

# Tough Lesson: More Money Doesn't Help Schools; Accountability Does

By Rubén Hernández-Murillo and Deborah Roisman

Most discussions about government policies on education presume by and large that increasing public funding of schools will improve education quality. But research in economics provides strong evidence that policies focused on increasing schools' resources have little or no effect on academic achievement.

Under the current system, the interests of teachers and school district administrators are often inconsistent with an efficient use of school funds to improve performance. Individual teachers' salaries and the security of administrators' jobs are not usually linked to students' academic performance. This lack of accountability stems from a lack of competition among public schools.

This article reviews some of the main ideas of the economics of public schools, including the apparent lack of a relationship between spending policies and education quality as measured by standardized test scores. To illustrate these points, a snapshot of the characteristics of a few school districts in the St. Louis area is presented.

## School Districts in St. Louis

Tables 1 and 2 present several input and outcome variables for school districts in the St. Louis area. Education quality is measured with the mathematics index test score for elementary schools (fourth grade) from the Missouri Assessment Program (MAP). All variables are for the academic year 1999-2000. Table 1 presents the characteristics of school districts with test scores that are well below the state average, and Table 2 presents the characteristics of school districts with scores that are well above the state average. Even though the two sets of school districts represent opposite extremes of academic performance, they have comparable measures of expenditures per pupil and student-teacher ratios. (Note that although Clayton and Ladue have much larger expenditures than other high-score districts, they have only slightly better test scores than Webster Groves, another district in the same group that has much lower expendi-



tures and a much higher student-teacher ratio.) Where they really differ is that the high-score districts have much larger shares of households with a bachelor's or higher degree (a proxy for the parents' education attainment) and much larger median incomes for households with children. This suggests that student achievement depends more on family characteristics than on spending policies.

## Public Spending on Education

If there were no public schools—if education were provided by a completely free market with no subsidies to households or schools—investment in schooling would fail to attain socially optimal levels. This is because of what economists refer to as market failures. Government intervention in the provision of education services is largely motivated by an attempt to alleviate the effects of these market failures. Economist Caroline Hoxby highlights two important kinds of

market failures. The first kind arises because individuals consider only their own benefits and costs when deciding how much to invest in their children's education. From a social standpoint, however, an individual's education may generate positive benefits to other persons; for example, less-educated people learn from interacting with more-educated people. Individuals do not account for these benefits to others and, therefore, invest less in education than what would be socially optimal. The second kind of market failure is liquidity constraints. These constraints occur because people are unable to borrow against their children's future income to pay for their education today. As a result of this, constrained parents also invest less in their children's education than they would want to spend.

In general, underinvestment in education because of market failures can be addressed in one of two ways (or a combination of the two). The government can provide subsidies—either to parents or to schools—while

the actual provision of education is left to the private sector. Alternatively, the government can provide education itself and charge little or no tuition. With rare exceptions, the latter solution has prevailed. The government provision of education, however, introduces additional distortions. Economist Eric Hanushek argues that under the current organizational structure of many public school districts, teachers and administrators often do not have the same incentives as private schools have to use resources effectively. Primarily, he says, this is because the decisions of how to allocate funds in public schools are not tied to the performance of students and because school districts fail to respond to competitive pressures from other public school districts or from the private school system.

### Education Reforms

For these reasons, many economists believe that policies tied to students' outcomes (test scores) might be more useful than policies based on input variables (such as student-teacher ratios and spending per pupil) at improving competition among schools, in spite of the claims that standardized test scores do not accurately reflect academic achievement.

The No Child Left Behind Act, signed by President George Bush in 2002, is an example of a policy that explicitly recognizes the failure of past spending efforts to improve students' academic performance. The act amends the Elementary and Secondary Education Act of 1965 and is now the most important federal law regarding public education. The new law is designed to improve the incentives for school officials, teachers and parents by holding schools accountable for the performance of students.

The No Child Left Behind Act calls for federal funds, particularly those targeted at improving the test scores of the disadvantaged (Title I), to be subjected to an accountability mechanism by which schools' progress will be measured every year. The goal is for all children in the public school system to be proficient in reading and math by 2014. Students' performance will be measured primarily with test scores: Schools will be rewarded or sanctioned, depending on the tests' results. Schools that continually fail to achieve progress could be forced to provide students with supplemental programs, such as tutoring, or, if needed, options to transfer out of failing schools. On the positive side,

teachers who receive academic awards will be eligible to obtain financial rewards, too.

In Missouri, the accountability system will continue to be based on the existing assessment program, but it will be complemented in the next few years to conform to the federal requirements. The state already makes available to the public report cards detailing the continuous progress of schools, but the No Child Left Behind Act contemplates supporting additional involvement of parents in the school districts' efforts to meet the accountability requirements.

### REFERENCES

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	District	MAP index	Spending per pupil	Student-teacher ratio	Percentage of households with bachelor or higher degree	Median household income (1999)
Table 1	Wellston	152.4	7,981.2	13.1	0.7	14,158
	Normandy	176.3	7,563.3	16.2	14.8	31,041
	St. Louis City	182.9	9,543.9	14.0	16.7	21,925
	Hancock Place	187.5	6,546.7	16.3	4.8	33,053
	Maplewood-Richmond Heights	187.6	8,909.2	13.0	27.1	35,891
	Jennings	188.9	6,723.8	16.0	7.3	29,353
	Riverview Gardens	189.8	8,065.9	17.1	10.7	34,353
	Averages	183.3	8,967.3	14.7	15.1	24,897
Table 2	Rockwood R-VI	227.9	7,430.5	17.2	41.0	56,872
	Lindbergh R-VIII	228.5	7,171.5	15.4	30.6	50,018
	Brentwood	232.3	9,711.2	12.6	51.3	41,711
	Webster Groves	235.2	7,160.2	15.7	45.4	50,028
	Clayton	237.5	14,787.4	11.5	67.1	71,448
	Ladue	238.7	11,536.1	12.5	62.3	84,324
	Averages	230.5	8,270.4	15.9	43.9	58,174



### Conclusion

The accountability mechanism implemented by the No Child Left Behind Act highlights the use of standardized test scores to measure education quality. Although such scores may be imperfect measures of education quality, their use is meant to shift attention to outcomes and to avoid reliance on input measures, such as student-teacher ratios or spending per pupil. Some economists believe this is important because an accountability system opens the door for additional reforms that would help provide parents and school officials with the right incentives to make socially optimal choices on education investment. Incentives based on students' outcomes are more likely to be effective and to have a long-term impact on academic achievement than the incentives provided by merely increasing spending in education.

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### Comparable Inputs, Different Results

Most of these school districts in the St. Louis area have comparable inputs—spending per pupil and student-teacher ratios. But the academic performance of their students varies dramatically, as measured by a test from the Missouri Assessment Program (MAP).

-  School districts with scores on the MAP test below the state average of 209.9.
-  School districts with scores on the MAP test above the state average of 209.9.

### NOTES:

1. Test score data are from the Missouri Department of Elementary and Secondary Education; other variables are from the Common Core of Data available from the National Center for Education Statistics.
2. Averages were computed using the number of students in each district as weights. The state average MAP Index computed for 521 school districts was 209.9.
3. Spending per pupil represents total expenditures for instruction divided by the total number of students.
4. Median household income refers to households with children.