

# *Introduction and Overview*

## About the Author

William J. Fowler, Jr. is the director of the Education Finance Statistical Center (EFSC) at the U.S. Department of Education, National Center for Education Statistics (NCES). He specializes in elementary and secondary education finance and educational productivity research. His recent work has focused on the development of geographic and inflationary cost adjustments, and their effect upon measures of equity; school-level financial reporting; the construction of a student-level resource measure; and issues in analyzing NCES student achievement and finance data.

Dr. Fowler has worked for NCES since 1987, before which he served as a supervisor

of school finance research for the New Jersey Department of Education. He has also taught at Bucknell University and the University of Illinois, and served as a senior research associate for the Central Educational Midwestern Regional Educational Laboratory (CEMREL) in Chicago and for the New York Department of Education.

Dr. Fowler received the Outstanding Service Award of the American Education Finance Association in 1997, and served on its Board of Directors from 1992 to 1995. He serves on the editorial board of the *Journal of Education Finance*. Dr. Fowler is a graduate of Columbia University with a doctorate in education (1977).



**Selected  
Papers in  
School  
Finance**



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**William J. Fowler, Jr.**

*National Center for Education Statistics*

The National Center for Education Statistics (NCES) commissioned the papers in this publication to confront implicit vexing questions in education finance. While earlier papers in this NCES series have addressed the nation's education finance information needs and statistical and measurement problems for the profession, this volume instead examines pragmatic education finance issues for school districts and schools. The papers include an examination of the implications of a retiring teacher work force for school districts, how school districts respond to fiscal pressures, and an assessment of the financial condition of urban school districts. The implicit questions posed by these papers revolve about the current and financial future for school districts. Since the nation has enjoyed an unprecedented period of prosperity, it is only natural to wonder what the effect upon our nation's school districts will be when adversity strikes.

Perhaps the most profound proposed change in school district funding is the recent proposition that state aid should be distributed to schools rather than school districts. The layperson often does not comprehend the enormity of such a change. While in 1994–95 there were

49 state education agencies that distributed state aid to 14,400 school districts in the nation, there were 84,705 schools (with enrollment).<sup>1</sup> Heretofore, state equity challenges have primarily focused upon the equity in funding between school districts. If funding is changed to the school-level, the focus of those equity challenges may well change. Here the implied question pirouettes about the appropriate organizational level to receive state education funds. This volume of *Selected Papers in School Finance* includes the popular proposal of allocating state aid to schools, and another paper that conducts an examination of how state aid to schools might be undertaken and its impact.

In the first paper, conducted by **Hamilton Lankford**, **Peter Ochshorn**, and **James Wyckoff** at the State University of New York - Albany, the balance between projected enrollment increases to 2005 is weighed against the potential for teachers to retire by that year. While few school district budgets will increase concomitantly with the “baby boom echo” of

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<sup>1</sup> U.S. Department of Education, National Center for Education Statistics. *Statistics in Brief: Overview of Public Elementary Schools and School Districts: School Year 1994–95*. Washington, D.C.: 1996.

enrollment, previous studies suggest savings seldom occur when enrollment increases. However, the aging teacher workforce might offer the potential for substantial salary and benefit savings. Lankford, Ochshorn, and Wyckoff examine whether school districts in New York are likely to experience salary savings as a result of the retirement of “baby boom” teachers. Entry-level public-school teachers in New York receive an average of \$30,289 in salary, while teachers pondering retirement at the highest salary level receive an average of \$56,125. This difference of more than \$25,000 would almost pay for an additional entry-level teacher.

Less is known about these issues because the research on teacher retirement has focused upon the structure of teacher retirement programs and statistical analyses of the factors relevant to the retirement decisions of teachers. Unlike college professors, who have a retirement plan, TIAA-CREF, that many institutions use, and has a relatively short “vesting” period (when funds can be left to mature in the program), teachers in one state seldom can transfer their state retirement benefits to another state.<sup>2</sup> Lankford, Ochshorn, and Wyckoff attempt to inform us by using a regression to age and replace the teacher workforce in New York State, including enrollment changes, and then determining the salary savings. In a typical year between 1987 and 1995, the file contained data for about 200,000 teachers.

Teachers’ salaries typically increase based upon the acquisition of advanced degrees and teaching experience. The “quit rate” for teachers is higher for new teachers than those with over 10 years of experience, in which the rates remain stable. Lankford, Ochshorn, and Wyckoff explain that the extent to which there will be savings associated with boomer-teachers retiring depends upon whether the “boomer bulge” dissipates before teachers reach retirement, which in turn is dependent upon quit rates. The quit rates also influence the salary expendi-

tures, and thus, savings. To extrapolate school budgets from 1994–95 to 2003–04, average quit rates were applied to each teacher. Although the baby-boom cohort is not completely dissipated by 2003–04, these retirements do not result in substantial salary savings in most school districts.

Lankford, Ochshorn, and Wyckoff also consider what would happen if school districts were to offer early retirement incentives to teachers. Past experience suggests that the incidence of retirement among those eligible only rose 4 percent. Even assuming an increase in the quit rate of 25 percent, the change in median salary is only about 0.7 percent lower. They concluded that there seems, at best, to be only modest savings from retirements.

**Helen F. Ladd**, from Duke University, examines how school districts have responded to fiscal constraints in the past, in order to gain insight into how they might respond in the future. Ladd presumes that school districts will face a less sanguine financial future as a result of projections of higher enrollment, a slower economy, and increasing competition for funds at the local and state level. In her paper, she uses cross sectional data for Texas and New York to develop a measure of fiscal condition for each school district. She then examines the choices made by school districts facing differing degrees of financial hardship.

When she refers to the fiscal condition of a school district, Ladd means the gap between a district’s capacity to raise revenue for education and its “expenditure need.” Both capacity and need are outside of the immediate control of local school officials. In contrast to simpler methods of measures of fiscal condition, that only measure the ability to raise revenue, the fiscal condition she refers to also captures the fact that some

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<sup>2</sup> The recent change in TIAA-CREF’s tax status now permits it to offer such portable plans to elementary-secondary school teachers, and may transform these features of teachers’ employment.

districts must spend more money per student to attain a given level of educational services. Although Ladd describes that fiscal condition can be measured in two ways, the simple way is to calculate how much revenue the district would generate per pupil if it taxed that base at a similar tax rate. A more complex method, not employed here, would require information on the composition of the tax base in each district, and how much of the tax burden on each type of property is shifted to nonresidents.

Ladd also devises her own cost adjustment, which includes eight variables: the percentages of students who are in special education programs, have limited English proficiency, are economically disadvantaged, and are in secondary school; the square of the logarithm of student enrollment; a cost-of-living index; and an indication of a school district being in a rural area. She uses these to determine the “expenditure need.” Her resulting fiscal condition measure ranges from -0.31 to +0.93 across 993 Texas school districts, which is a relative measure. On average, stronger fiscal condition is associated with higher cost-adjusted per pupil spending on education. Using this measure of fiscal condition, Ladd then turns to examining how it affects the school district budget allocation and staffing decisions in Texas.

Using a regression, Ladd examines how budget shares or staffing patterns are affected by a district’s fiscal condition, controlling for other determinants, such as district size, personal income per pupil, and the percentage of students from economically disadvantaged households. She finds that fiscally constrained districts respond by trying to protect the level of instructional spending, that central administration spending and staffing appear to be a luxury that is more affordable for districts in strong fiscal condition, and that spending on capital outlays is more responsive than other categories to a district’s fiscal condition. Annual shortfalls in capital spending and maintenance in response to an ex-

tended period of fiscal constraint are likely to leave some districts with serious deficiencies in their capital facilities.

**Dale Ballou**, from the University of Massachusetts at Amherst, examines how urban school districts compare to other school districts, particularly since the performance of urban school systems seems to compare less favorably with other school districts (Lippman, 1996). His paper relies upon contrasting urban schools with schools in suburban and rural communities. Although he considers systematic differences unfavorable to urban schools as indicative of inefficiency, he does not consider this methodology conclusive.

Ballou first examines the percentage of resources devoted to instruction for urban schools versus others, and finds virtually no difference. Much to his surprise, urban school systems actually devote a smaller share of current expenditures to administration, almost 15 percent less than rural districts. Concerned about accounting differences, Ballou also examines staffing patterns, and confirms that urban schools staff similarly to other schools (although aides create a slightly higher proportion of teaching staff). Poorer districts employ more teachers relative to administrators and total staff, undoubtedly to serve the high proportion of disadvantaged students.

Since urban districts are larger than other school districts, Ballou tests whether the lower spending on administration is the result of economies of scale. An inverse relationship between enrollment and administrative share presumably reflects economies in administrative operations. Using a regression that controlled for the community’s demand for school services, as well as the educational needs of the school-age population, confirmed that urban systems spend proportionately less on administration, but not as a result of economies of operation. In other words, urban school districts exceed the size necessary to realize scale economies (about 5,000 students). Ballou finds that there are few scale economies for urban

schools. Increasing mean school size by 100 students saves urban districts only \$14, on average.

Turning to non-teaching faculty, Ballou finds that class sizes in urban secondary schools are unusually large, suggesting that faculty in urban schools are diverted from teaching more so than elsewhere. Utilizing the NCES Schools and Staffing Survey (SASS), teacher absenteeism is a greater problem in urban schools than elsewhere, particularly for schools with higher percentages of poor and minority students. Ballou also examines excessive bureaucratization, and finds that urban districts finance a significantly higher share of instructional expenditures from categorical aid, and that this is not due to higher concentrations of students in poverty.

This suggests that regulations and oversight that accompany such funding may constrain local decision makers.

Examining the responses of urban principals in the 1993–94 SASS regarding their influence over curriculum, hiring, discipline, and the budget, Ballou concludes they have less influence than do their suburban and rural counterparts. In addition, principals' managerial prerogatives are constrained by decisions taken at higher administrative levels. Nearly half of urban school systems offer parents some form of school choice, (e.g. magnet schools, or choice of school within or outside the district); many parents choose such options rather than non-urban school districts. However, these participation rates are very low.

Finally, Ballou appraised teacher compensation. Urban districts are slightly more likely to use incentives to recruit teachers in subjects where there is a shortage of qualified instructors, to staff positions in undesirable locations (such as high crime, high poverty, inner-city neighborhoods), or to reward merit. Almost 14 percent of urban teachers work in systems that give them "battle pay." Thirty percent of urban teachers receive incentives to teach in shortage areas. Merit pay is far more of a factor in pri-

vate schools that it is in public, with larger and more recurrent merit pay awards.

**James W. Guthrie**, a professor of education and public policy at Peabody College, Vanderbilt University, challenges the conventional manner in which public elementary and secondary schools are financed through the school district, and suggests that these mechanisms be altered to empower individual schools. Guthrie argues that America's public education system has evolved governance and finance arrangements which are inappropriately or inadequately aligned with arenas of action. The way Guthrie frames this argument is to explain that state legislators, and governors, and local school board members and their superintendents have decision-making authority and can be held accountable, but do not actually operate schools or provide instruction, and have remarkably little ability to influence those who do. Conversely, the principals and teachers who actually operate schools have little formal authority, or control over school budgets. Guthrie argues this is the unintended result of numerous well meant educational reforms.

One problem is the size of educational institutions. Although 90 percent of local school districts in the nation enrolled 5,000 or fewer students in 1990, 50 percent of students were enrolled in only 5 percent of the nation's school districts. These large districts include New York, Los Angeles, Chicago, Washington, DC, and Dallas. Central city school board members in New York and Los Angeles represent a million constituents. Guthrie recounts that the progressive movement caused big city school districts to replace ward-based elected school boards with central city boards, often appointed. Although corruption was diminished, greater authority came to rest in the hands of fewer individuals. Desegregation and federal and state categorical aid programs funded under the 1995 Elementary and Secondary Education Act (ESEA) resulted in a proliferation

of special programs and a substantial increase in special program administrators.

The changes described by Guthrie caused district-level decision-making to become remote, diffuse, and divorced from the operating authority of schools. Second, it is difficult for a principal and her staff to not be second-guessed by a higher authority. Third, the proliferation in decision makers has led to an enormous set of rules by which schools must operate. This, in turn, has led to everyone and no one being in charge.

State finance mechanisms, Guthrie argues, reinforce these existing dysfunctional relationships and big city budgeting procedures exacerbate the problem significantly. It is the local school district which is fiscally accountable, not a school. Guthrie only condemns the largest school districts, which often rely upon formulaic or mechanical budgeting procedures, often in the name of equity, which may well harm equity in the process. For example, teachers are allocated by the number of students enrolled, as are materials. Support staff may be allocated the same way, for example, one vice principal for every 500 students.

Guthrie explains that two schools of the same size and student body composition may receive different dollar allocations because teachers' salaries and benefits are usually determined by seniority and training. The highest paid teachers typically earn twice what the entry-level teacher earns. In addition, senior teaching staff usually are afforded the opportunity to choose their school assignment. Guthrie reports data from two states with school-level finance data that suggest that the classroom expenditure differences may exceed \$25,000 per classroom. Secondary schools spend more than elementary schools.

As an alternative, Guthrie discusses school-based management, charter schools, contracting with private sector firms, and

vouchers. He suggests that politically, these systems are very difficult to attain. The technical side is far less complex. Revenue, Guthrie suggests, should follow a child, wherever he attends, and should be conceived of as belonging to the schools. The revenue should contain virtually the full cost of educating pupils (including capital costs), and be highly fungible (able to be spent on anything). Finally, schools should be permitted substantial discretion in purchasing.

Guthrie concludes that 90 percent of funding should pass through district offices and be allocated to operating school sites. He then concludes by imagining three scenarios in 2010.

**Catherine Clark and Laurence A. Toenjes** of the Texas Center for Educational Research in Austin attempt to use a simulation to implement Guthrie's suggestions. Clark and Toenjes acknowledge that despite the belief that formula funding is fairer, there are wide disparities of per-pupil resources reported among schools in large districts. They use Texas data to explore expenditure patterns among districts and campuses under current law. They then simulate the results of pre-established allocation percentages, and conclude with a summary of issues and problems related to the school-based funding approaches.

Clark and Toenjes find that roughly 60 percent of operating expenditures are related to instruction, and that 93 percent goes for payroll. In 1994–95, roughly two-thirds (68 percent) of total current operating expenditures are allocated to schools, mostly in the form of personnel assignments and supplies. Clark and Toenjes also examined the operations expenditures for the largest districts in Texas. Interestingly, 71 percent are tied to the school, with the highest percentage being 75.3 percent. They conclude that no school district was currently passing on 90 percent of revenue to schools. Moving to Guthrie's suggestion of 90 percent of resources to schools would result in \$15.4 billion flowing to schools. School operations expenditures would increase by 32.6

percent, representing an additional \$1,290 per students. Resources at the average school would rise to about \$4,692. The effect on administration and support services would be dramatic, with schools having to undertake many of those activities. Clark and Toenjes suggest a gradual phase-in of such a proposal.

In Texas, Clark and Toenjes find that teacher salaries are only weakly related to years of experience. Apparently Texas school districts offer high salaries for recruiting purposes, and as incentives. In addition, the last decade has brought salary compression, with teachers reaching the top of the salary guide within a decade. Texas teachers also do not participate in collective bargaining. However, at the school level, teacher salaries and school resources are highly correlated.

Clark and Toenjes then go on to try to formulate and simulate a “campus foundation program” (CFP). Based on state aid formula elements for the 1996–97 school year, the statewide average CFP would be \$4,007. This is about 78 percent of resources flowing through the local school district to its constituent schools. They also simulate a block-grant plan.

The two approaches explored by Clark and Toenjes are, they admit, sketchy and fail to account for many important features of school finance systems, such as facility funding; educator salaries, retirement, and benefits; tax rate limitations; unequalized local revenue; transportation revenues; and federal funds and programs. They raise several difficult issues with school-level funding. One issue is the scant preparation of school personnel in managing public funds. A second issue concerns how hiring and compensation of professional staff would be undertaken. A third issue is whether empowering 84,705 public schools in the nation will actually prove to be more efficient than funding 14,400 public school districts.

## New Developments

The commissioned papers published here are but one aspect of the continuing efforts of NCES to provide relevant fiscal data and promote issues and analyses of interest to the public and the education finance research community. In partnership with the American Education Finance Association (AEFA), NCES also provides a “research initiative” to encourage a handful of beginning scholars to undertake research in education finance.

For academic researchers, as well as the public at large, who may have questions about education finance, I encourage those with Internet access to visit the URL

<http://nces.ed.gov/edfin>

which is the NCES web page for education finance. Although it is always changing, a copy in its present form is presented in Figure 1. From this site, individuals can order a CCD CD-ROM with state finance data and school district finance data. NCES hopes to add all the functions now residing on the CCD CD-ROM to the web page, so that individuals can choose the web or the CD-ROM to access data. Browsers can also obtain graphics, publications, geographic or inflation cost adjustments; download specific data sets; obtain data updates; and email questions to NCES staff. NCES is always interested in how the web page for education finance might better assist our customers, and welcomes comment and suggestions.

Those interested in education finance should be aware of proposals by the Governmental Accounting Standards Board (GASB) to substantially change accounting for governmental units, including school districts, as early as June 15, 2000. GASB is

Figure 1.—EFSC web site at <http://nces.ed.gov/edfin>



contemplating the use of an “entity-wide” perspective that would capture many revenues and liabilities currently not recognized when reporting the financial condition of a public school system. GASB is also contemplating requiring the use of depreciation in governmental accounting as early as June 15, 2003. These changes will influence NCES financial surveys, require a new NCES accounting handbook, and revolutionize the reporting of statistics for education finance. Those interested in obtaining more information should call GASB at (203) 847-0700. NCES will also post updates on its education finance web page.

Congress has urged NCES to develop a model for reporting finances at the school level for the nation’s 84,705 elementary and secondary public schools. Traditionally, school finance information is held at the school-district level, and only eight states now report school-level finance data. When financial data are reported at the school level, those revenues and expenditures are estimates derived from school district records. There are many ways to estimate school-level financial data, and NCES is evaluating the most promising approaches, with the potential of developing a parsimonious synthesis. NCES also plans to utilize the National Cooperative Education Statistics System to enable and as-

sist states in devising financial reporting systems at the school level. There are several potential strategies NCES is employing to collect and report school-level financial data for the nation, including adding to the School and Staffing Survey (SASS), becoming a “repository” of extant school-level financial data, including proprietary data, and experimental electronic collections, termed “data harvesting.” A report to Congress should soon be released by NCES, and will be available on the NCES education finance home page.

Perhaps the most exciting and challenging work NCES has underway in education finance is to attempt to develop a student-level resource measure that could be used as a component in NCES surveys of students, such as the National Educational Longitudinal Survey (NELS), which followed students in 8th, 10th, and 12th grade. The progeny of NELS is the Early Childhood Longitudinal Survey (ECLS), which will follow students from kindergarten through 6th grade. NCES aspires to develop a student-level resource measure as a component of ECLS. Such information would permit the education finance research community to answer equity questions, such as whether poor students receive the same (or greater) resources than other students in a school. It would also permit the evaluation of whether a student who is entitled to specific resources, such as handicapped, bi-

lingual, or compensatory education, actually receives the additional resources which they were intended to receive. Such information may also address questions of resource effectiveness and cost-effectiveness.