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IN THIS ISSUE

All School Finance Equalizations Are Not Created Equal

Since the early 1970s, school finance equalization strategies have swept the nation. In an attempt to offer equality of educational opportunity to students, these programs level (or equalize) per-pupil spending between wealthy and poor school districts. But, do these different strategies achieve the same results from state to state? And, are there unintended economic consequences of school finance equalization? Most importantly, do school finance equalization plans achieve their educational goals?

In **All School Finance Equalizations Are Not Created Equal** (NBER Working Paper No. 6792), NBER Faculty Research Fellow **Caroline Hoxby** finds that not all school finance equalization plans are alike. Plans can level per-pupil spending either up or down, but only those that level spending down result in nearly equal per-pupil spending across a state's school districts. Further, where financing is leveled down, more parents tend to send their children to private schools.

Under most equalization programs, poor school districts experience increased spending. However, poor school districts actually receive lower per-pupil school spending under equalization programs that level spending down a lot. This is evident from the experiences of California and New Mexico, two states with very stringent equalization programs. Further, this occurred even though California and New Mexico's equalization programs appeared to be more generous than the categorical aid programs that they replaced.

In terms of student achievement, which is the rationale for enacting school finance reform, equalization programs have weak effects. For example, in states where school finance equalization results in a leveling down of per-pupil spending, the high school dropout rate increases only slightly, Hoxby finds.

> "When compared to traditional categorical aid programs for school districts, equalization programs always cause leveling down in per-pupil spending."

School districts often demonstrate a commitment to education through higher housing prices, which capitalize the benefits of unusually successful, productive schools. Because school finance equalization programs redistribute money among districts based on property value per student, they penalize districts with a demonstrated commitment to education. Hoxby finds, in fact, that property tax rates fall in communities with equalization programs that penalize school districts demonstrating a commitment to education through higher tax rates.

In short, the redistribution of funds is related negatively to a community's taste for education and to the school district's productivity in terms of student outcomes. That is, programs redistribute funds from communities whose residents have a higher taste for education to communities whose residents have a lower taste for it. According to Hoxby, these consequences of equalization programs are unintended. When compared to traditional categorical aid programs for school districts, equalization programs always cause leveling down in per-pupil spending: this is because equalization programs transfer funds to districts whose residents are only willing to spend a small share of their incomes on education.

Hoxby suggests that it is possible to minimize the negative effects of school finance equalization by combining elements of categorical aid with property taxes. This could be

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accomplished by redistributing funds among school districts on the basis of income and/or other demographic variables. For spending above and beyond state aid, districts could use local property taxes.

For this study, Hoxby examined nearly every school district in the 48 continental states which put into effect a school finance equalization plan for the years 1972, 1982, and 1992. —Lester A. Picker

Cleaner Air Results in Higher Home Prices

Real estate agents delight in reciting to prospective homeowners a marketing mantra in which they insist that the only three things that matter in purchasing a property are: "location, location, location." But they might want to at least refine their definition of "location" so that it encompasses more than a home's proximity to good parks and schools and considers the very quality of the air that surrounds it.

That's because housing prices appear to get a substantial lift from localized reductions in particulate matter pollution and other air pollutants, according to an NBER Working Paper by **Kenneth Chay** and **Michael Greenstone.** Chay and Greenstone suggest that this relationship could help policymakers, who often focus on the economic downside of environmental laws, "measure the value of environmental resources and the monetary benefits of federal pollution regulations."

> "During the 1970s, pollution regulations may have resulted in over $80 billion in aggregate economic gains nationwide. In the 1980s...homeowners accumulated $50 billion of benefits."

Their study, **Does Air Quality Matter? Evidence from the Housing Market** (NBER Working Paper No. 6826), looks at 20 years of federal efforts to control air pollution in which regulations spawned by the Clean Air Act have set rigid air quality standards that are applied on a county-by-county basis. The authors compare changes in pollution levels and housing prices in so-called "non-attainment" areas, that is counties across the United States that have been forced to reduce pollutants in order to meet federal clean air requirements, to the changes that occurred in "attainment" counties that met the federal standards and were virtually unregulated.

Chay and Greenstone find that during the 1970s and 1980s particulate matter pollution declined substantially more in non-attainment counties, apparently prodded by the threat of regulatory action, than in attainment counties. Coinciding with these air quality improvements, home prices increased more in non-attainment counties relative to attainment areas —by about 4.8 percent in the 1970s and about 3.9 percent in the 1980s. This evidence suggests that housing markets may capitalize environmental amenities into property values, which has been a point of some controversy in the previous literature.

Under one set of assumptions, Chay and Greenstone calculate that the cumulative effect is that during the 1970s, "pollution regulations may have resulted in over $80 billion in aggregate economic gains" nationwide. In the 1980s they estimate that homeowners accumulated "$50 billion of benefits." The authors state, "Taken literally, this result suggests that federal pollution regulations resulted in substantial monetary benefits for homeowners in regulated counties....In addition, it provides the first estimates of the economic value of federal environment policy which are based on the housing market."

The information that fueled Chay and Greenstone's analysis was culled from several sources, including the Code of Federal Regulations and the Environmental Protection Agency (for county-by-county air quality data and attainment status) and the U.S. Census and the County and City Data Books (for local property values).

Chay and Greenstone note that the data indicate a strong cause-and-effect relationship between the regulations and improved air quality and higher property values. They do acknowledge that during the recession of the early 1980s, air quality improvements in some counties were probably attributable to such things as recession-induced plant closings. However, overall they conclude that "it appears that the most important predictor of changes in pollution is environmental regulation."

—Matthew Davis

The Value of Tax Breaks for Not-for-Profit Hospitals

Tax-exempt status was granted to American hospitals early in this century because hospitals were generally run by religious or philanthropic organizations to serve the poor. They provided a public benefit, were financed by donations, and generated little if any income.

Along with so much else in the health care sector, however, the character of not-for-profit (NFP) hospitals in recent years has changed dramatically. Increasingly, calls have arisen for examination and evaluation of tax breaks for NFP hospitals. For this reason, in **The Tax Benefits of Not-For-**

Profit Hospitals (NBER Working Paper No. 6435) co-authors **William Gentry** and **John Penrod** analyze Medicare cost reports, IRS tabulations, corporate databases, and independent research to establish what they call a useful starting point for framing the debate on tax policy towards NFP hospitals.

In contrast to the days when the word hospital was virtually synonymous with charitable institution solely serving the indigent, not-for-profit hospitals today may engage in additional activities, such as teaching, and they indeed generate net income. NFP hospitals still provide social benefit in the form of uncompensated care, specialized services, and facilities like coronary care, radiation therapy, and intensive care units, where NFP teaching hospitals especially tend to have an edge. But at least one study suggests that anywhere from 20 to 80 percent of NFP hospitals do not provide community benefit equal to the government's tax expenditure on them.

Moreover, statistics indicate that the amount of uncompensated care provided by NFP and for-profit (FP) hospitals is quite similar in similar social and physical environments. Further, Gentry and Penrod show that, on average, NFP hospitals tend to treat slightly less difficult cases than FP hospitals. Such findings suggest that for-profit hospitals deserve attention when they claim tax-exemption spells unfair advantage for NFP's in the market place.

There are essentially three kinds of tax breaks for NFP hospitals: exemption from capital taxes on income and property; tax exemption in bond financing (which has the added benefit of freeing up NFP hospitals' endowments to earn tax-free income); and deductibility of charitable contributions. Gentry and Penrod suggest that the value of each of these categories of tax benefits should be considered with respect to the particular circumstance of the NFP. Fifty-nine percent of the nearly 5,000 short-term hospitals in the United States are not-for-profit, but their distribution is very uneven, dominating in the northeast, for example, but facing significant competition from the for-profit sector in such states as California, Florida, and Texas. The value of the tax exemption for a particular hospital depends on the property tax rate, the amount of capital used by the hospital, and the profitability of the hospital.

Beyond these facts, Gentry and Penrod point out that it is often unclear exactly who benefits when the NFP has a tax windfall. Since the law requires not-for-profit hospitals to reinvest any income in excess of expenditure in the hospital itself, any tax breaks create income that also must be reinvested. But who benefits from this reinvestment? It could be that fees will be reduced, or services increased. On the other hand, the NFP stakeholders themselves, that is, administrators, doctors, and other employees, may enjoy the benefit via increased salaries or improved working conditions.

Conversely, say the researchers, one needs to know how tax policy changes would affect prices, outputs, and inputs in the market for hospital services. If tax benefits are shifted forward onto consumers through lower prices, for example, then NFP hospitals may well have fewer resources for enhancing community services. Until such trade-offs can be evaluated fully, say Gentry and Penrod, it is unclear whether tax exemptions for NFP hospitals ultimately maximize benefits for needy patients.

Gentry and Penrod estimate that the aggregate value of the capital tax exemptions for NFP hospitals in 1994 was $4.6 billion from income taxes and $1.7 billion from property taxes. This amounts to 1.7 percent of the total $169 billion paid in property and corporate income tax. In addition, tax-exempt borrowing (via bond issues) may allow NFP hospitals to maintain their endowments, even if they are expanding facilities. Gentry and Penrod assert that almost half of outstanding tax-exempt debt of NFP hospitals could be offset by their endowments, suggesting an arbitrage benefit of $354 million per year. Further, for charitable contributions in 1994, they estimate that the $3.6 billion of donations lowered the donor's tax liabilities by about $1.1 billion.

"...the aggregate value of the capital tax exemptions for NFP hospitals in 1994 was $4.6 billion from income taxes and $1.7 billion from property taxes."

—Matt Nesvisky

An Experience-Rated UI System Reduces Claims

Most employees know whether they are eligible for unemployment insurance (UI) if they should be laid off. But fewer may know that the insurance is paid for indirectly by a state tax on the payroll of their employers. In **Using a Natural Experiment to Estimate the Effects of the Unemployment Insurance Payroll Tax on Wages, Employment, Claims and Denials** (NBER Working Paper No. 6808), **Patricia Anderson** and **Bruce Meyer** take advantage of changes that occurred in Washington state to analyze the effects of that payroll tax.

During the 13 years from 1972 through 1984, all employers in Washington paid the same UI tax rate. It was either 3 or 3.3 percent of their payroll, depending upon the year. The state had no "experience rating"; that is, all employers paid the same payroll tax rate whether or not in the past they had laid off workers fre-

quently or rarely. Some employers, perhaps with seasonal variations in their work load, will lay off workers in the slack period, and UI will carry those workers over until the next busy period. Workers thus get a combination of paid work and UI-supported time off. This means, though, that employers who seldom lay off workers and yet contribute to the state UI trust fund at the same tax rate are subsidizing the firms and workers with frequent layoffs.

During this same period, the U.S. Congress passed the Tax Equity and Fiscal Responsibility Act of 1982. It required all states to have a maximum UI payroll tax rate of at least 5.4 percent by 1985. Such a uniform rate, however, would have heavily overtaxed most firms in Washington and thus generated a huge surplus in the UI state trust fund. So, the state legislature passed a law reinstating experience rating in 1985, so that some firms would pay a lower tax rate and others the maximum. Also, the tax base—the maximum amount of an employee's wages subject to the UI tax—was reduced to $10,000 in 1985 from $12,000 in 1984.

The combination of these measures meant a sharp change in the cost of UI to many employers. Some firms saw an immediate increase in their tax rate from 3 to 5.4 percent. Others saw a decrease from 3 to 2.5 percent. Changes in subsequent years led tax rates to range from 0.36 to 5.40 percent. These changes in both the cost of employing workers and of laying them off were, of course, noted by employers. It altered the way they dealt with layoffs and UI claims, just as economic theory would anticipate.

> "...the introduction of experience rating lowered the level and the seasonality of UI claims and the seasonality of unemployment."

Using UI data from Washington and some comparisons with similar data from Oregon and Idaho, Anderson and Meyer reach several conclusions. One is that employers overall passed on the higher tax to their workers in the form of lower wages. However, since a single firm faces price and wage competition in its specific market, it may not be able to pass on the extra tax cost fully to its workers through smaller pay raises.

Another finding of Anderson and Meyer is that in Washington, the introduction of experience rating lowered the level and the seasonality of UI claims and the seasonality of unemployment. Some employers found it cheaper to keep employees on staff steadily (and more expensive to lay them off, even if only seasonally), because their tax rate would go up in subsequent years.

Further, experience rating gives employers an incentive to "police the system" and contest invalid claims for UI. If they don't, their tax rate rises in the future. In Washington, denials of UI to workers separated from their firms rose by anywhere from 51 to 66 percent, depending on the year. Anderson and Meyer suggest that experience rating increased general economic welfare in the state by stabilizing unemployment and reducing UI claims.

—David R. Francis

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