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Financing higher student performance standards: the case of New York State

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Abstract

Many states have made performance standards the centerpiece of educational reform. Unfortunately, school aid systems have not kept up. Most aid systems ensure minimum spending per pupil instead of minimum student performance; that is, they fail to recognize that the cost of achieving a performance standard varies across school districts. This paper derives an educational cost index and incorporates it into an aid formula designed to bring all districts up to a performance standard. A district's performance can be moved toward a standard through a property tax rate increase, an efficiency increase, or increased state aid. In New York State, boosting efficiency to the current "best-practice" level would not bring large city districts even up to a minimal performance standard. In fact, these districts cannot achieve such a standard without large increases in state aid and local tax rates, accompanied by reforms that improve the productivity of teachers and administrators. © 2000 Elsevier Science Ltd. All rights reserved.

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1. Introduction

The 709 public school districts in New York State, which served about 2.8 million students in 1995, range from the huge and varied New York City district to the three large upstate city districts to rich suburban districts on Long Island to small rural districts with fewer than 100 pupils. Despite local property tax rates that are, on average, among the highest in the country, significant variation across school districts in per pupil property wealth, in property tax effort, and in the composition of the student body ensures that educational outcomes differ widely from one district to the next. Some districts receive national acclaim for their students' performance,

while others struggle to bring their students up to minimal standards.

The poor educational performance of many districts, especially the large central cities, has been a cause of concern for many years, and New York State has made a concerted effort to raise student performance. Teacher's salaries are among the highest in the nation, basic operating aid in the state is distributed towards less wealthy districts, and New York has taken the lead in developing a series of student achievement tests, particularly the Regents exams run by the State Board of Regents, an independent agency that oversees the State's educational system. Despite these efforts, performance in central cities remains woefully inadequate. In New York City, for example, 41 percent of the 3rd grade students and 35 percent of the 6th grade students do not reach even minimal reading levels, compared to 20 percent not reaching these levels statewide. Only 19 percent of New York City high school graduates receive the more demanding Regents Diploma, compared to 39 percent for all districts in the state.

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In an effort to bridge this performance gap, New York State, by early in the new millennium, will require all students to pass a set of more demanding Regents exams before graduating from high school. New York is not alone in this approach, as many other states are making performance standards for students the centerpiece of their education reforms.

Unfortunately, however, state aid programs for local schools have not kept pace with the new emphasis on student performance. Present aid systems focus on fiscal capacity differences by attempting to compensate low-wealth districts. An aid system based on performance standards must take another step by recognizing that the cost of achieving a given performance standard varies across districts.

In this paper, we explain one method for developing a comprehensive educational cost index, and show how to incorporate it into a performance-based foundation aid system. While analyzing educational costs has long been a topic of interest in education research (Brazer, 1974; Chambers, 1978; Kenny, Denslow & Goffman, 1975), costs adjustments made by most states are typically ad hoc “weighted pupil” measures that only partially correct for cost differences across districts. Only recently have scholars shown how to incorporate cost indices in aid formulas designed to achieve outcome equity objectives (Ladd & Yinger, 1994). Expenditure-based aid formulas will not and indeed cannot achieve performance standards in high-cost districts (Duncombe & Yinger, 1998).

Large increases in state aid to needy districts not only raise their performance, but also have two undesirable consequences, namely increased school district inefficiency and a reduction of local tax effort. Our simulations for New York state allow us to predict the impact of aid increases on school district efficiency and on the local property tax rate. The interrelationships between aid, tax effort and inefficiency suggest that dramatically improving performance in large central cities will require a combination of approaches: significant increases in state aid, rules to require minimum local tax effort, and implementation of management reforms aimed at improving school district efficiency.

This paper is organized into three main sections. We first build the analytic framework for our case study of New York by discussing our measures, models, and simulation methodology. We then present a performance-based foundation aid system that is consistent with the achievement of minimum performance standards, and simulate its impact of performance levels in New York state school districts. Our simulations also allow us to project the impact of different aid systems on school district spending, tax rates, and efficiency. We conclude the paper with several lessons concerning the design of school finance systems to achieve higher student performance.

2. The analytical framework

The analytical framework of this paper is based on three equations: a cost equation, a demand equation, and an efficiency equation. This section explains our approach to measuring performance, provides an intuitive explanation of each equation, and discusses our method for simulating alternative educational policy reforms. We expand on previous research on state aid distribution by bringing costs into aid formula design and by simulating the impacts of aid on the demand for educational performance and on school district inefficiency.

2.1. Measuring performance

The performance of a school district can be measured in many ways, each of which has limitations. Most scholars measure performance by selecting, on a priori grounds, a single performance indicator, such as an average test score. Our approach attempts to capture a broader range of school activities by determining which performance indicators are valued by voters, as indicated by their correlation with property values and school spending. Our approach, which is explained in detail in Duncombe, Ruggiero and Yinger (1996) and Duncombe and Yinger (1997), results in an index of educational performance. This index is a weighted average of the performance indicators that are found to be statistically significant, where the weights reflect the value voters place on each indicator.¹

When applied to data for New York state, this approach results in an educational performance index based on three performance indicators: the average share of students above the standard reference point on the third- and sixth-grade PEP tests for math and reading, the share of students who receive a more demanding Regents diploma (which requires passing a series of exams), and the graduation rate. These indicators cover a wide range of school district activities, including both elementary and secondary education programs and programs that focus on both retention and academic performance. Although we use an objective, statistically based pro-

¹ Strictly speaking, this interpretation of the weights depends on the assumption that educational performance is provided at constant cost. See Duncombe and Yinger (1997). This assumption is employed in virtually all the educational finance literature, although it has not been adequately tested. The outcomes we selected had an adjusted *R*-squared of at least 0.10 with variables typically found in an education demand equation, including income and tax share. In addition, we ran a factor analysis on an array of outcome measures and the scree plot indicated three distinct outcome measures which grouped around the three measures we used. For a more detailed explanation of our procedure, see Duncombe and Yinger (1997, 1998).

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