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The Final Verdict on STAR?

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It's Elementary

A Monthly Column by EFAP Director John Yinger
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The Final Verdict on STAR?

As readers of this column know, my colleagues and I have been conducting research on New York's School Tax Relief Program, STAR, for many years. The latest version of this research has been accepted for publication in a professional journal.[1] This column reports on our key findings.

The feature of STAR that makes it interesting to scholars is that it alters the tax-price of school services and therefore encourages more school spending.[2] People cannot select the quality of school services individually but must instead vote for the level of school spending they prefer. As many scholars have shown, a household's vote depends on, among other things, the "tax price" it faces. A household's tax price is the increase in its property taxes that is required to buy another unit of school quality. A tax-price works like any other price: a lower tax price leads to a higher demand for school services and to more spending.

Without STAR a homeowner's property tax payment, T, is the district's property tax rate, t, multiplied by the homeowner's assessed value, V; that is, $T = tV$. With STAR, the homeowner only pays taxes on the value of their house above a certain amount, say X, so their payment becomes $T_S = t(V - X) = tV(1 - X/V)$. Adding STAR, therefore, is like multiplying their original payment by $(1 - X/V)$. In other words, X/V represents the proportional decline in the price of school services for this homeowner. If X = $30,000, for example, which it is for most homeowners in New York, and if V = $150,000, then the STAR lowers the price of school services by 30,000/150,000 = 0.2 = 20 percent. In this example, we can also say that the STAR lowers the local share of additional property taxes from 100 to 80 percent.

In 2011, the district local tax share associated with STAR ranged from 42.9 percent to 93.4 percent, using median house value in the district as a base. In other words, some districts experienced a price decline above 50 percent, whereas others saw a decline of less than 10 percent. The price decline in the median district was 21 percent. This variation in the size of the STAR-induced decline in tax price reflects both variation in median house value (V in the above formulas) and variation in the STAR exemption (X). STAR gives much higher exemptions in

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[1] Eom, Tae Ho, William Duncombe, Phuong Nguyen-Hoang, and John Yinger, "The Unintended Consequences of Property Tax Relief: New York State's STAR Program," *Education Finance and Policy*, Forthcoming.

[2] My colleagues and I are not the only ones interested in STAR. See also Jonah Rockoff, "Local Response to Fiscal Incentives in Heterogeneous Communities," *Journal of Urban Economics* 68 (2) (September 2010), pp. 138–47.

counties with more expensive homes. The STAR exemption is close to $100,000 in Westchester County, for example, compared to $30,000 in most of upstate New York.[3]

We estimate that the price elasticity of demand for the STAR tax price is -0.57. This estimate, which is highly significant statistically, indicates that if the STAR tax price goes down by 1 percent, desired student performance goes up by 0.57 percent. Recall that tax-price decline in the median district is 21 percent. This elasticity estimate implies, therefore, that STAR boosts the desired student performance in the median district by (0.57)(21) = 12 percent.

Higher performance requires higher spending, of course, so the STAR price incentive also leads voters to want to spend more. Some of the extra spending does not boost student performance as we measure it, which means that it is, with this performance objective at least, "inefficient." In addition, higher spending requires higher taxes, so, ironically, STAR, a property tax relief program, encourages higher property tax rates.

The net impacts of STAR are described Table 1. These impacts apply to 2011, when the annual cost of STAR was about $3.3 billion. In the median district, STAR resulted in a 3.82 percent increase in spending and a 2.58 percent increase in student performance. The difference between these two numbers reflects a modest increase in district inefficiency as defined above. Moreover, the net increase in student performance is smaller than the 12 percent figure given earlier because higher inefficiency, which is similar to a price increase, lowers desired student performance.

These impacts varied significantly across types of districts, largely because the STAR tax shares also varied widely. Performance increased the most in upstate rural districts, for example, because their property values are very low and the cut in their tax price is correspondingly high. These performance impacts are slightly equalizing, in the sense that they are larger for poorer districts, but they are not nearly as equalizing as an equal-cost increase in New York's foundation aid program would have been.

STAR also boosted the property tax rate in the median district by 7.93 percent. If the tax rate before STAR was 2 percent, this result indicates that STAR boosted the rate to 2(1.0793) = 2.159 percent. This increase was much larger in the upstate districts, particularly the upstate Big Three (Buffalo, Rochester, and Syracuse). Because these districts receive a great deal of aid from the state, their school property tax rates are relatively low and the STAR-induced increases are relatively large in percentage terms.

Perhaps the most striking feature of these simulations is described in the last column of Table 1. In the upstate Big Three, 77.4 percent of the initial STAR tax savings has been offset by the STAR-induced increases in property tax rates. Even in the median district over one-quarter of the initial STAR tax savings has disappeared.

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[3] I regard this variation in the STAR exemption as terribly unfair, a subject covered in my May 2012 Column.

Business property is not eligible for the STAR exemptions, so column 3 shows the extent to which STAR has increased taxes on business property. The results are rather staggering: STAR, a so-called tax relief plan championed by a so-called anti-tax governor, resulted in a 30 percent increase in the property tax on business property in the upstate Big Three cities.

The impacts of STAR on property tax rates are not likely to grow in the future. As of 2011, STAR caps the increase in a homeowner's STAR tax savings at 2 percent per year. Moreover, New York State now has a property tax levy limit. This limit is ill-advised (see my June 2012 column), but it does minimize tax rate increases in response to the STAR-induced tax price declines.

Overall, STAR did deliver some property tax relief to homeowners—but a lot less that promised, particularly in poor districts. Moreover, STAR led to property tax increases on business property and encouraged school districts to spend more, resulting in small increases in student performance. These effects were all predictable[4] but were not anticipated by public officials. Local voters respond to the incentives created by state policies; to avoid unintended consequences, state policy makers need to recognize this type of response when they design changes in local taxes or state aid.

Table 1. Impacts of STAR on Sending, Student Performance, and Property Taxes

Region	Exp/Pupil	Performance	Tax Rate	Offset
Downstate Small Cities	3.22%	2.13%	4.68%	19.52%
Downstate Suburbs	2.58%	1.70%	3.64%	20.02%
Yonkers	2.54%	1.77%	6.54%	34.54%
Upstate Big Three	4.55%	3.19%	29.74%	77.42%
Upstate Rural	5.42%	3.68%	22.15%	44.83%
Upstate Small Cities	5.37%	3.67%	19.33%	39.95%
Upstate Suburbs	4.29%	2.90%	11.69%	32.35%
Statewide Mean	4.34%	2.94%	13.85%	34.29%
Median District	3.82%	2.58%	7.93%	28.05%

Notes: Exp/Pupil = expenditure per pupil; Performance = student performance index; Tax Rate = effective property tax rate; Offset = share of original tax break offset by property tax rate increase. Source: Eom et al., Forthcoming, Table 8.

[4] Indeed, they were predicted by Bill Duncombe and me: William D. Duncombe and John Yinger. 1998. "An Analysis of Two Educational Policies in New York State: Performance Standards and Property Tax Relief." In *Educational Finance to Support Higher Learning Standards*, J. H. Wyckoff (ed.), New York State Board of Regents, 98-137.