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## An Economic Perspective on Urban Education

WILLIAM G. GALE, MEGHAN MCNALLY, JANET ROTHENBERG PACK

Participants in the annual symposium on *The Brookings-Wharton Papers on Urban Affairs*—convened by Brookings and the University of Pennsylvania's Wharton School—present research on issues unique to urban areas as well as on broader economic and policy topics that can apply to urban settings. This year's participants focused on urban education and presented findings on the results of an experiment designed to detect cheating on standardized tests, the impact of school reform in an urban setting, the effect of school quality on housing values, and the determinants of improved academic performance. Two other studies addressed other urban economic issues: the increase in economic inequality across and within geographic regions, and local variation in land-use regulations. This year's Brookings-Wharton symposium took place at Brookings in October 2002. The resulting bound volume is due out this month from the Brookings Institution Press.



### SYMPOSIUM ON URBAN EDUCATION

Education is one of the most important services provided by urban and local governments. But low test scores, high dropout rates, high teacher turnover rates, and other problems show that large urban school districts in the United States serve their students

poorly. These deficiencies have led affluent families to leave cities for the suburbs or to move their children to private schools. When these families move, urban tax bases and economic activity are reduced. When good students move to private schools, the average academic quality of the remaining public school students



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declines, which can reduce the quality of the education received in the public schools through its influence on peer group effects and expenditure on schools. For all of these reasons, education reform has emerged as a key issue in urban areas.

### CATCHING CHEATING TEACHERS

One approach to improving urban schools involves increased emphasis on high-stakes testing, under which schools are held accountable, through a variety of sanctions, for their students' failure to exceed the thresholds on standardized tests. Supporters claim that testing provides accountability and raises test scores. Critics note that test score gains have been shown to be test-specific and thus may be ephemeral. Another concern is that the emphasis on high-stakes testing may increase the temptation for students, teachers, and administrators to cheat on standardized tests.

Brian A. Jacob of Harvard University and Steven D. Levitt of the University of Chicago examine cheating by teachers using a methodology they developed in previous work. Roughly 100,000 Chicago public school students take the Iowa Test of Basic Skills each spring, with retesting in 117 classrooms three to four weeks later. Jacob and Levitt analyze these results, controlling for past, current,

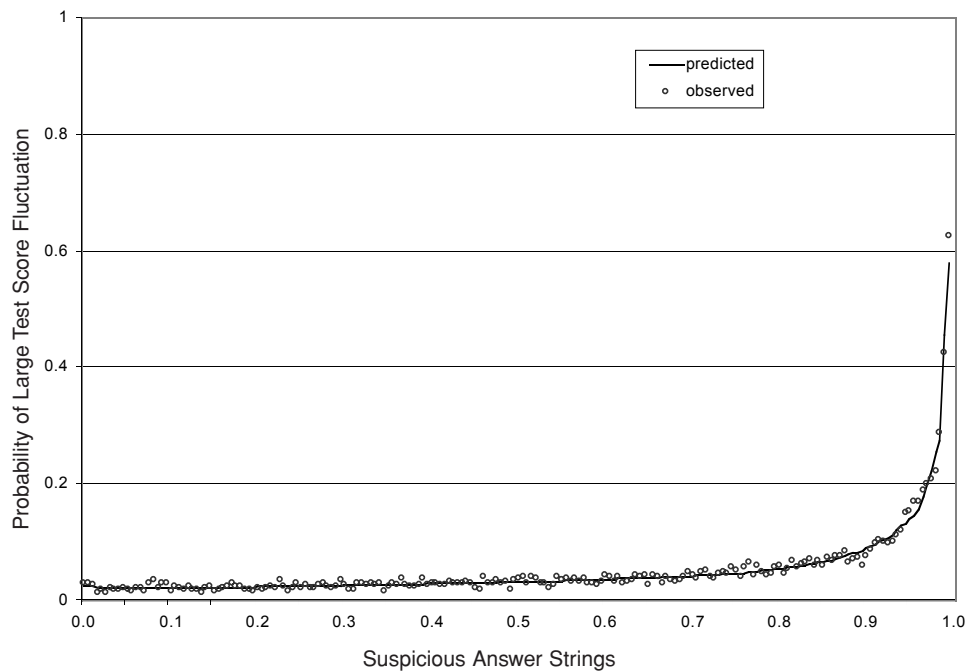
and retest scores, demographics, and socioeconomic characteristics as explanatory variables to identify suspicious answer strings (see figure 1). The authors look at cheating in three types of classrooms:

- Classrooms with unusually large test score gains and highly suspicious patterns of answer strings
- Classrooms with suspicious answer strings but without unusually large test score gains
- Classrooms with anonymous allegations of cheating

The authors compare the retest performance of these classrooms to two control groups that are not suspected of cheating: one group with large test score gains but no suspicious answer strings, and one group chosen at random.

The main result is that classrooms that were suspected of cheating saw dramatic declines in test results in the retest relative to the original test, while the control classrooms saw little change in test results. Out of the approximately seventy suspicious classrooms that were retested, nearly all experienced test score declines that were significant. In addition, after the retest, school administrators in two schools were suspected of complicity in cheating because of the large number of classes in their schools

**Figure 1: The Relationship Between Unusual Test Scores and Suspicious Answer Strings**



identified as having cheated. Consequently, both the teachers and administrators suspected of cheating were subject to further investigation.

### PUBLIC SCHOOL FINANCE AND URBAN SCHOOL POLICY

Much of the analysis of school quality determinants focuses narrowly on the effects of financial resources on school performance. In contrast, Thomas Nechyba of Duke University explores how financing alters school quality in a framework that explicitly incorporates the fact that financing changes may alter the characteristics of neighborhoods, private school attendance rates, and

political voting outcomes. He develops these insights in a simulation model calibrated to data from New Jersey. By examining the various policies in a single, consistent model, he is able to isolate the interlocking roles of different factors in determining the impact of changes in school finance. Nechyba examines the effects of centralizing school finance, changing state aid formulas, and issuing state-funded vouchers. A major result of Nechyba's analysis is that the indirect effects of policy changes on school quality—for example, those that arise from households moving or students changing from public to private schools—often have a

*“One approach to improving urban schools involves increased emphasis on high-stakes testing.”*



*“The indirect effects of policy changes on school quality—for example, those that arise from households moving or students changing from public to private schools—often have a greater impact on school performance than the direct effects of funding levels and the availability of resources.”*

greater impact on school performance than the direct effects of funding levels and the availability of resources.

Among the specific results: centralizing school finance raises housing prices, reduces private school attendance, reduces spending per pupil in public schools, and narrows school quality differences across districts. Funding formulas that provide state aid not targeted at poor school districts result in school improvement in wealthy districts and also cause larger inequalities across districts. However, targeted state aid administered only to poor school districts achieves greater increases in school quality for all schools. State-funded vouchers reduce quality at poor-performing public schools as students choose to attend better public and private schools. At the same time, families in wealthier neighborhoods move to areas with more affordable housing and send their children to private schools using vouchers. As a result, overall school quality in poor districts rises slightly because of the increased quality of the new private schools. Vouchers have a negative impact on the public schools in wealthier districts as affluent families move out, causing a decline in quality and support of the public schools.

## SCHOOL ACCOUNTABILITY RATINGS AND HOUSING VALUES

Previous research has found that there is a strong connection between student test scores at neighborhood schools and housing values at a point in time, but there is less evidence on how those variables evolve over time. This issue, however, will become more important in the future, because the No Child Left Behind Act of 2001 requires states to test all students in grades three through eight and publicly report the results.

Thomas J. Kane of UCLA, Douglas O. Staiger of Dartmouth College, and Gavin Samms of Harvard University evaluate the effects on housing values of test scores and composite school ratings. Using data on the sales prices of homes in Mecklenburg County, North Carolina, they find that a school’s long-term average test scores affect housing values in the immediate neighborhood, but that year-to-year fluctuations in scores do not. This suggests that homeowners care about school quality, but are aware that test scores are an imperfect indicator of neighborhood quality.

The authors also find that test scores may be related to unmeasured housing and neighborhood characteristics. This suggests that people tend to buy houses where they do because of their peers.

Housing values tend to be higher closer to a neighborhood school, particularly in poor neighborhoods, and are more responsive to the test scores of white students than of black students. The study also shows that, when composite school ratings were introduced, local house prices did not decline in response to state ratings of “low-performing” for local schools. This may imply that residents already knew that these schools were low-performing.

### LESSONS FROM CHICAGO

After instituting high-stakes testing in 1996, the Chicago Public Schools realized a significant increase in test scores. Little is understood, however, about the channels through which high-stakes testing affects performance. Supporters of the program claim that testing makes teachers and students work harder and helps schools become more efficient. Critics claim the rules lead to “teaching to the test” and to reallocations of resources away from non-tested subjects like physical education, art, music, and social studies.

Brian Jacob examines the effects of the accountability policies instituted by the Chicago Public Schools (CPS) using school budget information for 456 elementary schools in 1995 and 2000. He distinguishes between changes in educational inputs—including student

effort, parent involvement, and financial resources—and changes in school technology, such as instructional practices and school organization.

Jacob finds that most of the improvement in CPS scores comes from non-financial inputs like student effort and parental involvement rather than technological improvements. Schools made few changes to financial allocations or school organization. For example, low-achieving schools shifted only a small amount of resources away from non-tested areas, like art and music, and the changes in spending are not related to changes in student achievement. Most of the increase in spending was to hire more teachers or raise teacher salaries rather than to create new positions. Changes in educational efforts by students—including participation in after-school programs to help them with homework—had a greater effect on student achievement than changes in instructional practices or school organization. The findings will prove relevant as the federal government begins to implement the No Child Left Behind legislation that was enacted in 2001.

### OTHER RESEARCH

In addition to the papers on education reform, the Brookings-Wharton



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symposium addressed two other urban economic issues:

#### THE GEOGRAPHY OF INEQUALITY

Although trends in income inequality in the United States have received a substantial amount of attention over the past two decades, trends in the geographic distribution of income have been left relatively unexamined. As the affluent and poor become increasingly isolated from one another, the social and economic worlds and interests of the two groups will naturally diverge, with important implications for public finance and the provision of public services.

Using data available from 1950 to 2000, Douglas S. Massey and Mary J. Fischer of the University of Pennsylvania measure trends in class segregation and income concentration at the regional, state, and metropolitan levels, and on the neighborhood level for sixty metropolitan areas. The authors find that income and class segregation declined over the last half century as the rich and poor have become more evenly distributed throughout the country. They also show that the degree of spatial separation between affluent and poor families declined at the regional, state, and metropolitan levels.

The concentration of affluence and poverty, however, has increased in neigh-

borhoods, leading to significant class segregation within metropolitan areas.

Income segregation measures the degree of social and class segregation between poor and affluent families. Income segregation is lowest on the regional level, having declined by more than half between 1950 and 2000. At the state level, income segregation decreased by nearly 40 percent, while in metropolitan areas, it decreased by one-third. However, census tract-level income segregation in sixty metropolitan areas increased dramatically between 1970 and 2000, indicating significant growth in class segregation within neighborhoods.

Massey and Fischer also examined income segregation by race and found that in the regions, states, and metropolitan areas, both blacks and whites experienced a comparable decrease in income segregation over the period. Neighborhood data tell a different story: income segregation within both races has increased since 1970 and moderated only slightly during the 1990s.

#### POVERTY CONCENTRATION

Falling income inequality, declining poverty rates, and class segregation from 1950 to 2000 also produced declines in the geographic concentration of poverty at the regional, state,

and metropolitan levels. Overall, the concentration of poverty fell sharply and hit a fifty-year low in 2000. Poverty isolation is greater for African Americans, since far more blacks live in the south and thus are distributed more unevenly than whites. The concentration of poverty in neighborhoods of metropolitan areas, in contrast to the decrease in overall concentration, increased by 80 percent between 1970 and 2000. Moreover, the concentration of poverty within neighborhoods for black families exceeded that for white families in each decade from 1970 through 2000.

According to Massey and Fischer, the concentration of affluence in regions, states, and metropolitan areas increased between 1950 and 2000. Since class segregation and income inequality declined, the growth in the concentration of affluence is attributed to the increasing proportion of affluent families. This is also true on the neighborhood level. By 2000, the concentration of affluence in metropolitan neighborhoods was greater than the concentration of poverty. However, the authors find that the concentration of affluence does not differ by race in regions, states, or metropolitan areas within neighborhoods. On the other hand, the concentration of affluence was greater for whites than blacks

within neighborhoods.

Massey and Fischer show that rich and poor families came to inhabit the same regions, states, and metropolitan areas while simultaneously moving into different neighborhoods segregated by class. Class segregation grew during the 1970s and the concentration of poverty increased through the 1980s. But the trends leveled off through the 1990s, indicating that because of that decade's great prosperity, the situation has not deteriorated significantly. However, the trends also have not been reversed. Growing concentrations of poverty and affluence within neighborhoods indicates an increasingly divided society where rich people live in safe communities interacting with affluent peers and the poor live in high-risk, unstable neighborhoods with few prospects for economic development or social mobility.

#### LAND-USE REGULATIONS

The causes and effects of local land use regulation are long-standing topics of concern to researchers and policy-makers, but to date little evidence has been brought to bear on this issue. Bengte Evenson of Illinois State University and William C. Wheaton of MIT use a unique dataset created for the state of Massachusetts to study local land-use regulations. They analyzed patterns of residential,

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commercial, industrial, open, and other land-use allocations.

The authors found that current zoning regulations of a town are a strong indicator of future zoning and development. Wealthy towns tend to protect more land and allow for less housing and commercial/industrial development while poorer towns tend to permit higher density commercial/industrial development. However, a town’s current residential or commercial density is a much better indicator of

expected future density than income. In addition, Evenson and Wheaton find that towns further from Boston zone less open land for commercial/industrial uses, protect more open land, and put tighter constraints on density.

The authors’ findings support the current theoretical land-use literature and conventional wisdom. In the future, the Massachusetts data can be used to further test land-use theory and examine patterns of development. **B**

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