budget allocation formulae exhibit a regrettable irony. Their principal justification is to ensure equitable treatment of students. Preliminary analytic results, reviewed below, suggest that they have an opposite effect. In fact, by virtue of allocating teaching positions, and then permitting the salaries of teachers actually holding such positions, to fluctuate based on criteria disconnected from instructional performance, resource allocation procedures result in substantial inequities.

The analyses displayed in table 1 are based upon National Center for Educational Statistics (NCES) collected data for the 1992–93 academic year for a major midwest state. These analyses are restricted to the 24 largest districts in the state. The districts range in size from an enrollment low of 42,000 to a high of 70,000. The analysis removes from consideration whatever is spent by the central office. Elementary and secondary school spending is considered separately within each district. The

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Table 1.—Intradistrict per pupil spending differences in 24 of the largest districts of a Midwestern state

Statistics	Elementary schools	Secondary schools
High \$ per pupil	2,092	High \$ per pupil
	1,850	1,475
	1,810	1,470
	1,777	1,429
	1,520	1,250
	1,421	1,241
	1,390	1,221
	1,245	1,183
	1,225	1,119
	1,165	984
	1,138	966
	1,097	926
		925
Per pupil \$ mode	1,024	Per pupil \$ mode
	950	866
	946	806
	850	663
	729	656
	726	428
	709	400
	656	390
	631	362
	552	300
	546	279
	494	232
		194
Per pupil \$ low	268	Per pupil \$ low
		118
Per pupil \$ mean	1,074	Per pupil \$ mean
		779
Classroom multiple (25 pupils per class)	\$25,850	Classroom multiple (30 pupils per class)
		\$23,370

SOURCE: Results from the author's analysis of NCES data on school-by-school spending of all districts within two large states.

table displays the range of intradistrict per pupil spending for each schooling level, elementary and secondary, for each of the 24 districts.

The fiscally most fortunate school in the district with the highest intraschool per pupil spending difference is expending in excess of \$50,000 per classroom more than the lowest expending elementary school in the same district. The secondary school extreme in the same district is spending in excess of \$35,000 more per classroom than its less fortunate low per pupil spending counterpart.

Assuming the mean elementary per pupil spending difference of \$1,074, the more fortunate school expends in excess of \$25,000 per classroom more than the lower spending schools in the same district. The secondary analog spends in excess of \$23,000 per classroom more than the least spending school in the same district.

Even at the low end of the intradistrict spending disparity continuum, the per classroom elementary school spending difference is \$6,700. The same figure at the secondary

Table 2.—Intradistrict per pupil spending disparities related to selected school characteristics

Variable	State A	State B
School type (elementary or secondary)	\$565	\$491
School size (enroll)	(\$.62)	(\$.61)
Percent poverty	(\$493)	\$2.00
Percent minority	\$9.00	\$6.00

SOURCE: Results from the author's analysis of NCES data on school-by-school spending of all districts within two large states.

classroom level is almost \$3,000 per classroom. While not mindboggling, these are significant dollar differences. These resource amounts would help substantially in the purchase of instructional supplies and materials. The very existence of such spending differences, within systems which purport to allocate resources rationally is surprising. It probably is illegal.

Again, relying upon NCES collected intradistrict per pupil spending data from two large industrialized states, a different kind of analysis was undertaken. The data set includes per pupil spending, by school, for every school in every district in the state.¹⁰ Here, a “Random Effects” statistical regression model was used in an effort to determine, within individual school districts, total operating per pupil spending (the dependent variable). The “independent variables” used to predict per pupil spending by school were (1) grade level served or school type (elementary or secondary), (2) size of the school (in terms of enrollment), (3) percent of the student body listed as eligible for free and reduced-priced meals, and (4) percent of the student body classified by the school district as “minority.” The results are summarized in table 2.

These analyses display the per pupil financial advantage in each of the two states for secondary schools. State “A” spends \$565 more per pupil in secondary schools, contrasted with elementary schools and state “B” spends \$491 more per secondary pupil. These

spending differences are consistent with what is known regarding the programmatic differences between elementary and secondary schools. What is new here is actually having dollar data on the magnitude of such differences.

Larger enrollments schools, within districts in these two states, spend less per pupil than small enrollment schools. In fact, this method of statistical analysis suggests that each additional student in a school results in a decrement of approximately 60 cents per pupil for all student in that school. Put in the converse, small schools within districts receive approximately 60 cents more per pupil, the smaller they are.

Finally, schools within districts receive added resources if they serve low income and minority students. For each 1 percent increase in either poverty or minority students, a school within a district receives anywhere from \$2.00 to \$9.00 additional per pupil.

The dramatic exception to this statement, an exception of a magnitude so great as to warrant further exploration, State “A” displays a spending decrease of \$493 per pupil for each 1 percent increase in a school’s poor students.

The data displayed in table 2 are interesting from several viewpoints. First, one cannot help but be struck by the fact that despite these data being generated in industrial states in widely differing parts of the nation (one in

¹⁰ Schools serving disabled students exclusively were eliminated from these analyses.

the midwest and the other in the west), the direction and magnitudes of the dollar figures are remarkably similar. The exception to this pattern is the per pupil spending decrement in state "A" related to poverty status. Second, a reader should keep in mind that these per pupil spending differences are occurring under systems which are intended to distribute financial resources to schools equitably.

What are the Alternatives?

Contemporary proposals for altering education finance and governance can be arrayed on a continuum, the underlying theme of which is size of decision making unit. The above-mentioned New York City deconsolidation serves as a good anchor for one end, the large end, of the continuum. An unregulated voucher plan which enfranchises individual households to decide upon their children's education can anchor the other. Between these poles are a variety of alternative arrangements, some more obvious of which are illustrated below.

*School Based Management*¹¹

This genre of finance and governance reform retains decision making in the public sector but repositions it, or repositions some significant segment of resource allocation decisionmaking at school sites. Who is able to participate in decisions, only the principal, principals and teachers, professional educators and parents, all the above plus citizens, are questions which routinely are posed and generally are answered differently in different settings. The Chicago school district decentralized decision making endeavor, still underway, to redistribute decision making discretion is perhaps the best, at least the largest, example of such a reform effort.

What is crucial to the success of such a school based management effort is that resources are allocated to schools, in dollars, not in staffing positions. Schools, then have an opportunity to determine the manner in which resources are used. This may well involve a transition period wherein the amount of practical discretion evolves. Senior, and presumably high paid, teachers cannot simply be turned out. However, as retirements and other forms of attrition take place, the amount of dollar discretion at a school can be expanded.

Achieving these kinds of reforms is not particularly popular politically. A number of well established interests are threatened by the allocation of resource decisions to individual schools. However, achieving school based management can be approached in relatively small policy increments. For example, a state statute requiring that a specified percentage of district generated per pupil revenues (e.g., 90 percent) must be allocated to individual schools sites) in tandem with a statutory provision requiring districts maintain expenditure accounts school-by-school might have a dramatic effect.

*Charter Schools*¹²

In the mid-1990s this has become a particularly fashionable idea. The spirit of the reform is to permit individual schools to remain in the public sector, but to divest themselves of allegedly burdensome local school district regulations. More than 20 states have enacted some form of statute authorizing formation of charter schools. These statutes vary widely in the decision making discretion that individual schools can assume and in the manner in which schools can take advantage of an opportunity to opt out of their local school district governance apparatus.

¹¹ See Guthrie (1986).

¹² See Finn, Mano, and Bierlein (1996).

Contemporary proposals for altering education finance and governance can be arrayed on a continuum, the underlying theme of which is size of decision making unit.

Contracting¹³

This idea involves a private sector firm bidding upon and ultimately contracting with a local school district to operate one or a larger number of schools, perhaps even all the schools in a district. The publication of the book *Reinventing Government* by Osborne and Gaebler sparked particularly intense interest in the idea. While not advocating it for education specifically, The “Reinventing” book inspired municipal and state governments to contract with private providers for a variety of conventionally managed public services. The Osborne and Gaebler book was given added visibility by President Clinton’s enthusiasm for the ideas during his 1992 campaign.

In education, however, this reform option has not been launched with great success. A major private sector entrepreneur, Christopher Whittle, who had earlier initiated a successful in-school television advertising venture, has undergone various insolvencies and has had, as a consequence, to vastly curtail his Edison Project. At its outset, this plan entailed the startup of 1,000 private schools. Recently, the grandiose plan has been scaled back, and Edison is now bidding on the operation of individual schools in a select few local school districts.

Another private sector firm, Education Alternative Incorporated (EAI), has had two large operating contracts, Baltimore, Maryland and Hartford, Connecticut, and has faded away in each. The company even announced formally that it would try its brand of managing public schools under contract to school boards in suburbs because the plans were seemingly not taking well in large cities.

Another smaller firm Alternative Public Schools (APS), continues against virtually all

odds, certainly against militant teacher union opposition and repeated court challenges, to operate a single elementary school in Wilkinsburg, Pennsylvania and Chelmsford, Massachusetts. It would seem too early to judge this venture.

Vouchers¹⁴

This reform is simple in concept. It would involve government providing each family with a financial chit, a voucher, redeemable only for schooling. Thereafter, presumably, the household becomes the fundamental decision making unit. However, depending upon the restrictions placed upon use of the voucher, the idea can become practically complicated quite quickly.

Voucher advocates have also lurked in the shadows of education governance reform for a long time. Putting aside voucher principles stemming from the writings of John Stuart Mill, contemporary proponents of using the market place to shape education decisions trace their more modern roots to Milton and Rose Friedman’s book *Capitalism and Freedom*.¹⁵ This volume devotes a chapter to education and vouchers and provides an ideological underpinning for the notion.

The Office of Economic Opportunity (OEO), a now defunct Johnson Administration War on Poverty agency, actually conducted a voucher experiment in Alum Rock School district, east of San Jose, California.¹⁶ However, OEO was unsuccessful in its efforts to persuade an entire state to experiment with vouchers. Even New Hampshire, the motto of which is “Live Free or Die,” took the idea to be too radical and refused OEO financial inducements to operate a statewide voucher plan. These OEO experimental efforts were motivated more from of a sense of providing low income students with equality of opportunity,

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¹³ See Hill, Pierce, and Guthrie (in press).

¹⁴ See Coons and Sugarman (1978).

¹⁵ See Friedman, Milton, and Rose (1962).

¹⁶ See Weiler (1974).

than they were propelled by a notion that big city school governance had gone awry.

Despite potential complexity and controversy, this reform continues to attract remarkable interest, even though it has had little operational acceptance. Congress has inserted a voucher bill, applicable only to the District of Columbia, in the District's FY 1996–97 appropriations bill. It has passed the House of Representatives. As of this writing, its Senate fate has not been determined. However, the fact that it would proceed so far in the national legislative process is testimony to the attraction of the idea.

A statewide voucher initiative was placed on the California and Colorado ballot in 1992, and 1993, respectively; it was roundly rejected. State legislative body after body has debated the matter with, as of yet, no widescale plan taking hold. The Wisconsin and Ohio legislatures are partial exceptions. They have been willing to support a gradually expanded voucher plan for inner city Milwaukee and Cleveland students, permitting them to use public funds to attend private schools. The legislation authorizing these actions is being challenged in the courts, and may well lead to a U.S. Supreme Court decision.

Voucher proponents seem increasingly sophisticated, having learned to adapt their reform vehicle to the many objections which have been made to the idea of an unregulated voucher plan. However, as with school based management, charter schools, and contracting, voucher proponents would be hard pressed to point to a widely successful model.

Rebuilding State Systems to Restore School Capacity

What would it take to reconfigure state school finance systems in order to empower individual schools, restoring the operating capacity that has been so dramatically eroded over the past century? There are two kinds of answers to this question. One addresses the

politics of the situation. The other deals with the technical side of the equation.

Political Prospects for Change. Site based management is an idea that makes much logical sense, is relied upon heavily in the private sector, and is utilized productively in some surprising settings such as the military. However, it is an idea for which it is difficult to mobilize a political constituency in education. When coupled with other compatible reforms such as a statewide or even a districtwide achievement performance measurement system, school based management comprises the crucial components of a forceful accountability system. If schools had control over their resources, and outcomes were fairly and accurately measured, then it would more possible to attach consequences to school performance. That is a frightening prospect to some.

Many school board members are disquieted at the prospect of school based management. They fear it will diminish their ability to micromanage. They will claim, with some accuracy, they can now be more responsive to their constituents under the current system. Of course, it is precisely some of this responsiveness which is causing schools to be unproductive. Many school principals fear school based management because it will expose them to accountability. Teacher union officials are often opposed to the idea because it might erode their districtwide base of influence. Parents and other citizens who might benefit most from having productive and high performing schools are the least informed regarding the idea. Indeed, the information costs to them are sufficiently high that many have little idea regarding the concept and probably even less willingness to advocate for it politically.

Thus, the dismal short run answer is that school based management, and the changes in state school finance systems which would permit or encourage it are unlikely to take place. For the political controversy that site

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based budgeting and accounting might provoke, see the hypothetical scenarios appearing at the end of this piece.

Technically. As with many good ideas, there is far less technical complexity to implementing school based financing than there is a political challenge. A set of small statutory changes is all that is needed. These technical components are explained in greater detail below. However, they summarized by Pierce in the following manner:¹⁷

- Revenues should be conceived of as belonging to schools, not school districts.
- Revenues should follow pupils if they transfer from school to school.
- Per pupil allocations to schools should contain virtually the full cost of educating pupils including capital costs.
- Revenues allocated to schools should be highly fungible, permitting discretion between personnel and other items.
- Schools should be permitted substantial discretion in purchasing, using a local private sector firm, for example, instead of the school district for services or items such as maintenance or supplies.

To implement school based financing, existing revenue generating systems need not be altered. This is not an endorsement of the revenue generating status quo. In many states, there continue to be uneven burdens placed upon classes of taxpayers and uneven indulgences granted selected groups of property owners and incomes classification. However,

restricting the consideration to school based financing alone, there is no reason to alter state school finance revenue mechanisms.

On the distribution side, only a few additions have to be made to most state formulas. Here again, this is not intended as an endorsement of the means by which states now allocate funds to local districts. Many current formulas continue to result in unequal charters of wealth for some districts and often promote inefficiency as well. Nevertheless, keeping the focus on redirecting funding to schools, all that need be done statutorily is to require that some fixed percentage of per pupil funding pass through district offices and be allocated to operating school sites. The precise percentage can be debated. However, approximately 90 percent would be a useful beginning point. This would retain 10 percent of per pupil funding for district office¹⁸ operation.

Schools, once empowered with their own funding, might well decide to pool their purchasing for some purposes. They might also contract among themselves for services or with the central office. No doubt wherever schools could identify useful economies of scale, they would do so. However, they are probably better able to determine such economies themselves than having them dictated to them by central offices, the current arrangements.

States might also alter accounting rules, requiring that each district's financial accounting system ensure school site accounting, allowing the ability to determine with precision what resources are spent by each operating school site.

Certainly there are many other complexities, problems that would have to be solved. For example, a transition period would be

Schools, once empowered with their own funding, might well decide to pool their purchasing for some purposes. They might also contract among themselves for services or with the central office.

¹⁷ Specified in remarks delivered before the American Education Finance Association annual conference in Salt Lake City, March 1996.

¹⁸ In a forthcoming publication undertaken for the National Academy of Sciences National Research Council panel on school financing, Allen Odden displays technical allocation mechanisms relied upon in the United Kingdom and Victoria Australia to channel revenues directly to individual schools. These are formulae which take into account the numbers of pupil attending a school, their age and grade, family income, and disability characteristics, and offer an opportunity to be regionally price adjusted.

needed to smooth teacher salaries between schools within a district. However, these are not matters which need occupy state officials, at least in a technical sense. Similarly, making a transition from the present command and control system over matters such as maintenance to a system by which individual schools assumed responsibility for such functions would be required. However, this need not be a matter of state law.

Beyond Individual School Operation, What Might Such a New System Contribute?

Imagine the year 2010 when the following three scenarios occur in the United States:¹⁹

State senator, James LaMorte is sitting at the Apple computer in his Atlanta legislative office. He chairs the Senate Appropriations Committee and the markup session for the fiscal 2011 budget begins the next morning. He is working on a spreadsheet which displays a 10 year pattern of public school spending by subject matter and grade level. He is networked to the state education data base which enables him to access categories of spending data and an assortment of school process and outcome data such as student performance on state subject matter achievement tests. These data are stored in a manner which permits disaggregation to the school site of origin.

The Georgia Association for Guidance, (GAG) an intensely focused interest group representing guidance counselors in the state, contends that added spending for counselors would enhance the proportion of female students majoring in math and science. They are lobbying for a categorical spending feature in the upcoming appropriations bill.

Generally, Senator LaMorte detests earmarked spending limitations on school site personnel. Nevertheless, he decides to explore

the matter. Both his sisters were themselves quite gifted mathematically and he has always been interested in expanding the career opportunities of women. Consequently, he is quite open to any reasonable means which would enhance gender equity on this dimension.

Senator LaMorte asks himself the question: "Will added spending on counselors likely enhance female science and math enrollments and achievement levels?" If the answer is "yes," he is quite willing to increase state appropriations for these purposes. To answer this question, he has accessed 10 years of school spending data and an assortment of other input and output information from the state education department data file. He makes the key strokes necessary to array these data on a school-by-school basis, scrolls to the new S4P (Super Social Science Statistical Program) under TOOLS, and applies the programmed weighting controls for student social background characteristics. He then begins to search for Georgia high schools with the highest and lowest proportions of female science and mathematics majors.

Once identifying the top and bottom 10 secondary schools on this dimension, he quickly computes the mean per pupil guidance expenditure in each set of schools. He uses his super social science statistical package again, in order to control for student achievement levels, and concludes, alas, that higher levels of guidance spending bears no relationship either to gender decisions or achievement levels.

Ten years of precise accounting for functional and subject matter spending, school-by-school, simply does not reveal any systematic relationship between added levels of spending on guidance counselors and student decisions about academic major, numbers of courses taken, or subject matter achievement.

¹⁹ These hypothetical scenarios first appeared in Guthrie (1996).

All of these results hold even after having applied the most stringent statistical controls for student characteristics.

Senator LaMorte searches further through his data base, looking for possible relationships to high levels of student math and science achievement, and finds that the most likely spending linked variable is teacher training in advanced science and mathematics courses and inservice education in these areas.

Senator LaMorte firmly believes in permitting school site professional educators to make resource allocative decisions. Further, he has little doubt that literally dozens of Georgia principals have already done the kinds of analyses that he has just conducted in the last fifteen minutes. However, he had now verified for himself that added resources, if allocated in a categorical aid bill directed specifically at guidance spending, would unlikely lead to favorable outcomes. He now had an answer when he met the next morning with GAG advocates. They would not be happy with his response and his refusal to include them in an earmarked section of the appropriations bill. Still, he thought to himself, the data he had just analyzed were every bit as available to them as to him. Why had not they done the analyses themselves? Then they might have had a better idea.

Twenty-five hundred miles to the West:

In his office in the Los Angeles Municipal Court building, the facility which had been made famous 15 years before by the trial of O. J. Simpson, Anthony Serrano was sitting at his networked computer. Almost two decades had past since the Los Angeles Unified School District had consented, in *Rodriguez v. Los Angeles USD* to allocate financial resources on an equal per pupil basis. Serrano, the grandson of a lead plaintiff in a famous interdistrict equal protection school finance

suit, was a court appointed master charged with ensuring that the school district was complying with the intradistrict equal protection agreement.

The school district had been fumbling for years in achieving per pupil spending parity. To do so had been an intense challenge because senior teachers had filed their own suits claiming a violation of union contractual agreements regarding seniority transfer privileges. The school-by-school budgeting which had resulted from the original *Rodriguez* consent decree had left many schools in the San Fernando Valley, in the upper income reaches of the city, short of the resources to employ senior teachers with their higher salaries. In effect, parents on school site councils had generally opted for smaller class sizes, in contrast to more highly-paid senior teachers and the inevitable concomitant of large classes. Many of the district's more senior teachers were finding that they were having to accept the forced choice positions available to them in central city schools, and they were not pleased with the prospect of having either to move their residence or undertake a long daily commute. Of course a number had resigned, but a significant percent had filed suit and had delayed the consent decree implementation as a result.

By 2010, most of these problems had been resolved by the court, and Serrano was now using the LAUSD data bank to test for anomalies in school site budgets. The consent decree still permitted a degree of disparity. Judge Ito, formerly of the criminal justice division but now hearing civil cases, had decided that the same decision rule which applied to school spending for the state of California, 95 percent of all pupils in the state had to fall within a prescribed per pupil spending band, would also hold inside a school district. It was Serrano's task to monitor this band and report to the court if resource allocation disparities exceeded the limit. He was now preparing his quarterly report for the court.

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In mid-continent

In a Chicago suburb, Emma Coons sits at her computer. The screen is filled with school-by-school budget and program comparisons. As she scrolls through available data regarding spending and program profiles of Chicago area secondary schools, she reflects fondly upon the distinguished career of her grandfather, John E. Coons, a forceful and thoughtful advocate for school choice plans. Here she was, as a school choice adviser, living out the hopes of her famous relative by advising fami-

lies regarding the fit between their schooling preferences and the offerings and results of area public and private schools.

The widespread availability of school-by-school accounting data, and the later addition of program information coded by school, had created a remarkable opportunity to enable parents to make informed choices about schooling for their children. Emma was one of thousands of certified advisers who, for a fee, counseled households regarding the relative advantages of schools.

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@inproceedings{Guthrie1998ReinventingEF, title={Reinventing Education Finance : Alternatives for Allocating Resources to Individual Schools Selected Papers in School Finance}, author={James W. Guthrie}, year={1998} }. James W. Guthrie. Prior to undertaking advanced study, Dr. Guthrie served as manager of a luxury hotel and as staff assistant to the Chairman of the Board of American Airlines. He was a high school science teacher and administrator. He was twice publicly elected to the Board of Education in Berkeley, California, employed by the California and New York State Education Departments, The role of research and education at a business school like HEC is to constantly innovate in order to give our students the knowledge, skills and mindset to live and work in a world with opportunities and challenges that may already have shifted by the time they graduate.Â HEC has always been a place that encouraged individual innovation among its faculty and teachers and where it is easy to get an initiative off the ground. In the domain of pedagogy, we need innovation more than ever, both in terms of what we are teaching and how we are doing it. Our objective with this section of Knowledge@HEC is to inspire our internal discussions on pedagogical innovation and to influence our daily practice.