

**SYRACUSE UNIVERSITY
MAXWELL SCHOOL OF CITIZENSHIP AND PUBLIC AFFAIRS**

PAI 735
State and Local Government Finance
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**CASE:
SPENDING INCENTIVES IN NEW YORK'S SCHOOL TAX RELIEF PROGRAM¹**

Local property taxes in New York State are among the highest in the nation. This heavy reliance on the property tax combined with a wide range in wealth per pupil across districts is a major source of existing disparities in educational funding. It is not surprising, therefore, that many policy makers in New York have focused on property tax relief, not only as a way to gain political favor for cutting taxes but also as a way to add balance to the state's revenue system and to reform educational finance in the state. Indeed, one of the three most significant changes in educational finance in the state in recent years is the School Tax Relief program, STAR, which is a property tax relief program. This program was passed in 1997, fully implemented in 2001, expanded in 2007, and then changed back to its original form in 2009. The other major changes involve state education aid, which was greatly reformed and expanded in 2007 and then cut back significantly, and a 2 percent limit on annual increases in property tax revenues passed in 2011.

Scholars and policy makers continue to debate the impact of STAR on educational spending in the state. Former Governor George Pataki, the main supporter of STAR, argued that it is simply tax relief and has nothing to do with educational spending. In contrast, several scholars have argued that STAR fundamentally alters local voter's incentives to spend money for education and has resulted in significant increases in educational spending and in property tax rates in all school districts, while at the same time expanding the state's across-district revenue disparities.

It is now 2014, and New York State faces severe budget constraints due to the recent recession and slow recovery. The question for this case is whether it makes sense to continue the STAR program in its current form—if at all.

Description of STAR

In five large cities in New York (Buffalo, New York, Rochester, Syracuse, and Yonkers),

¹ This case was written by Professor John Yinger solely for the purposes of class discussion.

the school district is a department of the city government and property taxes are part of the city tax levy. Everywhere else in the state, school property taxes are levied by independent school districts. A homeowner's local school property tax payment equals the tax rate selected by her school district multiplied by the assessed value of her home, which is required to be set as near as possible to its market value. The main feature of STAR is a property tax exemption, say X , that is subtracted from assessed value, so that the tax payment becomes the rate multiplied by the amount of assessed value above the exemption. In symbols, the property tax payment, T , used to equal the tax rate, t , multiplied by the assessed value, V , or $T = tV$. With the STAR exemption in place, however, this equation becomes $T = t(V - X)$.

The STAR exemption equals a base amount of \$30,000 for the owners of owner-occupied one- to three-family houses, mobile homes, condominiums, and cooperative apartments or \$50,000 if the owner is aged 65 or older with an income below \$60,000.² School districts must provide this exemption and the State reimburses them for its cost. To give a simple example, consider a house worth \$100,000 in a school district with a 1.5 percent property tax rate. Without STAR, the owner of this house would pay a property tax of $(.015) \times (\$100,000) = \$1,500$, but with STAR, this owner's tax drops to $(.015) \times (\$100,000 - \$30,000) = \$1,050$, a tax reduction of \$450, or 30 percent. In this example, the state pays \$450 to the school district so that the exemption does not lead to a drop in school revenue.

One of the key features of the STAR exemptions is that the base amount is multiplied by a "Sales Price Differential Factor," SPDF, which is the ratio of the three-year average sales price of residential property in a district's county relative to the three-year average in the state as a whole. This factor cannot fall below 1.0. Thus, this provision greatly increases the amount of the exemption in counties with high property values. The STAR exemptions also are multiplied by an "Equalization Factor," which accounts for the fact that not all assessing districts assess property at 100 percent of market value.

The Distributional Effects of STAR

STAR raises many issues of concern to voters and public officials. Some of the most important concerns involve equity across taxpayers and school districts. For example, a property tax exemption promotes equity across taxpayers by lowering the tax burden the most (in percentage terms) on taxpayers with the smallest property values, and therefore with the least ability to pay. However, STAR's "Sales Price Differential Factor," offsets this equity improvement by giving a larger tax break to taxpayers in higher-wealth counties. The impact of the SPDF on STAR exemptions is shown in Figure 1. The exemption is still \$30,000 in most of the upstate school districts, but it exceeds \$30,000 in all of the downstate districts, and is currently set at about \$95,000 in Westchester County.

Another source of inequity is the fact that STAR does not provide any tax relief for renters. As a result, the amount of implicit aid per pupil is much lower in school districts in

² Starting in 2011-12, homeowners with family incomes above \$500,000 are no longer eligible for STAR exemptions. This provision obviously affects only a small fraction of homeowners.

which renters make up a large share of households. As shown in Table 1, for example, the value of STAR exemptions in 2011-12 was only \$591 per pupil in the upstate big cities compared to \$2,090 in small cities downstate and \$1,856 in downstate suburbs. One way to address this equity would be through an income tax rebate for renters, set perhaps as a percentage of their rent multiplied by the local property tax rate. This would be consistent with the approach taken by the STAR income tax rebate for owners, which was in place from 2007 to 2009. Another possible approach would be to extend STAR to the owners of rental property. To the extent that landlords live in the school district where their properties are located, this approach would increase state reimbursement to high-renter districts. In addition, it would probably help renters eventually as the tax relief for landlords made its way into rents. After all, if property taxes are shifted onto tenants in the form of higher rents, lower property taxes on rental housing should lead to lower rents.

In a 2006 opinion in the *Campaign for Fiscal Equity v. New York*, the Court of Appeals, which is the state's highest court, found that the State of New York had failed to live up to its constitutional responsibility for ensuring an adequate education in New York City. The State was required to increase its operating aid and building aid to the NYC schools. The funding disparities in STAR do not appear to be consistent with the constitutional principles established by this case, although no court has ruled on this matter. Even without a legal ruling, however, it is clear that the funding for STAR, now about \$3.3 billion, is funding that could go to improving the equity of state aid to schools. The opportunity cost of using this funding for property tax relief is particularly high at the current time, because funding for schools was cut back significantly, in needy districts as well as others, in response to the recession. Many scholars have also pointed out that state aid to education is actually a form of property tax relief; districts that receive more state aid tend to cut their property taxes.³ The issue is not really whether it is better to provide tax relief or to provide state education aid. Instead, the issue is how to design an education finance system that provides adequate revenue, gives districts an incentive to act as efficiently as possible, and minimizes student performance disparities across districts.

How STAR Affects Voters' Tax Prices and School District Spending

Another feature of STAR is equally important but more difficult to understand, namely the fact that it alters the "tax price" faced by voters. The tax price is the voters' share of any increase in property taxes to pay for schools. This tax price varies widely across school districts, largely because some districts have far more commercial and industrial property than others. The tax price is lower in a district with a great deal of commercial and industrial property because much of the burden of any school tax increase falls on commercial and industrial taxpayers, not on homeowners and other voters. In effect, the tax price operates like any other price; the higher the price, the more consumers substitute away from a product toward other products. Just as consumers buy less coffee if the price of coffee is higher, they will vote for less

³ William D. Duncombe and John Yinger. "Alternative Paths to Property Tax Relief." In *Property Taxation and Local Government Finance*, edited by W.E. Oates (Cambridge, MA: Lincoln Institute of Land Policy, 2001), pp. 243-294.

spending on schools if the tax price is higher.

This tax-price effect is not just hypothetical. Dozens of academic studies have shown that spending (for schools and for other local public services) is higher if the tax price is lower. These results are usually expressed as an elasticity, which indicates the percentage change in spending for a one percent change in tax price. Most studies estimate that the price elasticity of demand for public services is in the -0.1 to -0.5 range.⁴ With a price elasticity of -0.5, for example, a one percent increase in the tax price results in a -0.5 percent decline in the demand for school quality, as measured, in this case, by student test scores. A decline in school quality is accompanied, of course, by a decline in school spending.

Several of these studies also have found that this tax-price effect can work through state aid programs. In particular, a so-called matching program is designed so that the state pays a certain share of every dollar spent on education. If the matching rate is 33 percent, for example, then state's share of every dollar of spending approved by local voters is \$0.33 and the voters themselves have to pay only \$0.67. In effect, therefore, the local tax share equals one minus the matching rate. According to these studies, the higher the matching rate, and hence the lower the local tax price, the higher local spending on education.

The easiest way to derive an expression for a tax price is to combine a single voter's budget constraint with the budget constraint for a school district. A simple version of this process begins by defining non-housing commodities, Z , which sell for a price of P_Z per unit and housing, H , which sells for a price of P_H per square foot.⁵ A voter sets her income, Y , equal to her spending on non-housing commodities, $P_Z Z$, plus her spending on housing, $P_H H$, plus her property tax payment, tV [or $t(V - X)$ with STAR in place]. A district's tax base is the sum of property values across households and can be summarized by property value per pupil, V^* . A district must set spending per pupil, E , equal to total property tax revenue per pupil, tV^* , plus state aid per pupil, A . With STAR in place, the district must provide exemptions equal to tX^* , where X^* is the total value of exemptions in the district per pupil, but the state compensates the district for these payments. In equation form:

	Without STAR	With STAR
Individual Budget Constraint	$Y = P_Z Z + P_H H + tV$	$Y = P_Z Z + P_H H + t(V - X)$
District Budget Constraint	$E = tV^* + A$	$E = t(V^* - X) + A + tX^*$ $= tV^* + A$

⁴ See Ronald C. Fisher and Leslie E. Papke. "Local Government Responses to Education Grants." *National Tax Journal* 53 (March 2000), pp. 153-168.

⁵ This version of the problem leaves out some items that are not essential for the derivation of a tax price, such as household borrowing or school district revenues other than property taxes, and state matching aid.

Now a little simple algebra leads to the tax price. With or without STAR, solving the district budget constraint for t yields $t = (E - A)/V^*$. Substituting this expression for t into the individual budget constraint yields the following combined budget constraint:

	Without STAR	With STAR
Combined Budget Constraint	$Y = P_Z Z + P_H H + [V/V^*](E-A)$	$Y = P_Z Z + P_H H + [(V-X)/V^*](E-A)$

In these combined budget constraints, income is spent on three things, non-housing, Z , housing, H , and school spending per pupil above state aid, $(E - A)$. In each case the amount consumed is multiplied by a “price.” Without STAR, the amount a voter must pay for each dollar of school spending per pupil above state aid is the value of the voter’s house divided by property value per pupil in the district, $[V/V^*]$; in other words, $[V/V^*]$ is the voter’s tax price. Once STAR is added, the tax price drops to $[(V - X)/V^*]$.

For example, consider a district in which every house has an assessed value of \$100,000 and is the home to a single student. Then without STAR, the tax price is $100,000/100,000 = 1$ for every voter; when all houses are alike, each voter must pay \$1 to raise spending by \$1 per pupil. Adding STAR, with its \$30,000 exemption, cuts the tax price in this district to $(100,000 - 30,000)/100,000 = 0.7$, which is equivalent to a 30 percent price cut.

In a less homogeneous district, voters who have a relatively expensive house will have a relatively high tax price. If the average house in a district is worth \$100,000 then the owner of a house worth \$200,000 faces a tax price of $200,000/100,000 = 2.0$ (again assuming, for the purposes of illustration only, one pupil per household). Intuitively, any increase in the tax rate to increase spending per pupil will have twice the impact on the owner of a \$200,000 house than on the owner of a \$100,000 house. Moreover, STAR will have a bigger effect on the tax price of a voter with a lower-valued house (ignoring the “Sales Price Differential Factor”). When STAR is implemented, the owner of the \$200,000 house will see her tax price drop from 2.0 to $(200,000 - 30,000)/100,000 = 1.7$, which is a 15 percent drop.

Because not all voters have the same tax price (or the same change in tax price from STAR), one cannot predict the amount of spending selected by a school district (or the change in its spending in response to STAR) without selecting a “decisive voter,” defined as the voter whose demand for spending coincides with the spending level selected by the majority of voters. The most common approach, which works well in many circumstances, is to say that the decisive voter is the one with the median house value in the community, V_M . With this approach, a district’s tax price is V_M / V^* without STAR and $(V_M - X)/V^*$ with STAR, and the difference between these two tax prices can be used to predict how much the district’s educational spending will increase when STAR is implemented. The percentage change in tax price will, of course, also be influenced by the amount of commercial and industrial property in the district and the

number of pupils per household, both of which affect V^* .

When Governor Pataki and the New York State Legislature passed STAR, they did not recognize that the design of the program altered voter's incentives in such a direct way. This impact on incentives could have been avoided. The key problem is that the total value of the STAR payments to a district from the state depends on the tax rate the district selects. An alternative design that would not have this problem would be to calculate STAR reimbursements using the pre-STAR tax rate selected by the district. Suppose this pre-STAR tax rate is t' . Then the reimbursement from the state would equal $t'V^*$ instead of tV^* , and the district could no longer increase its reimbursement by increasing its tax rate. In this case, the district budget constraint can be written $E = t(V^* - X) + t'V^* + A$, and the tax price becomes $(V - X)/(V^* - X)$. With this new formulation, X obviously no longer affects the tax price in a homogeneous community and has a substantially smaller impact on the tax price even when V differs from V^* . A similar approach would be to base a district's STAR reimbursement on the average tax rate in the state instead of on the district's own tax rate. These alternative designs have never been seriously considered.

The Predicted Impacts STAR

Perhaps the most basic theorem in economics is that people substitute toward goods and services when their price goes down. Because STAR causes such large declines in tax prices, some scholars predicted that it will result in a large increase in educational spending. In the average school district in New York, STAR initially lowered the tax price by 37 percent. A price cut of this magnitude could induce voters to want to spend considerably more on education. In an article published in 1998, two scholars from the Maxwell School at Syracuse University used an elasticity of -0.45, which as widely used by scholars in other contexts, to predict the impact of STAR.⁶ With this elasticity, a 37 percent cut in tax price would result in a $(.37)(.45) = 16.65$ percent increase in spending per pupil in the average district. To fund a spending increase of this magnitude, the local property tax rate would have to increase by over one-third in the average district. In an article published later the same year, the same authors estimated a price elasticity for New York State based on variation in tax prices before STAR of -0.3133.⁷ With this elasticity, the expected increase in spending from STAR becomes $(.37)(.3133) = 11.6$ percent.

These predictions raised three important issues for state policy. First, they implied that STAR would cause different changes in school spending in different types of district. As a result, STAR might increase the disparities in spending between city and suburban school districts, and thereby magnify the constitutional problems with New York's school funding,

⁶ William D. Duncombe, and John Yinger. "An Analysis of Two Educational Policies in New York State: Performance Standards and Property Tax Relief." In *Educational Finance to Support Higher Learning Standards*, edited by J. H. Wyckoff (Albany: New York State Board of Regents, 1998), pp. 98-137.

⁷ William D. Duncombe, and John Yinger. "School Finance Reform: Aid Formulas and Equity Objectives," *National Tax Journal* 51 (June 1998), pp. 239-262.

which were identified in the CFE case.

Second, these predictions implied that STAR would result in a large increase in local property taxes on commercial and industrial property. This type of property does not receive a STAR exemption, but it is affected by any increase in the school property tax rate. As noted earlier, New York State is already perceived as a high-tax state, and many business leaders and public officials argue that the high property taxes in the state are a serious deterrent to attracting new business. According to this widely held view, a 33 percent increase in property tax rates in the average school district would be devastating for the State's economic development prospects.

Third, these predictions implied that the official estimates of the cost of STAR, which assume no local spending increases, were far too low. STAR obligates the State to pay each district an amount per pupil equal to tX^* , where, as defined earlier, t is the district's property tax rate and X^* is the total value of its STAR exemptions per pupil. If t goes up, so does the cost to the state. If the local property tax rate increased by one-third in the average district, then the overall cost of STAR to the State would also increase by one-third.

The Actual Impacts STAR

An economist at Columbia University, Jonah Rockoff, was the first to publish an analysis of the actual impact of STAR.⁸ This study looked at the initial impact of STAR. Rockoff concluded that his

analysis suggests that NYSTAR had important impacts on school expenditure and taxation. A typical school district, which received 20% of its revenue through NYSTAR in the school year 2001–2002, raised operational expenditure by 4.1% and local property taxes by 6.8% in response to fiscal incentives. This implies substantial crowd-out of tax relief for households owning relatively expensive homes and a considerable increase in taxes for owners of non-residential property, second homes, or rental property.

Although this is a high-quality study in a good professional journal, it looks only at the initial impacts of STAR and does not attempt to determine STAR's impacts on student performance or on school district efficiency. The increases in spending in this study could reflect an increase in school spending that leads to higher student performance or they could reflect an increase in wasteful spending by school districts.

Another academic study attempts to address these two limitations by examining data through 2011-12 and by estimating separate impacts on student performance and on school district efficiency.⁹ School district efficiency cannot be directly observed, so this study accounts

⁸ Jonah E. Rockoff, "Local Response to Fiscal Incentives in Heterogeneous Communities." *Journal of Urban Economics* 68 (2010), pp. 138–147

⁹ Tae Ho Eom, William D. Duncombe, Phuong Nguyen-Hoang, and John Yinger. "The Unintended Consequences of Property Tax Relief: New York's STAR Program." Working Paper, Center for Policy

for school district inefficiency by controlling for factors that are thought to influence school administrators' incentives to act efficiently or voters' incentives to monitor school officials' behavior. (For example, voters facing a high tax price might be more eager to make certain that their tax money was well spent.)

The price elasticity estimated by this study for the STAR component of tax price is about -0.65. As shown in Table 2, the associated longer-term impacts of STAR are similar to those estimated by Rockoff. The impacts of STAR on spending and tax rates are 3.8 and 12.5 percent, respectively. Moreover, the increase in school spending reflects both an improvement in student performance (3.2 percent) and a decline in school district efficiency (3.8 percent). The spending effects are fairly similar across district types, but the impacts on property tax rates are much larger in the upstate Big Three (Buffalo, Rochester, and Syracuse) and in upstate rural districts than elsewhere. Indeed, the tax-rate effects in the upstate Big Three offset over 60 percent of the initial tax savings from the STAR exemptions.

The Case for Retaining STAR

Some people continue to defend STAR. They argue that estimated price elasticities are simply irrelevant for STAR, which is, they say, nothing more than tax relief. Voters may spend more on education, they concede, when there is a lot of commercial and industrial property in a district to share the tax burden, but voters will never make the connection between their exemptions and the "price" of education. STAR is a popular way to deliver tax relief, they say, and should not be altered.

Moreover, even if voters are tempted to increase spending due to lower tax prices, STAR supporters say, the new property tax cap passed in New York in 2011 limits spending increases for municipalities and school districts to 2 percent per year or the rate of inflation (as measured by the CPI), whichever is less. To prevent disincentives for local growth, this limitation does not apply to taxes on new construction or additions to existing property in the year that this construction takes place.¹⁰ Jurisdictions can override this limit if 60 percent of the voters agree, but this super-majority requirement is proving to be a severe hurdle. In the spring of 2013, "only 28 of the 669 school districts in New York that held budget votes dared to attempt an override of their tax cap for the 2013-14 school year. Most couldn't reach the 60 percent supermajority to succeed. Seven passed, 21 failed. Of the 21 that failed, 14—or 67 percent of them—garnered more than 50 percent voter approval."¹¹

Supporters of STAR also say that the SPDF does not raise any equity concerns. As former Governor Pataki put it when he proposed STAR, this provision simply recognizes that the

Research, Syracuse University, November 2013.

¹⁰ For more details on New York's property tax cap, see <http://www.osc.state.ny.us/localgov/realprop/pdf/legislationsummary.pdf>.

¹¹ Ned Hoskin, "Tax Cap Widens Funding Gap," <https://www.nysut.org/news/nysut-united/issues/2013/december-2013-january-2014/tax-cap-widens-funding-gap>.

cost of living is higher in some counties than in others. Mr. Pataki did not explain why the other state taxes in New York, including the income tax, do not account for the cost of living or why it is the State's responsibility to compensate people who decide to move into a high-cost location. After all, people have a choice about where to live, and firms that want to attract people to a high-cost location may already have to pay them higher wages.

Finally, STAR supporters continue to defend the exclusion of renters. Some supporters argue that it is appropriate to limit property tax breaks to households who have made a commitment to a community by buying a house there. Furthermore, the implications of the renter exclusion for state reimbursement per pupil are irrelevant, they say, because this is a property tax relief program, not a form of state aid. Others point out that the owners of rental property, not the renters themselves, pay property taxes on rental housing. Renters might pay some of the property tax in the form of higher rents, these supporters concede, but the amount of the tax that is shifted to renters in this manner is unknown and may be small.

The Debate

Leaders of the New York State Senate and Assembly are looking for ways to save money and they are concerned about rising local property tax rates in the state and possible inequity across school districts. They have decided that it is time to take a closer look at STAR and have scheduled hearings for this purpose. They recognize that STAR is popular, particularly in the wealthy suburbs around New York City, but they are willing to consider revisions to the STAR legislation.

You and other members of the group you represent have been invited to testify at a STAR hearing before a committee of the New York Assembly. You have been asked by this committee to give a presentation concerning your views on the strengths and weaknesses of STAR and to either defend the current version of STAR or to suggest revisions. This hearing will not consider eliminating STAR altogether, although that subject may be on the agenda for future hearings, depending on how serious the problems with STAR appear to be. The committee has not limited your presentation to any particular features or impacts of STAR; instead, it wants to hear your views about STAR and about the features of STAR that need to be reformed, if any.

If you wish, you may also submit a short (two-page) memo to the committee presenting your views on the strengths and weaknesses of STAR and your recommendations for reform.

Figure 1. STAR Exemptions in Various Counties, Including Rebates

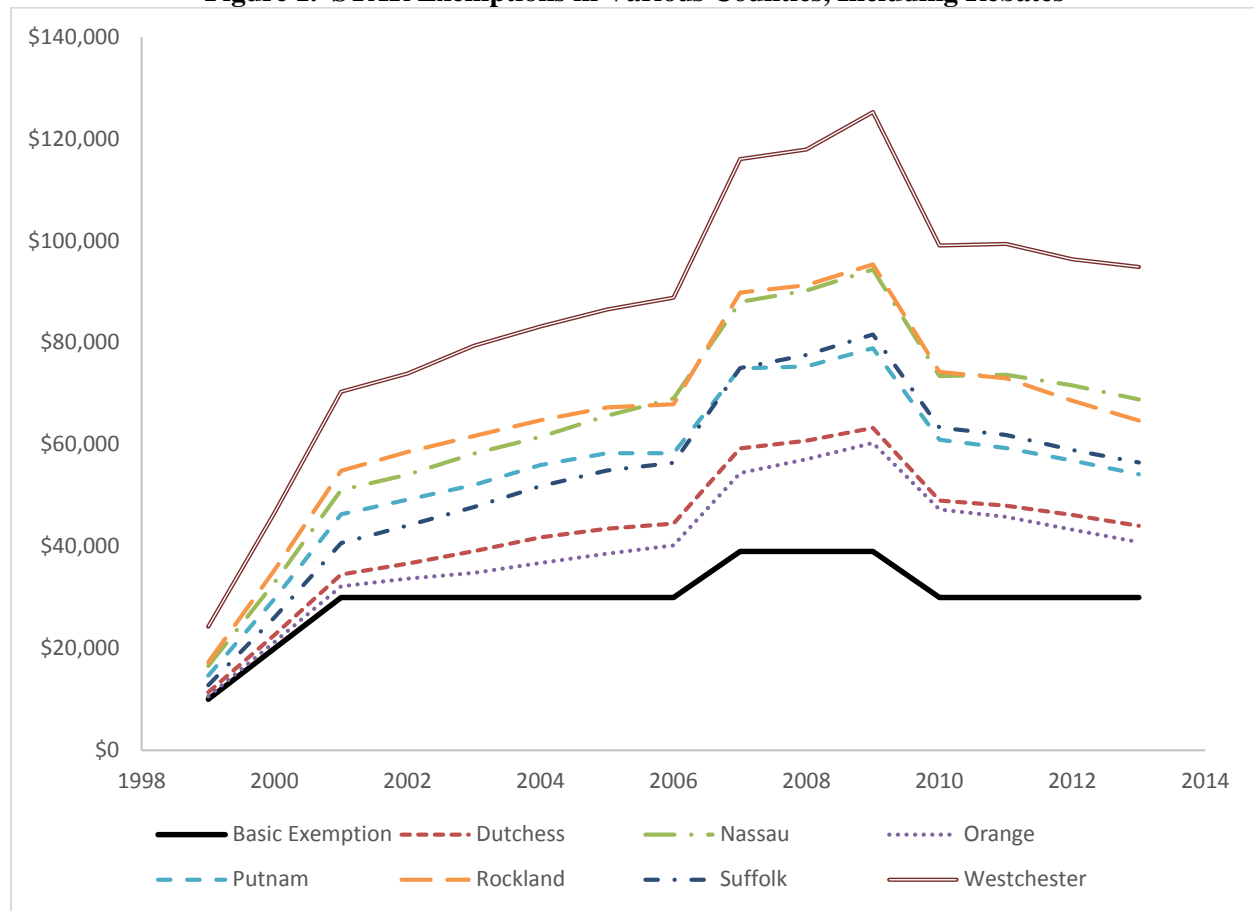


Table 1. School District STAR Savings by NYSED Regions

	STAR savings per pupil (\$)			STAR savings as % of state aid			STAR savings as % of total operating spending		
	2002	2006	2011	2001	2006	2011	2002	2006	2011
Downstate Small Cities	1,498	2,061	2,090	39.7	50.1	49.2	10.7	11.3	9.7
Downstate Suburbs	1,316	1,669	1,856	37.6	41.8	39.5	9.9	9.9	8.9
Big Four	479	614	591	6.0	6.2	4.7	4.2	4.3	3.5
Upstate Small Cities	841	1,047	1,012	13.9	15.2	11.6	8.2	8.1	6.4
Upstate Rural	773	1,024	1,034	11.1	12.8	10.2	7.7	7.9	6.2
Upstate Suburbs	1,010	1,244	1,295	20.8	22.6	19.7	10.5	10.3	8.6

Note: This table presents savings from both basic and enhanced STAR exemptions. The big four are Buffalo, Rochester, Syracuse, and Yonkers. Source: Eom et al. (2013).

Table 2: Impacts of STAR on Student Performance, Efficiency, Spending, and Property Tax Rates

Type of District	Percentage Impact on				Percentage Offset of Initial Tax Savings
	Student Performance Index	School District Efficiency	School Spending per Pupil	Effective Property Tax Rate	
Downstate Small Cities	2.32%	-2.86%	2.88%	3.92%	16.77%
Downstate Suburbs	1.84%	-2.31%	2.31%	3.00%	16.85%
Yonkers	2.00%	-2.17%	2.16%	4.31%	22.79%
Upstate Big Three	3.65%	-3.65%	3.67%	25.12%	62.32%
Upstate Rural Districts	4.07%	-4.60%	4.73%	20.51%	40.73%
Upstate Small Cities	4.06%	-4.55%	4.67%	13.99%	29.74%
Upstate Suburbs	3.18%	-3.73%	3.79%	11.01%	29.59%
Mean District in State	3.23%	-3.75%	3.82%	12.49%	30.38%
Median District in State	2.79%	-3.37%	3.40%	6.75%	23.56%

Source: Eom et al. (2013).