

Reducing New York's Reliance on the School Property Tax

ROBERT P. STRAUSS

The purpose of this paper is to summarize arguments for and against the replacement of the local school property tax by a local school income tax, and to explore the empirical effects of such policies for New York State. Section 2 discusses the conceptual questions and arguments in favor and against such a change in school finance; Section 3 provides some empirical information about current New York State school finance, and develops an enrollment-per capita income framework to summarize alternatives to current law.

Section 4 shows the results of two different property tax replacement strategies:

- replacing the 1992 local school property tax or local residential school property tax with a local option income tax of essentially unlimited rate while maintaining the current state school aid formula; and,
- replacing just the 1992 local residential school property tax with a 3 percent local income tax, and guaranteeing each student access to the median outlay per student in 1992 (\$8,068) in lieu of the current state school aid formula; districts wishing to spend beyond the guaranteed amount would have the authority to enact an additional local option income tax of essentially unlimited rate.

Of interest is the finding that use of a local 3 percent income tax and a refashioning of 1992 state aid to local districts to a foundation level of \$8,068 per pupil would not require substantial new state revenues, although it would leave some districts below their 1992 spending levels unless they were able to impose

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an elective local income tax beyond that necessary to achieve the guarantee of \$8,068 per pupil.

The fifth section concludes and outlines remaining research and public policy questions.

RATIONALES FOR REPLACING THE LOCAL SCHOOL PROPERTY TAX WITH A LOCAL INCOME TAX

In New York, the state and local executive and legislative branches of government involved in public education, like their counterparts in other states, continue to face a combination of public and private pressures for more revenues to finance public education, and pressures for improved local school performance. In conjunction with these pressures on state public institutions, which finance and regulate local public education, there exists a tension between what is usually described as "local control" and the legal fact that school districts are constitutional creatures of state invention, and are ultimately responsible for delivering services pursuant to state law. "Local control" has been variously described as a mechanism through which the local democratic process (e.g., representatives of citizens through local volunteer school boards) ensure that monies are effectively spent, and that local values are instilled through the educational process. It has been observed, however, that volunteers empowered to spend others' (state-raised) monies are less likely to be careful or insistent in their oversight of school administration. Also, advocates of the "local control" view often minimize the advantages which larger districts have in delivering a more diverse set of curricula. That is, economies of scale are sometimes viewed as less important than local control which is enhanced in smaller school districts.

Recent major fiscal actions in Oregon and Michigan¹ signal more activist and interventionist roles for state governments in public education than in the past. In Michigan, radical revamping of state and local roles will lead to the state paying 80 percent of total local school costs. Prior to the upheaval in school finance there, the state paid about 30 percent. Moreover, the state is insisting that, over time, a core curriculum be defined in conjunction with greater state financing. In Oregon, Act 5 is expected to result in 50 percent of every state dollar being spent on public education by the end of the century, with a growing state presence in terms of state oversight of the educational process.

1. See Philip Kearney, "Reducing Local School Property Taxes: Recent Experiences in Michigan," *Journal of Education Finance* 21 (1995): 165-185.

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Not only are Oregon and Michigan's state involvement in local public education increasing, but they are moving systematically away from the property tax as a source of school finance.

These changes in other states' systems of school finance are mentioned to indicate that major restructuring is occurring in other states. Below, I examine the implications of changing the local revenue source for public education in New York from the local school property tax to combinations of a local income tax and different patterns of state school aid. In so doing, I recognize that changing the nature of New York's local school finance could easily lead to a greater presence of state government in indicating what must be accomplished with relatively greater state dollars. This may be at variance with New York traditions of local control.

However, if access to a minimum standard of education is to be delivered throughout the state, the current great diversity in educational resources available to local school districts must be addressed, or at least averaged up through greater state funding of public education.

The focus in this study will be on schools' finances; however, it is this author's view that a greater state role coupled with greater state resources should be accompanied by greater accountability and increased scrutiny of the productivity of school resources.²

In reaching the conclusion that a local income tax is a sensible alternative local tax source for financing public education, no judgement is made about what level of revenues should be generated for public education at the state and local level. The observed levels of public education support (in 1992-93) are taken as a point of departure, and it is assumed that the general level of state support of public education will be maintained in the near term. Also, it is assumed that local school districts are interested in devoting the same level of local resources to public education as they do currently. At issue, then, is both the rationale and im-

2. For evidence on the conjecture that student competency and achievement can be improved through the selection of teachers who do better on the National Teacher Exam, see Robert P. Strauss and Elizabeth Sawyer "Some New Evidence on Teacher and Student Competencies." *Economics of Education Review* 5, no. 1 (1986): 41-48; and Ronald Ferguson, "Paying for Public Education: New Evidence on How and Why Money Matters," *Harvard Journal of Legislation* 28, no. 2 (1991): 465-498; Also, see Eric A. Hanushek, et. al., *Making Schools Work: Improving Performance and Controlling Costs* (Washington, DC: The Brookings Institution, 1994); for a survey of economic and management issues related to improving performance and controlling costs, and Allan Odden, "Finding Resources by Changing Management and Organization" (Policy Brief prepared for The New York State Board of Regents, New York Education Department, Albany, N.Y., 1995) for a discussion of the effects of improved school management and school organization.

plications of changing the local source of revenues, and also adjusting state aid to local school districts.

While I endeavor below to work through systematically the implications of moving from the local school property tax to the local school income tax, and present a significant amount of empirical results, this effort should be viewed as a first analysis of such a far-reaching change to a complex financial system. Some empirical conclusions require replication, and a number of questions raised by the research require further consideration.

A CONCEPTUAL FRAMEWORK FOR FINANCING STATE AND LOCAL SERVICES

FINANCING EDUCATION, HEALTH, AND PUBLIC WELFARE

Public support of education has been traditionally argued in the U.S. as the single most important way that children of any socioeconomic background can further themselves, and through their subsequent efforts in the world of work, further economic growth. Virtually every state constitution or state enabling legislation dealing with education obligates parents to send their children to public schools or an acceptable alternative. Not only are there likely to be economic benefits which will accrue to children of various backgrounds which can not be readily predicted, but a better educated public improves the overall quality of life for all. Thus, public education functions as a form of social insurance, and as a way to create future public benefits for society. We obligate ourselves through state and local taxation to support the costs of public education.

Since public education represents an important form of income redistribution, it follows that it should be financed out of broad, ability to pay taxes.³

Under this theory of taxation, each of us should sacrifice according to our ability to pay to support such redistributive or "merit goods." Typically, a broad income or consumption tax is viewed as the appropriate instrument to effect ability to pay taxation.

It is quite apparent that, while income and/or broad consumption taxation is a rational source of school finance at the state level, and the local income tax is a rational source of school finance at the local level, local schools have been given access by state legislatures to only the local property tax as their major rev-

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venue source. The chief virtues of the local property tax are usually argued to be its stability of tax base, its ability to reach to business at the local level, and the fact that it already is in place.

Aside from the problems of ensuring equitable and timely assessment practices, the local property tax is not usually viewed as an ability to pay revenue source.⁴

For especially the elderly, the illiquidity of the tax base can cause significant difficulty in complying with tax bills. It is oft-said that the local property tax extracts taxes from many who are paper-wealthy, and income poor. Also, because of lags in the assessment process, it is oft-said that the local property tax is not as elastic or growth oriented as broad-based income or sales taxes. As a result, millages must be more frequently increased with attending political disputes.

The financing of other redistributive activities such as welfare and health should follow the same pattern as public education. In each instance, pricing the services (rather than financing them through ability to pay taxes) results in defeating the very redistributive objective one seeks to achieve.

FINANCING MUNICIPAL SERVICES

Other public services, which benefit with greater predictability or certainty, should be priced through user fees. For municipal services such as fire and police, which protect real property and provide an insurance function of another sort, the local real property tax imposed at a single uniform tax rate, provides a strong link between taxes paid and benefits received. More valuable property entails higher taxes which presumably reflect the greater value of the protection which they afford.

While public education is financed in New York by state in-

4. See Helen F. Ladd and Edmund W. Harris "Statewide Taxation of Nonresidential Property for Education," *Journal of Education Finance* 21 (1995): 103-122., for an argument for statewide taxation of nonresidential property in the support of public education with empirical analysis for New York, and Helen F. Ladd, "State-wide Taxation of Commercial and Industrial Property for Education," *National Tax Journal* 29, no. 2 (1976):143-153; for an earlier analysis in the Massachusetts' context. See Catherine Clark's article, "Regional School Taxing Units: The Texas Experience," *Journal of Education Finance* 21 (1995): 87-102, for a discussion of the Texas experience in using regional property taxes to support local public education costs.

Also, see Dick Netzer *Economics of the Property Tax* (Washington, D.C.: The Brookings Institution, 1966) for a general discussion of the advantages and disadvantages of the property tax. See Dick Netzer, and Robert Berne article, "New York State's Property Tax," *Journal of Education Finance* 21 (1995): 38-56, that details a variety of problems with the current New York property tax; and "Property Taxation, Taxpayer Burden and Local Educational Finance in New York" the paper by Hamilton Lankford and James Wyckoff, *Journal of Education Finance* 21 (1995): 57-86 for a discussion of distributional aspects of New York's property tax.

come and consumption taxes, and in accord with the above principles, the local source of finance is almost entirely the local school property tax. While perhaps a stable source of revenue, the local school property tax is, as noted earlier, hardly an ability to pay tax. Indeed, for some local school districts, the residential property tax is the minor source of local revenue, while the tax on commercial and industrial property is the major source of local school finance. The presence of major utilities or shopping centers confer tax windfalls to local residents and their children, in the sense that the local costs of public education are borne by the owners and customers of these facilities rather than the residents of the school district. As a result, residents bear little of the costs of education, and can, with very low millages, provide very substantial resources to public education. Others in districts with more residential property or agricultural property, by contrast, must directly bear the burden of local school finance. Such circumstances raise questions of fairness and horizontal equity.

In other major industrial states, public utilities are not only state-assessed, as they are in part in New York, but are taxed at one statewide rate and the proceeds redistributed statewide to municipalities and school districts.⁵

With the case for using a local income tax in lieu of a local property tax to support public education, we turn now to discuss the issues raised by such a tax substitution.

ISSUES OF THE LOCAL INCOME TAX

If one accepts the notion that the local income tax should replace in some way the local school property tax, one must address several important design issues that have arisen in other states when such a tax substitution has been contemplated:

1. Should the local income tax rate be fixed (by state law), or variable at the discretion of the local school district?
2. Given that a local business income tax creates both economic dislocation and serious administrative problems (primarily involving the attribution of local profits from regional if not multistate or multinational economic activity), how does one avoid a massive shift in tax burden if not incidence from business to households as one moves from the local school property tax (on households and

5. See New York Board of Equalization and Assessment's 1989 survey, *A Summary of Railroad and Utility Taxation Practices Among the States* (New York Board of Equalization and Assessment: Albany, NY, 1993).

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business) to a local household income tax?

3. Should the local income tax rate be allowed to be progressive in application within a district within an accounting period?
4. Should a local income tax be administered by the state, or by local taxing authorities? What are the details of administering a local income tax, especially in view of the mobility of our society?

Since the state role in public education contemplated below is for the state to guarantee to each student, throughout the state, a minimum standard of educational access/services, it follows that the state should require a minimum local income tax contribution by each household in support of this public education. The discrepancy between the guaranteed amount and what is locally available in local revenues is then financed by state formula aid assistance. Operationally, I treat this below as either a 2 percent or 3 percent local income tax which is used to offset in part the costs of reaching the guarantee.

To the extent that a school district's residents have below average income, the fiscal responsibility of the state will be greater in making up the guarantee amount per student. Conversely, where local income is above average, then less state aid will be needed. In this way, a local proportional income tax in tandem with state aid from a progressive state income tax, can result in financial redistribution in the financing of basic educational services.

With regard to the use of a progressive rate schedule by school district, it would appear that requiring a proportional local income tax would minimize the potential movement by high income families to rich areas to diminish their overall level of taxation.⁶

With regard to maintaining historical relations between nominal local business tax support of public education and household support,⁷ several answers are possible. First, whether what we

6. It may also be the case that this sorting out has already occurred. See Tom Nechyba, "Fiscal Federalism and Local Public Finance: A General Equilibrium Approach with Voting" (Ph.D. diss., University of Rochester, 1994), for example.

7. The issue of the proper balance raises the underlying question of the ultimate incidence of taxes on business. If business taxes are entirely passed on to consumers, then consumers would bear the final incidence of local property taxes; if business owners and/or employees bear the ultimate incidence through reduced incomes of local property taxes, then their incomes will be reduced by the property taxes. If business suppliers find their prices reduced by pressure from their buyers, then the property tax has a different incidence effect.

By analyzing the type of public service and its appropriate revenue source, one abstracts from incidence arguments at the outset. What is certain is that households pay business taxes one way or another, either in their role as consumers, employees (and as actual or potential pension beneficiaries), and/or as owners of corporate interests.

now observe is correct or desirable is unclear. Allowing households to pay relatively more than they do currently may encourage greater care and interest in the spending of local school monies.

Second, if we do wish to maintain the current balance between business and household taxation⁸ one may classify the local property tax, and replace only the residential property tax with a local income tax, or we can provide some form of property tax exemption (usually called a homestead exemption) which will have the general effect of reducing household but not industrial or commercial property taxes.

Classification usually means that the assessment ratio applied to market value can vary by type of property or the property tax rate on assessed value can vary by type of property.⁹

Below, primarily because of data availability, we shall examine either eliminating overall the school property tax or classifying the local property tax and eliminating the residential portion of the school property tax. This is equivalent, of course, to retaining the property tax on all other types of real property: commercial, industrial, vacant, and agricultural lands.

It should be noted that business often finds offensive the differential classification of real property in terms of tax rates or stated assessment ratios. Their concern revolves around the possibility that business property will be more heavily taxed than before once it is isolated from residential. There are a number of techniques to forestall such subsequent fiscal shifts. One way is to provide through state law mandatory assessment ratios for different types of property, and provide for reasonable standards of evidence upon appeal. Alternatively, if 100 percent market value is the assessment standard, then state limitations on differential millages can be provided through law. To the extent that movement from the residential property tax to a local income tax is at

8. The issue of balance has been of legislative concern in other states. For example, Illinois has a constitutional provision that puts a maximum on the ratio of the state corporate net income tax rate to the personal income tax rate. In Pennsylvania, the issue of relationship between business and personal income taxes was part of the political agreement underlying a constitutional amendment permitting a state personal income tax in 1972.

9. In "1992 Census of Governments: Taxable Property Values, vol 2." (U.S. Bureau of the Census, Governments Division: Washington, D.C., 1994) the Census Bureau reports as of 1991 that 14 states permit differential assessment ratios or equalization categories—Alabama (3), Arizona (13), Colorado (3), Kansas (4), Louisiana (5), Michigan (6), Mississippi (5), Missouri (3+), Montana (9), North Dakota (4), South Carolina (7), Tennessee (3), Utah (2) and Wyoming (2). California has two standards for assessment that look at date of ownership. Massachusetts and the District of Columbia permit different tax rates, while Minnesota applies "percentage adjustments" to market value data to achieve classification.

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the discretion of local school districts, then one can require that personal income tax receipts be offset, dollar for dollar, by local residential property tax reductions, and/or provide for a limited amount of revenue growth (inflation plus enrollment growth rates, for example).

Administration of a local income tax can be achieved in a variety of ways. Critical to any approach is the systematic improvement of residence information of the state income tax.¹⁰

Once local taxpayers realize that their local income taxes go to finance local public education, they will have a greater incentive to report where they live. During the year, employers through the withholding of wages and salaries can improve the residence information with the help of public agencies such as the New York Department of Taxation and Finance, and private organizations such as the National Association of Payroll Officers.

The U.S. Bureau of the Census maintains a complete inventory of actual physical addresses to administer the decennial census. Moreover, the Bureau aggregates Census data from the Census to the local school district level. This geographic information can be used in conjunction with the administration of the state personal income tax to improve the information on school district of residence.¹¹

Whether the state or local school district should administer a local income tax depends in part on which kind of tax, e.g., entirely fixed in local tax rate, entirely variable in local tax rate, or variable in local tax rate above a threshold rate, say of 2 or 3 percent. In Maryland, which has essentially county school districts, the local income tax is a surcharge on the state liability; county governments are given a range of allowable surcharge tax rates. Withholding is performed during the year with proceeds going to the state government, and reconciliation at the end of the year occurs in conjunction with the filing of the state personal income tax form. In this way, the tax on dividends, interest, and capital gains is levied. During the year, the state government makes payments to counties, and makes a final reconciliation after the

10. Applying a local school income tax on residents, and thus foregoing a commuter school income tax, makes most sense for New York residents. Taxing non-residents at the local level through a school income tax may raise constitutional issues. Certainly, non-New York residents benefit less than residents in terms of the direct and indirect benefits of public education, and do not use the services.

11. Since commuters can not use school services in their place of work, there is little justification for imposing a local school income tax on anyone other than residents to obtain the local contribution.

close of the filing period.

Pennsylvania's 501 local school districts are enabled to impose up to a 1 percent local wage tax, and are entirely responsible for its collection. Home rule school districts are enabled to impose higher tax rates. In areas where municipalities elect to impose a local wage tax, the school district must share the tax rate. In Allegheny County, all school districts impose a 1/2 percent wage tax, and the underlying municipalities impose a 1/2 percent wage tax. Pennsylvania's General Assembly routinely has before it proposals to broaden the base of the local wage tax to the state personal income tax base, and passed such a proposal in 1988.

As long as the local income tax is a flat percentage of the base, or a surcharge on another state-calculated figure, either state or local administration can be achieved. Of course, there will be initial difficulties in moving to such a new tax base; however, since a very high percentage of taxpayers are already in the withholding system of the state and federal income tax, employers, properly informed, can play a key role in making a smooth transition to a new form of local taxation.¹²

Whether or not the local income tax is fundamentally a "local" tax depends initially on the underlying fiscal philosophy that leads to its enactment. The above discussion about administration indicates that one can imagine local school districts being empowered to set the rate of the local income tax, and that either the state or the district itself would collect it. Concerns over the promptness and certainty of state provision of such funds back to school districts has often suggested that the districts collect the income tax themselves. On the other hand, this is likely to be inefficient.

If one believes that local districts should use a fixed rate of income tax, say 3 percent, and the state should provide the remainder of resources to get to a foundation level of spending, the 3 percent tax takes on the characteristic of a statewide tax remitted back to local school districts. As we shall see in the empirical sections below, however, elimination of the residential school property tax and replacement by a local school income tax to get

12. It is strongly recommended that if local administration is opted for, then a local tax form be used. Even though Pennsylvania only permits a local wage tax, there is much merit in providing a local wage tax package of forms at the time state and Federal forms are provided. When Pittsburgh went to such an administrative device, it was able to increase net collections by an additional \$4.5 million/year. Base broadening language routinely before the Pennsylvania General Assembly often requires the City of Philadelphia to have a local income tax form. It currently relies entirely on employer withholding.

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to a foundation level of spending may not require, for heavily industrial districts, any income tax at all. In this circumstance, again, one can imagine either the state or local school district making this determination.

If one favors a foundation approach to school finance, and allowing districts the option to use the local income tax to finance education beyond the foundation amount, then the local income tax rate becomes variable, and subject to local legislative consideration. While this would readily be called a local income tax, one can again imagine it being administered either by the state, with remittance to local districts, or administered entirely by the local district.

Any major tax structure change in local taxation should have antiwindfall provisions so that movement from one base to another, or the use of new, discretionary taxing authority, does not lead to more than acceptable rates of change in the overall local school budgets.

EMPIRICAL ASPECTS OF CURRENT LAW

In order to perform consistent analysis of fiscal and socioeconomic data by school district, it was necessary to choose a base year for analysis. Data for most variables was available for school year 1992-3, and is accordingly the major point of focus. Appendix I lists the sources and detailed definitions of each variable analyzed in this Policy Brief. Throughout this brief, the data relate to a consistent set of 687 school districts whose fiscal and socioeconomic data could be uniquely merged.¹³

In the empirical analysis below, I utilize an enrollment count concept of students; this differs from actual daily membership counts or the New York concepts of Total Aidable Pupil Units (TAPU), which vary from 1.0 for full-day kindergarten to 1.50 for full-time pupils in grades 7-12 with special educational needs, or the Total Wealth Pupil Units (TWPU) concept under which handicapped students weights may be 2.7 times the full-day kindergarten.¹⁴ Enrollments are a relatively simple measurement concept, and the data are readily available.

13. In the case of New York City, all activities measured in various boroughs and community districts were aggregated to a single New York City record.

14. See Ruth L. Henahan "New York" in *Public School Finance Programs of the United States and Canada*, eds. Steven P. Gold, David W. Smith, Stephen B. Lawton and Andrea C. Hyary (American Education Finance Association and the Center for the Study of the States, 1992): 391-407, for a more complete description.

SOME KEY AGGREGATES IN 1992-3

In 1992-93, there were 2.6 million students enrolled in New York State's public schools; the 687 school districts under study spent \$22.3 billion, or \$8,523 per pupil. To finance the \$22.3 billion of public school spending, local school districts raised \$12.3 billion from own sources (on average \$4,671 per pupil), the State provided \$8.8 billion in overall aid (on average \$3,354 per pupil), and the Federal government provided \$987 million in overall aid to local New York school districts. Overall, New York State provided about 39 percent of 1992 total local school spending, and the Federal government provided about 4 percent; thus, local school districts provided 57 percent overall of the funds to support the costs of public education.

Of the \$12.2 billion of local (own-source) school revenues, \$11.2 billion (or 91.8 percent of own source revenues) came from the local school property tax. The balance, about \$1 billion, came from shared sales taxes and utility gross receipts taxes.

Using 1991 New York State Department of Equalization and Assessment data on property tax collections by type, we may estimate the 1992-93 residential portion of the local property tax (including condominiums) to be \$5.9 billion (or 52.9 percent); this in turn implies that nonresidential property tax accounts for \$5.3 billion in school property taxes (or 47 percent).¹⁵

Overall, the equalized full value property tax base in 1992 was \$927.1 billion, while the overall adjusted gross income base of filers in these school districts was \$257.6 billion.

New data by school district from the New York State Department of Taxation and Finance permits the estimation of 1992 New York State taxable income of taxpayers in these school districts; it is found to be \$178.9 billion.¹⁶ Replacing all of the local school property tax would thus require a local income tax rate of 6.27 percent (\$11.2 billion / \$178.9 billion), while replacing just the residential portion of the local school property tax would require a local income tax rate of about 3.3 percent (\$5.9 billion / \$178.933 billion). Table 1 displays these aggregates.

It is useful to view these aggregates in relation to each other.

15. Including property tax collections on condominiums in the definition of residential only makes a material difference for New York City. There, 1991 property tax collections on single family houses and multiple units of less than six were 11.3 percent of the total; adding in property tax collections on condominiums raises the residential portion to 24.7 percent.

16. This was calculated by taking the 1991 ratio of taxable income to total adjusted income, provided to this study by the Department of Taxation and Finance, and applying it the 1992 total adjusted gross income.

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TABLE 1
SOME STATEWIDE TOTALS

Vname	Definition	Statewide Total	SDs
ENR92	1992: State Ed Dept Tot Enrollment	2,619,666	687
EXP92	1992: Total SD Spending	\$22,323,367,900	687
STATE92	1992: Total State Aid to SDs	\$8,784,055,667	687
FED92	1992: Federal Aid to SDs	\$987,262,982	687
LOCAL92	1992: Total Local School Revenues	\$12,233,953,540	687
PTAX92	1992: Total SD Property Taxes	\$11,236,399,008	687
OTHER92	1992: Total Local Nonproperty Tax Revs	\$997,554,532	687
RESPROP92	1992: Estimated Residential Prop Tax	\$5,870,906,734	687
NONRESP92	1992: Estimated Nonresidential Prop Tax	\$5,365,492,274	687
FVAL92	1992: Equalized Full Value	\$927,076,211,452	687
AGI92	1992: NYS Adjusted Gross Income	\$257,625,735,713	687
TAXINC92	1992: Estimated NYS Taxable Income	\$178,933,032,684	687
RET92	1992: Personal Tax Returns Filed	7,219,176	687

Total school spending was about 2.4 percent of total 1992 equalized value (e.g., \$22.3 billion/\$927.1 billion); total school spending was about 8.7 percent of total 1992 adjusted gross income of individuals (e.g. \$22.3 billion/\$257.6 billion); and total school spending was about 12.5 percent of estimated total 1992 New York State taxable income of individuals; total non-Federal school spending was 11.9 percent.¹⁷

The 1992 local school property tax was 1.2 percent of 1992 equalized value (\$11.3 billion/\$927.1 billion), 4.4 percent of 1992 total adjusted gross income (\$11.3 billion/\$257.6 billion). The 1992 estimated residential local school property tax was .6 percent of the total 1992 equalized base (e.g., \$5.9 billion/\$927.1 billion), 2.3 percent of total 1992 adjusted gross income (e.g., \$5.9 billion/\$257.6 billion), and 3.3 percent of estimated 1992 taxable income (e.g., \$5.9 billion/\$178.9 billion).

These aggregate figures suggest that New York's public education, currently financed from local, state, and Federal sources, is equivalent to a 12.5 percent proportional tax on state-defined taxable income. Such state-wide averages do not indicate whether

¹⁷ Total school spending reflects, of course, federal and state aid. State aid is financed from state income and consumption taxes. Overall, New Yorkers spent 12.5 percent of their taxable income on local public education; however, some of these were indirectly financed by taxes on business which pay local property taxes, and state income, sales and gross receipts taxes.

TABLE 2
COUNTS OF DISTRICTS BY 1992 ENROLLMENT AND 1992 PER-RETURN AGI

1992 Enrollment Grouping	\$19,204 -\$23,710	\$23,711 -\$26,212	\$26,213 -\$30,696	\$30,697 -\$39,853	\$39,854 \$144,332	Total
< 270	17	1	4	2	10	34
271-442	19	9	3	1	2	34
443-693	35	24	4	5	1	69
694-1,047	21	18	9	11	10	68
1,048-1,242	11	20	15	15	9	70
1,243-1,522	13	19	17	10	8	67
1,523-1,970	6	13	23	8	19	69
1,971-2,517	7	17	11	17	16	68
2,518-3,342	2	11	16	20	19	68
3,343-4,985	2	4	18	21	23	68
4,986-6,782	1	3	6	12	11	33
6,783-9,707	2	4	5	8	8	27
9,708-14,723	0	0	1	5	1	7
Yonkers: 19,350	0	0	0	1	0	1
Syracuse: 22,550	0	1	0	0	0	1
Rochester: 34,369	0	1	0	0	0	1
Buffalo: 46,284	1	0	0	0	0	1
NYC: 971,690	0	0	0	1	0	1
Total	137	145	132	137	137	687

individual districts would be able, with their existing distribution of income, taxable property, and current spending levels to afford such a switch in tax bases. Below, we develop a classification of school districts by enrollment size and per capita income which permits a ready identification of the extent of variation in district finances, property and income tax bases, and spending levels.

AN ENROLLMENT-PER CAPITA INCOME MATRIX
FOR EVALUATION PURPOSES

With almost 700 school districts with which to examine policy options, the analyst is confronted with potentially too much information, or, in the case of the just-discussed aggregates, too little information. One approach to summarizing both current law and financing alternatives, is to examine representative districts, holding constant their size, and underlying income base.

Table 2 displays the distribution of New York school districts by enrollment size and per-return adjusted gross income in 1992. The per-return adjusted gross income measure is as close as we are able to measure median family economic income or per capita

1992 Enrollment Grouping	Total
< 270	34
271-442	34
443-693	69
694-1,047	68
1,048-1,242	70
1,243-1,522	67
1,523-1,970	69
1,971-2,517	68
2,518-3,342	68
3,343-4,985	68
4,986-6,782	33
6,783-9,707	27
9,708-14,723	7
Yonkers:	1
Syracuse:	1
Rochester:	1
Buffalo:	1
NYC:	1
Total	687

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TABLE 3
ENROLLMENT OF DISTRICTS
BY 1992 ENROLLMENT SIZE AND 1992 PER CAPITA AGI

1992 Enrollment Grouping	\$19,204 - \$23,710	\$23,711 - \$26,212	\$26,213 - \$30,696	\$30,697 - \$39,854	\$39,855 - \$144,332	Total
< 270	2944	254	577	382	1397	5554
271-442	6938	3368	1002	297	730	12335
443-693	19675	13350	2497	3010	594	39126
694-1,047	18283	14451	7804	9379	9522	59439
1,048-1,242	12553	22910	17079	17202	10439	80183
1,243-1,522	18219	25717	23361	13562	11039	91898
1,523-1,970	9845	22264	39850	13595	33557	119111
1,971-2,517	15627	37704	23850	37806	35756	150743
2,518-3,342	5448	30983	45311	58525	55961	196228
3,343-4,985	7210	15584	74772	88002	94577	280145
4,986-6,782	5829	16280	34679	70449	59526	186763
6,783-9,707	17396	32880	43249	65877	61983	221385
9,708-14,723	0	0	12325	60006	10002	82333
Yonkers:	19,350	0	0	19530	0	19530
Syracuse:	22,550	0	22550	0	0	22550
Rochester:	34,369	0	34369	0	0	34369
Buffalo:	46,284	46284	0	0	0	46284
NYC:	971,690	0	0	971690	0	971690
<i>Total</i>	<i>186251</i>	<i>292664</i>	<i>326356</i>	<i>1429312</i>	<i>385083</i>	<i>2619666</i>

economic income. The enrollment and per-return adjusted gross income classes were chosen so that approximately the same number of districts would fall into each cell, and so that approximately the order of magnitude of school district enrollments would be represented by the row and column frequencies. Also, because the five dependent school districts in New York are both larger and fiscally different than the majority of other districts, they are tabulated separately.

Table 2 displays the cross-tabulation of size and per-return characteristics, and Table 3 displays the 1992 school district enrollments within this framework. The basic tabulation of districts in Table 2 shows that there are many very small districts in New York—205 districts have fewer than 1100 students. Such small size raises questions about whether such districts are able to offer a reasonably complete curricula, especially at the secondary level.¹⁸ Table 3 indicates the importance of isolating New York City from the rest of the State; with 971,690 students in 1992, the constituent schools in New York City accounted for better than 37 percent of the State's total enrollment. Overall, the big five

TABLE 4
CURRENT LAW: MEDIAN DISTRICT'S 1992 TOTAL PER PUPIL SPENDING

1992 Enrollment Grouping	\$19,204	\$23,711	\$26,213	\$30,697	\$39,854	Total
	-\$23,710	-\$26,212	-\$30,696	-\$39,853	\$144,332	
< 270	\$11,458	\$9,725	\$15,030	\$11,675	\$21,403	\$14,370
271-442	\$8,324	\$8,408	\$9,124	\$17,976	\$22,716	\$8,703
443-693	\$7,842	\$7,920	\$7,568	\$13,487	\$13,573	\$7,936
694-1,047	\$7,331	\$7,849	\$7,518	\$9,902	\$11,761	\$8,042
1,048-1,242	\$7,166	\$7,070	\$7,659	\$8,542	\$11,591	\$7,844
1,243-1,522	\$7,140	\$6,923	\$7,020	\$7,850	\$12,742	\$7,195
1,523-1,970	\$7,119	\$7,189	\$7,169	\$7,648	\$11,831	\$7,326
1,971-2,517	\$7,813	\$7,714	\$7,422	\$7,945	\$13,284	\$7,937
2,518-3,342	\$7,036	\$7,591	\$7,074	\$8,277	\$11,061	\$7,973
3,343-4,985	\$6,910	\$7,358	\$8,179	\$7,733	\$9,959	\$8,131
4,986-6,782	\$6,501	\$8,550	\$7,887	\$8,641	\$10,659	\$8,901
6,783-9,707	\$8,383	\$8,169	\$8,547	\$8,326	\$10,923	\$8,547
9,708-14,723	0	0	\$9,912	\$8,794	\$7,761	\$8,794
Yonkers: 19,350	0	0	0	\$10,514	0	\$10,514
Syracuse: 22,550	0	\$8,301	0	0	0	\$8,301
Rochester: 34,369	0	\$9,358	0	0	0	\$9,358
Buffalo: 46,284	\$7,718	0	0	0	0	\$7,718
NYC: 971,690	0	0	0	\$7,911	0	\$7,918
Total	\$7,939	\$7,556	\$7,452	\$8,132	\$11,658	\$8,068

districts accounted for 1,074,893 students or 41 percent of the State's public enrollment in 1992.

MEDIAN DISTRICT'S CHARACTERISTICS OF CURRENT LAW
BY ENROLLMENT AND PER CAPITA ADJUSTED GROSS INCOME

We observed earlier that 1992 average per pupil spending, statewide, was \$8,523. Of immediate interest is how such per pupil spending per district looks when we tabulate it by enrollment and per-return adjusted gross income. Table 4 shows the calculations for the median district within the classification matrix.

The cell entry is the *median* or 50th percentile per pupil spending for the districts in the enrollment-size, per-return adjusted

18. Consider the follow calculations: under the assumption that the age distribution is uniform in a district with 1200 students, there will be 100 students per grade. If we limit basic class size to 25, there will be four groups ("homerooms") of students in each age cohort per grade. At issue then may be the ability of districts to afford to offer specialized courses for such small numbers of groups of students. For the impact of specialized course offerings on the postsecondary educational ambitions of high school seniors, see Robert P. Strauss, *Who Should Teach in Pennsylvania's Public Schools? Modeling Teacher Supply and Demand, Curricula and High School Seniors' Post-Secondary Educational Plans* (Pittsburgh: Carnegie-Mellon University: 1993).

1992 Enrollment Grouping
<270
271-442
443-693
694-1,047
1,048-1,242
1,243-1,522
1,523-1,970
1,971-2,517
2,518-3,342
3,343-4,985
4,986-6,782
6,783-9,707
9,708-14,723
Yonkers:
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TABLE 5
CURRENT LAW: MEDIAN DISTRICT'S 1992 PER PUPIL STATE AID

1992 Enrollment Grouping	\$19,204 -\$23,710	\$23,711 -\$26,212	\$26,213 -\$30,696	\$30,697 -\$39,853	\$39,854 \$144,332	Total
<270	\$3,996	\$6,675	\$1,420	\$2,379	\$1,357	\$2,193
271-442	\$4,472	\$3,862	\$2,886	\$1,602	\$3,725	\$4,245
443-693	\$5,040	\$4,845	\$4,478	\$1,463	\$5,004	\$4,885
694-1,047	\$4,910	\$4,872	\$3,341	\$3,101	\$1,190	\$4,185
1,048-1,242	\$4,724	\$4,522	\$4,313	\$3,496	\$1,394	\$4,240
1,243-1,522	\$4,625	\$4,431	\$4,271	\$2,834	\$872	\$4,237
1,523-1,970	\$4,567	\$4,206	\$4,161	\$2,895	\$1,550	\$3,698
1,971-2,517	\$4,578	\$4,503	\$4,126	\$3,026	\$1,397	\$3,872
2,518-3,342	\$4,502	\$4,186	\$4,000	\$3,178	\$1,774	\$3,424
3,343-4,985	\$5,258	\$4,482	\$3,588	\$3,367	\$2,086	\$3,198
4,986-6,782	\$4,155	\$4,298	\$3,656	\$2,764	\$1,540	\$2,979
6,783-9,707	\$4,448	\$4,043	\$3,209	\$2,951	\$2,633	\$3,196
9,708-14,723	0	0	\$4,557	\$4,599	\$1,976	\$4,557
Yonkers:	19,350	0	0	\$3,260	0	\$3,260
Syracuse:	22,550	0	\$5,144	0	0	\$5,144
Rochester:	34,369	0	\$4,800	0	0	\$4,800
Buffalo:	46,284	\$5,466	0	0	0	\$5,466
NYC:	971,690	0	0	0	3118	0
<i>Total</i>	<i>\$4,732</i>	<i>\$4,543</i>	<i>\$4,005</i>	<i>\$3,178</i>	<i>\$1,613</i>	<i>\$3,784</i>

gross income cell. For example, the smallest districts with lowest per-return adjusted gross income are located in the upper left cell of Table 4. From Table 2 we know there were 17 such districts with enrollment under 270 students, and per-return income in the \$19,204-23,710 range. The entry of \$11,458 in Table 4 means that after sorting the per-pupil spending of the 17 districts from low to high, the middle of the district the 9th, spent \$11,458 per pupil. Moving to the rightmost cell for the smallest district, we see that the middle of the distribution of 10 districts with highest income (\$39,854-144,332) spent \$21,403 per pupil or almost twice as much as the lowest income district.

It is evident from looking across income levels, holding enrollment size constant, that per pupil spending generally rises, and that per-pupil spending falls somewhat as one moves from smaller to larger districts and then rises for the largest districts. Presumably the first effect reflects the greater local ability to pay of higher income districts, and the lower spending per pupil as size increases reflects the possibility that there exist economies of scale in the production of school services.¹⁹

As noted earlier, State aid averaged \$3,354 per pupil in 1992,

TABLE 6
CURRENT LAW: MEDIAN DISTRICT'S 1991 PERCENT
RESIDENTIAL PROPERTY (INCLUDES CONDOMINIUMS)

1992 Enrollment Grouping	\$19,204 -\$23,710	\$23,711 -\$26,212	\$26,213 -\$30,696	\$30,697 -\$39,853	\$39,854 \$144,332	Total
<270	0.3848	0.4746	0.6602	0.5684	0.8340	0.6055
271-442	0.5000	0.6094	0.6992	0.8320	0.3438	0.5723
443-693	0.5156	0.5938	0.6445	0.6992	0.7969	0.5547
694-1,047	0.5156	0.5859	0.6797	0.6836	0.7656	0.5898
1,048-1,242	0.5625	0.5820	0.5938	0.6953	0.7422	0.6211
1,243-1,522	0.5625	0.6055	0.6445	0.7109	0.8203	0.6250
1,523-1,970	0.5703	0.5391	0.6523	0.7285	0.7422	0.6523
1,971-2,517	0.6289	0.5977	0.6289	0.6992	0.6387	0.6309
2,518-3,342	0.6016	0.6172	0.6797	0.7344	0.7734	0.7070
3,343-4,985	0.5430	0.5762	0.5957	0.7109	0.7656	0.6797
4,986-6,782	0.6289	0.5625	0.6016	0.6113	0.6875	0.6367
6,783-9,707	0.4854	0.6035	0.5234	0.6836	0.7813	0.6680
9,708-14,723	0	0	0.9961	0.6367	0.8203	0.6914
Yonkers: 19,350	0	0	0	0.5898	0	0.5898
Syracuse: 22,550	0	0.4336	0	0	0	0.4336
Rochester: 34,369	0	0.3594	0	0	0	0.3594
Buffalo: 46,284	0.4570	0	0	0	0	0.4570
NYC: 971,690	0	0	0	0.2471	0	0.2471
Total	0.5156	0.5898	0.6465	0.6992	0.7305	0.6289

the median figure was somewhat higher at \$3,784.²⁰

If we examine state aid across different sized districts, we find state aid is relatively flat, within district income groupings. Note that each of the dependent districts receives about, or somewhat more than the per-return AGI group's median state aid.²¹

Using the classification of residential property tax collections provided by the New York State Department of Equalization and Assessment, we estimated state wide that 53 percent of New York's 1992-93 property taxes were residential, and 47 percent non-resi-

19. These differences in per-pupil spending may also reflect differences in costs of living.

20. The aid formula is intended to be redistributive, and concentrate resources in poorer districts as measured by their per-pupil equalized wealth and per-pupil Adjusted Gross Income (AGI). Table 5 reports the per-pupil state aid for the median district in each enrollment-per capita AGI cell. The median entries in Table 5 generally display a reduction in state aid as the per-return adjusted gross income of districts rises. Note that median per pupil state aid was \$4,732 for the lowest income districts, and falls to \$1,613 for the highest income districts.

21. The lower New York City aid figure probably reflects several factors: first, compared to most other districts, New York City's per capita income and property wealth are higher. Second, New York City's actual attendance is well below its enrollment, so the per-pupil calculation may understate state aid in the classroom

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dential. "Residential" is defined to be single family dwellings, or multiple units with fewer than six units overall, or condominiums. Of interest is how this percentage varies by size of district and by the per-return AGI of the district. Table 6 shows that for the independent schools districts, the percent residential property is constant across different size school districts. On the other hand, the relative importance of residential property generally rises with per-return AGI. The lowest per-return AGI group's median residential property percentage was 51.6 percent, while the highest districts' median residential property percentage was 73.1 percent in 1991.

Note that the major city school districts have relatively less residential property than the other school districts. The 24 percent residential figure for New York City must be viewed with caution, however, since so many of New York City's residents live in apartments. Also, it should be remembered that the estimate of the share of taxes attributable to residential property is based on *actual* collections by type of property. For the purposes of considering tax substitutions (local income taxes for residential property taxes), this is the correct figure to focus on. If residential property is systematically under-assessed, and commercial and industrial property is systematically over-assessed, then the percentages of taxes attributable to residential property owners will be lower than estimates based on the shares of equalized property values.

REPLACING THE SCHOOL PROPERTY TAX

Earlier, it was noted that a flat local income tax rate of 6.3 percent imposed on New York taxable income (\$178.1 billion) would allow the aggregate elimination of the local school property tax. We explore here two fundamental approaches to achieving this objective:

- Provision of a local option income tax of essentially unlimited tax rate to replace the local school property tax that would support observed 1992-93 spending levels, and use of the existing (1992-93) percent equalization school aid formula; and
- Replacement of the local residential school property tax with a mandated rate of local income taxation, and creation of a new state foundation school aid formula.

Total
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TABLE 7
REPLACING THE SCHOOL PROPERTY TAX:
MEDIAN DISTRICT'S PROPERTY TAX
AS PERCENT OF 1992 ESTIMATED NY TAXABLE INCOME

1992 Enrollment Grouping	\$19,204 -\$23,710	\$23,711 -\$26,212	\$26,213 -\$30,696	\$30,697 -\$39,853	\$39,854 \$144,332
<270	0.2144	0.0585	0.1784	0.0463	0.0807
271-442	0.0990	0.1209	0.0922	0.1288	0.1325
443-693	0.0931	0.0725	0.0705	0.1121	0.0854
694-1,047	0.0778	0.0690	0.0944	0.0981	0.0619
1,048-1,242	0.0748	0.0594	0.0583	0.0665	0.0537
1,243-1,522	0.0648	0.0567	0.0526	0.0656	0.0569
1,523-1,970	0.0622	0.0615	0.0622	0.0581	0.0608
1,971-2,517	0.0532	0.0535	0.0600	0.0653	0.0712
2,518-3,342	0.0644	0.0552	0.0551	0.0627	0.0629
3,343-4,985	0.0379	0.0530	0.0691	0.0626	0.0574
4,986-6,782	0.0542	0.0591	0.0599	0.0702	0.0726
6,783-9,707	0.0661	0.0614	0.0713	0.0639	0.0665
9,708-14,723	0	0	0.1147	0.0692	0.0451
Yonkers: 19,350	0	0	0	0.0689	0
Syracuse: 22,550	0	0.0633	0	0	0
Rochester: 34,369	0	0.0623	0	0	0
Buffalo: 46,284	0.0322	0	0	0	0
NYC: 971,690	0	0	0	0.0591	0

REPLACING THE SCHOOL PROPERTY TAX:
A LOCAL INCOME TAX AND CURRENT PERCENT
EQUALIZING STATE AID FORMULA

Under this tax substitution approach, school districts would be given the authority to levy a local income tax at a rate necessary to eliminate the local school property tax. If we take the ratio of 1992 local school property taxes to estimated 1992 New York taxable income in each school district, we can examine how realistic it might be to simply replace the local school property tax by a local income tax.

Table 7 shows that for most ranges of districts, the necessary income tax rate to replace the local school property tax would be on the order of 6 to 7 percent. For the smallest, lowest income school district, however, the median rate is 21.44 percent. This would be, in my opinion, unworkable.²²

If instead one merely seeks to replace the residential portion of the school property tax, and continue, in effect, the levies on

22. Examination of district by district data indicates that such high rates reflect the presence of very substantial amounts of nonresidential property (sometimes public utilities).

1992 Enrollment
Grouping

<270
271-442
443-693
694-1,047
1,048-1,242
1,243-1,522
1,523-1,970
1,971-2,517
2,518-3,342
3,343-4,985
4,986-6,782
6,783-9,707
9,708-14,723

Yonkers:
Syracuse:
Rochester:
Buffalo:
NYC: 9

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TABLE 8
 REPLACING THE RESIDENTIAL SCHOOL PROPERTY TAX:
 MEDIAN DISTRICT'S RESIDENTIAL PROPERTY TAX
 AS PERCENT OF 1992 ESTIMATED NY TAXABLE INCOME

1992 Enrollment Grouping	\$19,204	\$23,711	\$26,213	\$30,697	\$39,854
	-\$23,710	-\$26,212	-\$30,696	-\$39,853	\$144,332
<270	0.0734	0.0278	0.0926	0.0260	0.0742
271-442	0.0518	0.0827	0.0612	0.1072	0.0296
443-693	0.0436	0.0406	0.0442	0.0852	0.0681
694-1,047	0.0375	0.0388	0.0701	0.0530	0.0470
1,048-1,242	0.0379	0.0353	0.0339	0.0428	0.0391
1,243-1,522	0.0377	0.0342	0.0336	0.0490	0.0471
1,523-1,970	0.0321	0.0342	0.0388	0.0443	0.0450
1,971-2,517	0.0271	0.0300	0.0362	0.0409	0.0421
2,518-3,342	0.0385	0.0355	0.0325	0.0423	0.0407
3,343-4,985	0.0208	0.0329	0.0402	0.0438	0.0395
4,986-6,782	0.0343	0.0391	0.0351	0.0382	0.0438
6,783-9,707	0.0315	0.0349	0.0356	0.0412	0.0512
9,708-14,723	0	0	0.1143	0.0366	0.0370
Yonkers: 19,350	0	0	0	0.0406	0
Syracuse: 22,550	0	0.0274	0	0	0
Rochester: 34,369	0	0.0224	0	0	0
Buffalo: 46,284	0.0147	0	0	0	0
NYC: 971,690	0	0	0	0.0146	0

business and other nonresidential properties, the overall local income tax rate is 3.3 percent. Table 8 indicates that the range of replacement income tax rates would still be rather large. Now the smallest, lowest income districts would face a 7.3 percent local income tax rate rather than 21 percent noted earlier; however, it is likely that the range of variation in local income tax rates would still be too great to be widely acceptable. Note that the income tax rates for the five largest districts are now below those for other districts in their per-return AGI group; this reflects their greater amount of nonresidential property.

The reader may find this pattern of local income tax rates to be quite high, and perhaps so high to argue against moving from the local property tax to the local income tax. Several points are relevant that suggest that the rates could be lower in practice: first, because state and local income taxes are deductible for Federal purposes, and a local income tax could be made deductible at the state level, these offsets could cushion the local impact of such a tax substitution.

Second, as noted above, New York taxable income is considerably narrower than New York adjusted gross income; various

\$39,854
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TABLE 9
 REPLACING TOTAL SCHOOL PROPERTY TAX:
 MEDIAN DISTRICT'S PROPERTY TAXES
 AS PERCENT OF 1992 ESTIMATED NY TOTAL AGI

1992 Enrollment Grouping	\$19,204 -\$23,710	\$23,711 -\$26,212	\$26,213 -\$30,696	\$30,697 -\$39,853	\$39,854 \$144,332
< 270	0.1366	0.0391	0.1197	0.0345	0.0638
271-442	0.0602	0.0773	0.0632	0.0916	0.1086
443-693	0.0584	0.0469	0.0483	0.0785	0.0629
694-1,047	0.0473	0.0443	0.0640	0.0524	0.0511
1,048-1,242	0.0473	0.0388	0.0409	0.0471	0.0444
1,243-1,522	0.0415	0.0373	0.0353	0.0467	0.0462
1,523-1,970	0.0378	0.0412	0.0430	0.0417	0.0476
1,971-2,517	0.0321	0.0360	0.0414	0.0480	0.0545
2,518-3,342	0.0408	0.0367	0.0383	0.0452	0.0477
3,343-4,985	0.0239	0.0351	0.0488	0.0449	0.0438
4,986-6,782	0.0345	0.0395	0.0412	0.0509	0.0543
6,783-9,707	0.0411	0.0401	0.0476	0.0459	0.0503
9,708-14,723	0	0	0.0747	0.0497	0.0352
Yonkers: 19,350	0	0	0	0.0494	0
Syracuse: 22,550	0	0.0418	0	0	0
Rochester: 34,3690	0.0416	0	0	0	
Buffalo: 46,284	0.0206	0	0	0	0
NYC: 971,690	0	0	0	0.0375	0

exemptions and deductions have narrowed the base from \$257.6 billion to \$178.9 billion. This resulted in a 30 percent reduction in the income base. If one favors a local personal gross income tax, levied on adjusted gross income, it follows that the local school property tax could be replaced by a 4.4 percent local AGI tax (contrasted with the 6.3 percent tax on New York taxable income).

Tables 9 and 10 display the results of replacing the total school property tax and residential school property tax with a local personal gross income tax. As expected, the tax rates fall on the order of 30 percent for most enrollment size-per-return AGI groupings, and even more for small, relatively low income districts. Compare the upper left portion of Table 9 to 7, and Table 10 to 8.

REPLACING THE SCHOOL PROPERTY TAX:
 A FIXED RATE LOCAL INCOME TAX AND
 A FOUNDATION SCHOOL AID FORMULA

Another way to substitute a local income tax for a local school property tax in New York is to require a local income tax of a fixed rate and to alter the nature of the state aid formula, from a

1992 Enrol Groupin
<270
271-442
443-693
694-1,047
1,048-1,24
1,243-1,52
1,523-1,97
1,971-2,51
2,518-3,34
3,343-4,98
4,986-6,78
6,783-9,70
9,708-14,
Yonkers:
Syracuse:
Rochester
Buffalo:
NYC:

TABLE 10
REPLACING THE RESIDENTIAL SCHOOL PROPERTY TAX:
MEDIAN DISTRICT'S RESIDENTIAL PROPERTY TAX
AS PERCENT 1992 ESTIMATED NY TOTAL AGI

1992 Enrollment Grouping	\$19,204	\$23,711	\$26,213	\$30,697	\$39,854
	-\$23,710	-\$26,212	-\$30,696	-\$39,853	\$144,332
<270	0.0435	0.0185	0.0628	0.0194	0.0568
271-442	0.0322	0.0532	0.0420	0.0762	0.0244
443-693	0.0266	0.0258	0.0304	0.0601	0.0501
694-1,047	0.0228	0.0256	0.0475	0.0377	0.0370
1,048-1,242	0.0239	0.0228	0.0236	0.0308	0.0311
1,243-1,522	0.0234	0.0224	0.0227	0.0361	0.0387
1,523-1,970	0.0194	0.0223	0.0267	0.0320	0.0340
1,971-2,517	0.0170	0.0200	0.0250	0.0291	0.0322
2,518-3,342	0.0244	0.0236	0.0227	0.0316	0.0349
3,343-4,985	0.0131	0.0218	0.0282	0.0314	0.0317
4,986-6,782	0.0218	0.0259	0.0242	0.0277	0.0324
6,783-9,707	0.0196	0.0236	0.0254	0.0297	0.0399
9,708-14,723	0	0	0.0744	0.0261	0.0288
Yonkers: 19,350	0	0	0	0.0291	0
Syracuse: 22,550	0	0.0181	0	0	0
Rochester: 34,369	0	0.0150	0	0	0
Buffalo: 46,284	0.0094	0	0	0	0
NYC: 971,690	0	0	0	0.0093	0

TABLE 11
DISTRIBUTION OF DISTRICTS UNDER \$8,068 FOUNDATION PROGRAM
AND 3% LOCAL INCOME TAX

PerPupil Spending > \$8,068 ?	Income Tax Rate t=0	Income Tax Rate 0<t<.03	Income Tax Rate t=.03	Total
No	0	0	344	344
Yes	17	63	263	343
Total	17	63	607	687

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percentage equalization approach to a foundation grant approach. New York, like Connecticut, Kansas, Massachusetts, Pennsylvania, and Rhode Island, currently uses a percent equalization formula to distribute state aid.²³ Under the typical percentage equalization school aid formula, one calculates a matching rate or aid ratio, AR_i ; the ratio defines the percentage of district expenses which will be reimbursed or matched by the state. AR_i is defined as $1-f(W_i/W_s)$, where W_i is the measure of local fiscal capacity of the i th district, and W_s is a statewide measure set by the state, often a statewide average, and f is a scaling coefficient designed to indicate the local share of school expenses which will be matched or reimbursed by the state.²⁴ Current state aid, A_i , is then AR_i times an already observed spending and wealth levels (i.e. $t-1$):

$$A_{it} = [1 - f \times \frac{W_{it-1}}{W_{st-1}}] \times Exp_{it-1} \quad (1)$$

Under the percentage equalization approach, a state can find itself in effect with an open-ended match, and as a result have a state funding liability in excess of appropriations. New York prevents this sort of build-in escalation in school aid by specifying that Exp_{it-1} is fixed at a standard amount legislatively; it currently is set at \$3,900; f is set at .64, and the measure of local fiscal capacity, W , is based half on equalized property wealth per district per weighted pupil, and half on adjusted gross income per weighted pupil, each compared to their statewide averages.

New York operating aid is the larger of the per pupil amount that comes out of equation (2) and a minimum per pupil grant of \$360:

$$A_{it} = [1 - .64 \times \frac{W_i}{W_s}] \times \$3,900 \quad (2)$$

or, rearranging (2):

$$A_{it} = [\$3,900 - \$2,496 \times \frac{W_i}{W_s}] \quad (3)$$

For a district whose fiscal capacity is identical to the state-

23. See Henahan, "New York," in *Public School Finance Programs*, for a complete description of New York's program of assistance to local school districts.

24. See Monk, "Education Finance," pp. 214-15, or Gold et al, "Public School Finance Programs," p. 23.

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wide average, equation (3) reduces to \$3,900-\$2,496 or \$1,404 per pupil in state operating aid.²⁵

Under a foundation grant program that uses local property taxes to provide the local, mandatory contribution, aid to the *i*th district, A_i , is the difference between the number of students (often weighted) multiplied times the state-defined foundation amount, F , and a state-mandated (minimum) local contribution: $txBase_i$:

$$A_{it} = [F \times ENR_i] - [t \times Base_i] \quad (4)$$

Typically $Base_i$ is defined in terms of equalized property wealth, and t is the state presumed local, equalized property tax rate.

Under both the New York variant of the percentage equalization formula and the foundation aid approach, state fiscal responsibility rises with student enrollment. An advantage of the foundation grant approach is that state financial responsibility occurs only if the foundation amount, F , set by the state, grows faster than the local tax base. A disadvantage of the foundation approach is that if the state does not adjust its foundation amount, redistribution to more fiscally needy districts will occur less frequently, thus setting the stage for school finance litigation.

Under a foundation grant program that uses a local income tax, $Base_i$ becomes local personal taxable income, and t becomes the local state mandated income tax rate.²⁶

As of 1992, 38 states used some form of a foundation program; 23 had a mandatory local effort (a local minimum tax rate is set), while 15 did not require local effort.²⁷

Under the foundation grant and local income tax approach, the crucial determination that needs to be made involves ascertaining what each district's per pupil spending needs are, the foundation amount, and then comparing this guaranteed level of spending with local resources to find a residual which the state makes up with current state resources.

Below, I have chosen the unweighted state-wide median 1992-93 spending of \$8,068 per pupil as a first approximation of such

25. In addition, there are various ceilings put into (2).

26. See Robert P. Strauss, "Reforming School Finance in Illinois: Principles, Practicalities and Politics," *State Tax Notes* 5, no. 7 (1993, August 16): 351-360. For a simple example worked out for Illinois, and a more complete example, including dealing with the classification issue, for school districts in Allegheny County, Penn.

27. See Gold, "Tax Options," Table 4, p. 18.

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$$A_{it} = [F \times ENR_i] - [t \times Base_i] \quad (4)$$

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Below, I have chosen the unweighted state-wide median 1992-93 spending of \$8,068 per pupil as a first approximation of such

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27. See Gold, "Tax Options," Table 4, p. 18.

a foundation amount, F .

It should be emphasized that this is an initial measure of central tendency, and not a scientific measure of the resources needed to educate a child in grades K-12 to achieve at an acceptable level of performance. Indeed, one can imagine that an actual foundation amount would vary across districts once hard data were developed on what is necessary to attract and retain quality teachers, desired minimum and maximum class sizes, the sorts of capital and other operating services necessary to obtain desired levels of outcomes, differential costs of living between upstate and downstate New York, as well as between urban and rural areas more generally, and the nature of the student body. That is, one can imagine determining F_i for each i th district by taking into account the above considerations which affect the costs of providing educational services.

Under this illustrative foundation program of per pupil spending level of \$8,068, we calculate the total amount of guaranteed monies needed to provide foundation services (the foundation grant per pupil times the number of pupils). From that we subtract various sources of local and Federal effort: revenues from the mandatory 3 percent local income tax ($.03 \times TAXINC92$), proceeds from the nonresidential property tax ($NONRESP92$), other local funds ($OTHER92$), and Federal funds ($FED92$). State aid, denoted as $GRANT1$, then makes up any difference between the guaranteed resources and those available from nonstate sources. Two versions are shown below that rely on a 3 percent or 2 percent local income tax:

$$Grant1_{1i} = [\$8,068 \times ENR92_i] - [.03 \times TAXINC92_i + NONRESP92_i + OTHER92_i + FED92_i] \quad (5)$$

$$Grant2_{2i} = [\$8,068 \times ENR92_i] - [.02 \times TAXINC92_i + NONRESP92_i + OTHER92_i + FED92_i] \quad (6)$$

$Grant 1_1$ eliminates the local residential property tax and imposes a mandatory or state-wide 3 percent local income tax; $Grant 2_2$ is identical to $Grant 1_1$ except that it requires more state aid by virtue of using a lower local income tax rate of 2 percent.

Under the foundation approach, there are likely to be districts which have sufficient local and Federal revenue sources other than the income tax such that no local income tax is needed to achieve the guaranteed foundation spending level.²⁸ In this instance, no state aid is needed.

A second group of districts may be able to achieve foundation

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TABLE 12
DISTRIBUTION OF DISTRICTS UNDER \$8,068 FOUNDATION PROGRAM
AND 2% LOCAL INCOME TAX

Per Pupil Spending > \$8,068 ?	Income Tax Rate t=0	Income Tax Rate 0<t<.02	Income Tax Rate t=.02	Total
No	0	0	344	344
Yes	17	35	291	343
<i>Total</i>	<i>17</i>	<i>35</i>	<i>635</i>	<i>687</i>

levels of spending with less than a 3 percent income tax; again, in this case, no state aid is needed. The third group of districts both would impose the mandatory local 3 percent income tax, and require state aid to make up revenue shortfalls to achieve foundation spending levels.

Another aspect of the foundation approach that requires consideration is the disparity that will necessarily exist between the guaranteed foundation level of spending, and that currently in place. By definition, half the districts will be spending, on a per-pupil basis, above the median used below (\$8,068) to determine the initial foundation amount. The question that arises is what sort of local tax policies one might allow at the state level to permit local districts to provide additional or "extra" resources. We can divide the districts into two groups: those who spend less than the median of \$8,068, and those who spend more than the median of \$8,068. The first group will not need any additional taxing authority, and have been "averaged up" to the median level of spending.

Table 11 shows the distribution of school districts, under the \$8,068 foundation program and 3 percent local income tax, by tax rate and whether they will need to have taxing authority beyond 3 percent. Note that 17 districts would need no local income tax to achieve \$8,068 per pupil spending, and that all 17 spent in excess of that amount; 63 districts would need a local income tax rate less than 3 percent, and all of them spent in excess of the guarantee as well in 1992-93. None of these 80 districts would receive any state aid.

Of the remaining 607 districts which would both require a 3 percent local income tax rate, and also receive state aid, 263 spent

28. In New York, school districts with substantial nonresidential property tax revenues can support the foundation level of spending without an income tax, and thus do not need state aid.

TABLE 13
AGGREGATE STATE AID AMOUNTS AND HOLD HARMLESS AMOUNTS

Var Name	Description of Aid Formula and Local Tax	Total St. Cost	SDs
G1	St Aid of \$8,068/child -3% Y Tax	\$8,884,700,323	607
G1A	St Aid of \$8,068/child -2% Y Tax	\$10,428,605,448	635
G2	St Aid of \$10,167/child -3% Y Tax	\$14,144,158,450	646
G2A	St Aid of \$10,167/child -2% Y Tax	\$15,804,120,740	660
HARM1	Extra\$ to Reach EXP92 with 3% Tax +G1	\$1,971,257,466	343
HARM1A	Extra\$ to Reach EXP92 with 2% Tax +G1A	\$1,971,257,466	343
HARM2	Extra\$ to Reach EXP92 with 3% Tax +G2	\$711,108,890	170
HARM2A	Extra\$ to Reach EXP92 with 2% Tax +G2a	\$711,108,890	170

beyond \$8,068 per pupil, and would require further taxing authority.

Table 12 displays a similar analysis for the same foundation amount and a 2 percent local income tax. Note that 62 districts would not receive state aid under this foundation program.

For the second group, we explore in the section below the implications of permitting them to impose an extra or secondary local income tax rate to maintain current overall spending levels.

Table 13 shows the total amounts of state aid needed to solve Equation (5) and Equation (6), and a second set of equations where the foundation amount is set at the 75th percentile of total school spending per pupil of \$10,167. Also, hold-harmless amounts are aggregated to show how much more monies would be needed to allow districts now spending more than the median or 75th percentile to continue to do so.

Several things are immediately evident from Table 13:

- a foundation grant of \$8,068 and a 3 percent local income tax would require slightly more state aid than was currently being spent in 1992. Compare \$8.885 billion under the local income tax approach with \$8.784 billion in 1992-93 actual state aid for schools;
- dropping the local income tax rate to 2 percent requires \$1.644 billion or 19 percent more state aid than occurred in 1992;
- raising the per-pupil guarantee or foundation amount to the 75th percentile (from \$8,068 to \$10,167) is extremely expensive with a 3 percent local income tax, and would cost an additional \$5.26 billion at 1992-93 levels;
- the hold harmless amounts above \$8,068 are also quite

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1992 Enrollment
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<270
271-442
443-693
694-1,047
1,048-1,242
1,243-1,522
1,523-1,970
1,971-2,517
2,518-3,342
3,343-4,985
4,986-6,782
6,783-9,707
9,708-14,723

Yonkers: 19
Syracuse: 22
Rochester: 34
Buffalo: 46
NYC: 97

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TABLE 14
 MEDIAN DISTRICT'S PER PUPIL STATE AID
 UNDER FOUNDATION GUARANTEE OF \$8,068 AND 3% LOCAL INCOME TAX

1992 Enrollment Grouping	\$19,204	\$23,711	\$26,213	\$30,697	\$39,854	Total
<270	\$2,798	\$4,312	\$319	\$2,891	\$694	\$2,057
271-442	\$5,266	\$5,077	\$4,084	\$874	0	\$5,155
443-693	\$5,465	\$5,537	\$5,468	\$3,044	\$3,054	\$5,438
694-1,047	\$5,873	\$5,687	\$5,307	\$4,571	\$1,266	\$5,310
1,048-1,242	\$5,907	\$5,863	\$5,353	\$4,311	\$2,910	\$5,392
1,243-1,522	\$5,607	\$5,791	\$5,677	\$4,931	\$765	\$5,670
1,523-1,970	\$5,739	\$5,647	\$5,135	\$4,424	\$2,614	\$5,020
1,971-2,517	\$4,961	\$5,586	\$5,292	\$4,161	\$2,726	\$4,859
2,518-3,342	\$5,748	\$5,044	\$5,222	\$4,019	\$2,924	\$4,866
3,343-4,985	\$6,309	\$5,300	\$4,433	\$4,185	\$3,040	\$4,096
4,986-6,782	\$5,881	\$4,386	\$4,148	\$3,415	\$2,410	\$3,557
6,783-9,707	\$4,549	\$4,740	\$3,112	\$4,317	\$3,579	\$4,109
9,708-14,723	0	0	\$6,111	\$4,659	\$2,861	\$4,659
Yonkers: 19,350	0	0	0	\$1,669	0	\$1,669
Syracuse: 22,550	0	\$4,285	0	0	0	\$4,285
Rochester: 34,369	0	\$3,092	0	0	0	\$3,092
Buffalo: 46,284	\$5,155	0	0	0	0	\$5,155
NYC: 971,690	0	0	0	\$2,682	0	\$2,682
<i>Total</i>	<i>\$5,507</i>	<i>\$5,628</i>	<i>\$5,136</i>	<i>\$4,142</i>	<i>\$2,814</i>	<i>\$4,973</i>

large, about \$2 billion, while those above the third quartile of \$10,167 are smaller for the districts, but much larger for the state; and,

- under the mandated local income tax of 3 percent and State foundation grant of \$8,068/pupil, 607 out of the 687 districts under study would receive state funding.

Tables 14 and Table 15 display the per-pupil state aid that would result under the \$8,068 foundation programs with 3 percent and 2 percent local income taxes. Median district state aid under the foundation program with the 3 percent local income tax is in the \$5,000-\$4,000 range in the first four income categories, but then falls off in the highest income category: the ratio of median aid to the lowest income districts divided by the median aid to the highest income districts is 1.96.²⁹

Median district state aid under the foundation program with the 2 percent local income tax shows a less progressive pattern across income categories: median aid in the lowest income districts is \$5,775, and falls to a median of \$3,247 for the highest income districts; the ratio here is 1.78.

TABLE 15
 MEDIAN DISTRICT'S PER PUPIL STATE AID
 UNDER FOUNDATION GUARANTEE OF \$8,068 AND 2% LOCAL INCOME TAX

1992 Enrollment Grouping	\$19,204 -\$23,710	\$23,711 -\$26,212	\$26,213 -\$30,696	\$30,697 -\$39,853	\$39,854 \$144,332	Total
<270	\$3,384	\$4,835	\$1,269	\$4,173	\$1,198	\$2,138
271-442	\$5,575	\$5,431	\$3,881	\$2,092	0	\$5,431
443-693	\$5,726	\$5,847	\$5,871	\$3,722	\$3,964	\$5,738
694-1,047	\$6,133	\$5,993	\$5,687	\$5,178	\$2,289	\$5,713
1,048-1,242	\$6,169	\$6,177	\$5,735	\$4,914	\$3,074	\$5,735
1,243-1,522	\$5,909	\$6,141	\$6,055	\$5,282	\$688	\$5,885
1,523-1,970	\$6,019	\$5,958	\$5,618	\$5,041	\$2,339	\$5,458
1,971-2,517	\$5,448	\$5,919	\$5,799	\$4,193	\$3,375	\$5,230
2,518-3,342	\$6,076	\$5,514	\$5,789	\$4,865	\$3,247	\$5,324
3,343-4,985	\$6,511	\$5,754	\$4,854	\$4,950	\$3,948	\$4,796
4,986-6,782	\$6,224	\$4,918	\$4,739	\$4,325	\$3,295	\$4,244
6,783-9,707	\$4,930	\$5,227	\$3,772	\$4,911	\$3,973	\$4,760
9,708-14,723	0	0	\$6,492	\$5,183	\$3,991	\$5,183
Yonkers: 19,350	0	0	0	\$2,580	0	\$2,580
Syracuse: 22,550	0	\$4,676	0	0	0	\$4,676
Rochester: 34,369	0	\$3,507	0	0	0	\$3,507
Buffalo: 46,284	\$5,499	0	0	0	0	\$5,499
NYC: 971,690	0	0	0	\$3,299	0	\$3,299
Total	\$5,775	\$5,952	\$5,618	\$4,847	\$3,247	\$5,351

It is somewhat surprising to see higher levels of state aid per pupil under the foundation program with a 3 percent local income tax than under current law when the aggregate amounts spent by the state are the same order of magnitude (about \$8.8 billion). Compare the overall median of \$4,973 with the historical median aid of \$3,784 (see Table 5). However, this occurs because fewer districts benefit from the foundation program (607), than under the historical pattern of state aid (687).

It is evident that the five largest districts fare worse under this combination of a \$8,068 foundation guarantee and a 3 percent local income tax, in terms of state aid, when compared to the actual 1992 pattern of state aid. (Compare Table 15 to Table 6). Now their aid is well below the per-return AGI group's median in each case. It is likely that adjusting the initial foundation guarantee by district for particular needs would alter this result. More importantly, if one couples a \$8,068 guarantee with a lower maxi-

29. This is less redistributive than the current state aid formula (See Table 5); the ratio of median aid of the lowest income districts divided by the median aid to the highest income districts is 2.93.

num local income tax
 City and Buffalo

MAINTAINING

As noted above, for those districts for whom the local income tax is less than they are currently paying, the local school district's foundation aid is reduced. They might be able to approach alternative financing approaches and come tax benefits to achieve \$8,068 second approach.

For the second approach, the marginal income tax levels and the income. Equating $HARM1_i$ with the guarantee

$HARM1_i =$

For districts with a low amount, the total amount to finance the district's dollars divided

$Margt_i$

Finally, the income tax rate, which is the marginal tax rate on education.

Based on

30. That is, about \$8.8 billion.

31. Michigan's additional 6 percent

32. No state aid because the district's income is sufficient to pay

mum local income tax rate, the situation is reversed for New York City and Buffalo. (See Table 15).

MAINTAINING LOCAL OUTLAYS UNDER A FOUNDATION PROGRAM

As noted above, there will necessarily be a group of districts for whom the guaranteed foundation spending level will be less than they are currently achieving. Given that in 1992 New York's local school districts spent \$1.971 billion more than the proposed foundation amount³⁰ in their districts, a question arises about how they might be allowed to raise these additional funds. Several approaches are available: allow the limited use of the local residential property tax³¹ or allow the use of an additional local income tax beyond the mandatory 3 percent or that necessary to achieve \$8,068 per pupil. We examine the implications of this second approach.³²

For the second group of districts, the extra income tax or marginal income tax rate is the difference between current spending levels and the guaranteed foundation spending divided by taxable income. Equation 7 defines the hold-harmless amount of funds, *HARMI*, needed to continue spending at 1992-93 levels beyond the guarantee amount of \$8,068/pupil:

$$HARMI_i = EXP92_i - [\$8,068 \times ENR92_i] \quad (7)$$

For districts whose actual spending exceeded the guaranteed amount, their marginal tax rate, *MARGTi*, or the tax rate needed to finance this portion of their spending is the ratio of these extra dollars divided by their taxable income:

$$Margt_i = \frac{HARMI_i}{TAXINC_i} \quad (8)$$

Finally, note that for this second group of districts, their total income tax rate is the sum of the mandatory local income tax rate, which can be anywhere between 0 and 3 percent plus the marginal tax rate needed to maintain current support for public education.

Based on 1992 data, there were 263 districts out of 687 which

30. That is, actual per pupil spending in 1992-93 exceeded \$8,068 per pupil by a total of \$1.971 billion.

31. Michigan has allowed districts a five-year period during which they may levy up to an additional 6 mills on equalized value to maintain or enrich school spending levels.

32. No state participation or financing of these amounts beyond the guarantee are provided because the determination of the guarantee amount is based on having already provided funds sufficient to provide a base education.

TAX

Total
\$2,138
\$5,431
\$5,738
\$5,713
\$5,735
\$5,885
\$5,458
\$5,230
\$5,324
\$4,796
\$4,244
\$4,760
\$5,183
\$2,580
\$4,676
\$3,507
\$5,499
\$3,299
\$5,351

per aid per local in- cents spent (billion). ul median ise fewer an under under this 3 percent ed to the Table 6). median in n guaran- ult. More wer maxi- e ratio of me- come districts

TABLE 16
ANALYSIS OF NUMBER OF DISTRICTS WITH NEEDED EXTRA INCOME TAXES

1992 Enrollment Grouping	\$19,204 -\$23,710	\$23,711 -\$26,212	\$26,213 -\$30,696	\$30,697 -\$39,853	\$39,854 \$144,332	Total
<270	16	1	4	2	10	33
271-442	11	7	3	1	2	24
443-693	14	11	1	5	1	32
694-1,047	8	6	3	7	10	34
1,048-1,242	3	3	6	10	9	31
1,243-1,522	2	0	3	4	8	17
1,523-1,970	2	2	2	2	14	22
1,971-2,517	3	6	0	8	16	33
2,518-3,342	0	2	2	11	18	33
3,343-4,985	0	0	10	8	18	36
4,986-6,782	0	2	3	7	11	23
6,783-9,707	2	2	4	4	6	18
9,708-14,723	0	0	1	3	0	4
Yonkers: 19,350	0	0	0	1	0	1
Syracuse: 22,550	0	1	0	0	0	1
Rochester: 34,369	0	1	0	0	0	1
Buffalo: 46,284	0	0	0	0	0	0
NYC: 971,690	0	0	0	0	0	0
Total	61	44	42	73	123	343

TABLE 17
ANALYSIS OF MEDIAN DISTRICT'S MARGINAL TAX RATE
WITH \$8,068 FOUNDATION GRANT

1992 Enrollment Grouping	\$19,204 -\$23,710	\$23,711 -\$26,212	\$26,213 -\$30,696	\$30,697 -\$39,853	\$39,854 \$144,332
<270	0.0949	0.0317	0.0771	0.0195	0.0568
271-442	0.0383	0.0099	0.0245	0.0813	0.1267
443-693	0.0229	0.0321	0.0190	0.0515	0.0605
694-1,047	0.0203	0.0216	0.0131	0.0297	0.0201
1,048-1,242	0.0061	0.0287	0.0194	0.0112	0.0218
1,243-1,522	0.0536	0	0.0053	0.0166	0.0286
1,523-1,970	0.0313	0.0290	0.0282	0.0190	0.0303
1,971-2,517	0.0254	0.0243	0	0.0261	0.0285
2,518-3,342	0	0.0503	0.0113	0.0326	0.0202
3,343-4,985	0	0	0.0173	0.0315	0.0236
4,986-6,782	0	0.0428	0.0123	0.0152	0.0263
6,783-9,707	0.0081	0.0059	0.0150	0.0314	0.0292
9,708-14,723	0	0	0.0485	0.0177	0
Yonkers: 19,350	0	0	0	0.0269	0
Syracuse: 22,550	0	0.0060	0	0	0
Rochester: 34,369	0	0.0311	0	0	0
Buffalo: 46,284	0	0	0	0	0
NYC: 971,690	0	0	0	0	0

Grant T

G1: \$8,068 a

G1a: \$8,068 a

G2: \$10,167

G2: \$10,167

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TABLE 18
DISTRIBUTION OF TOTAL LOCAL INCOME TAX RATES
BY FOUNDATION PROGRAM

Grant Type	Cost	10%	25%	50%	75%	90%
G1: \$8,068 and 3% Tax	\$8.885 Billion	0.03	0.03	0.03	0.052	0.097
G1a: \$8,068 and 2% Tax	\$10.429 Billion	0.02	0.02	0.02	0.044	0.089
G2: \$10,167 and 3% Tax	\$14.144 Billion	0.03	0.03	0.03	0.030	0.046
G2: \$10,167 and 2% Tax	\$15.804 Billion	0.02	0.02	0.02	0.020	0.054

would need to be able to impose a local income tax rate beyond the initial rate of 3 percent; another 63 would have to be able to impose an additional local income tax on top of a base rate that was below 3 percent, and 17 which had need no initial local income tax to achieve \$8,068, but would need authority to achieve their actual 1992-93 spending level. (See Table 12.)

Table 16 shows the distribution of districts needing some sort of additional taxing authority by enrollment size and per-return adjusted gross income level. It is evident that there are more (123) high income districts which would need to impose an additional local income tax than in any of the other per-return AGI categories.

Table 17 shows the median district's incremental or required marginal tax rate needed to maintain 1992 spending levels without further state aid beyond the grant determined by a guarantee of \$8,068 and 3 percent local income tax rate above (see Equation 5). Once one moves to districts with reasonably sized enrollments, many of the incremental local income tax rates are in the 1-3 percent range. Whether or not the State should participate through some sort of matching scheme beyond the base 3 percent income tax remains an open question. Again, if a gross local income tax on AGI were used instead of New York taxable income, tax rates could be lowered, on average, by 30 percent.

Finally, we examine in Table 18 the aggregate distribution of total local income tax rates (base rate of 3 percent or 2 percent plus any extra local income tax rate needed to maintain local spending) by type of foundation program. As noted above, a foundation program of \$8,068 and a local income tax rate of 3 percent would entail state aid of \$8.885 billion. If we line up the districts by their local income tax rate, from lowest to highest, we find that the local income tax rate for the first 50 percent of the districts will be 3 percent. At the 75th percentile, the rate rises to 5.2

AXES

Total
33
24
32
34
31
17
22
33
33
36
23
18
4
1
1
0
0
343

\$39,854
\$144,332
0.0568
0.1267
0.0605
0.0201
0.0218
0.0286
0.0303
0.0285
0.0202
0.0236
0.0263
0.0292
0
0
0
0
0
0

TABLE 19
 MEDIAN DISTRICT'S 1991 PERCENT RESIDENTIAL PROPERTY
 DIVIDED BY 1990 PERCENT RESIDENTIAL PROPERTY

1992 Enrollment Grouping	\$19,204	\$23,711	\$26,213	\$30,697	\$39,854	Total
	-\$23,710	-\$26,212	-\$30,696	-\$39,853	\$144,332	
<270	1.0161	1.0297	1.0300	1.0096	0.9798	1.0063
271-442	1.0138	1.0274	1.0143	0.9770	1.0253	1.0156
443-693	1.0176	1.0195	1.0193	1.0056	1.0625	1.0186
694-1,047	1.0231	1.0173	1.0233	1.0120	1.0513	1.0232
1,048-1,242	1.0162	1.0096	1.0108	1.0155	1.0400	1.0133
1,243-1,522	1.0121	1.0154	1.0267	1.0075	0.9808	1.0126
1,523-1,970	1.0383	1.0092	1.0059	1.0144	1.0162	1.0120
1,971-2,517	1.0357	1.0066	1.0072	1.0055	1.0160	1.0090
2,518-3,342	1.0028	1.0101	1.0000	1.0121	1.0070	1.0095
3,343-4,985	0.9372	1.0069	1.0130	1.0054	0.9948	1.0058
4,986-6,782	1.0255	1.0141	1.0220	0.9861	0.9871	1.0000
6,783-9,707	0.9499	1.0278	1.0190	1.0050	0.9811	1.0000
9,708-14,723	0	0	1.3439	0.9811	1.0050	1.0000
Yonkers: 19,350	0	0	0	1.0165	0	1.0165
Syracuse: 22,550	0	1.0233	0	0	0	1.0233
Rochester: 34,369	0	1.0400	0	0	0	1.0400
Buffalo: 46,284	1.0044	0	0	0	0	1.0044
NYC: 971,690	0	0	0	1.1429	0	1.1429
Total	1.0189	1.0139	1.01265	1.0057	1.0048	1.0119

percent, and by the 90th percentile, the total local income tax rate is 9.7 percent.

If the state sets a lower local income tax rate of 2 percent, then it must necessarily pick up a greater difference; note that the state aid cost rises to \$10.429 billion. The pattern of local income tax rates is accordingly lower, and the 75th percentile local income tax rate becomes 4.4 percent. Again, virtually all of the districts would use the 2 percent rate; note that the 10th percentile district in terms of its local income tax rate is at the 2 percent rate. This is important to forestall possible migration.

OTHER ISSUES:

THE GROWING ROLE OF THE RESIDENTIAL PROPERTY TAX

One explanation of the growing unhappiness with the local property tax involves the relative shift in valuations from commercial and industrial property to residential property. In this view, the economic collapse of much of the commercial property market in the late 1980s is now being captured by the assessment and

appeals processes. The overbuilding of commercial properties in the early 1980s and the collapse in demand as a result of the recession of 1989-91 and changes in the federal tax treatment of depreciation (especially the passive loss limitations in the Tax Reform Act of 1986), have been followed by declining or sluggish valuations. Also, the decline of heavy manufacturing industry in many industrial states has resulted in declining or sluggish valuations of manufacturing properties. By contrast, housing has not been overbuilt in the North East, and housing values may be growing more rapidly (or declining more slowly) than their commercial and industrial counterparts.

One way to examine this is to calculate the share of property taxes attributable to residential real property in 1991 and 1990, and compare the 1991 share to the 1990 share. Table 19 indicates that for many representative districts, the 1991 percentage shares of residential property were relatively 2 to 3 percent higher than in 1990.³³

Next, we can inquire if there is any relationship between the greater prevalence of residential property compared to nonresidential property viz a viz total spending per pupil. Table 20 shows the results of examining within each BOCES district the correlation between the 1992 per pupil spending and the percentage of property taxes attributable to residential property.³⁴

In the Albany area (BOCES id=1), there are 25 school districts; the correlation between 1992-93 spending and the percentage of 1991 property taxes which is residential, according to the NY State Department of Equalization and Assessment, was $-.46431$. The correlation using 1990 data was $-.46565$. The probability that the correlation was due to chance, rather than a systematic relationship was less than 2 percent. Of the 38 BOCES areas examined,³⁵ 16 displayed a statistically significant inverse correlation between per pupil spending and the percentage of equalized value attributable to residential property. All but five showed an inverse relationship.

33. the ratios reported in Table 19 exclude condominiums in the definition of residential property tax collections because such data are not available for 1990. Elsewhere in the study, residential property was estimated using property tax collections in 1991, including those on condominiums, divided by total property tax collections in 1991. 1992 residential property tax collections were estimated by multiplying the 1991 percentage times known 1992 total property tax collections.

34. Recall that a correlation coefficient can be between -1.0 and $+1.0$. If there is no association, then the coefficient will be small, e.g., $-.04$ or $+.05$. If there is a strong, nonrandom relationship, then the correlation coefficient will be large, e.g., $-.6$ or $+.8$.

TABLE 20
SIMPLE CORRELATION BETWEEN 1992 PER PUPIL SPENDING AND
1990 AND 1991 PERCENT RESIDENTIAL PROPERTY TAXES BY BOCES

ID	BOCES	1990 Corr Coeff.	1991 Corr Coeff.	Prob90	Prob91	Number of SDs
1	Albany-Schen-Schoh*	-0.46431	-0.46565	.0194	.0190	25
2	Broome-Delaware-Tioga*	-0.50688	-0.52540	.0538	.0443	15
3	Catt-Alleg-Erie-Wyoming	-0.11607	0.01992	.5806	.9247	25
4	Cayuga-Onondaga	-0.11436	-0.17988	.7696	.6433	9
5	Clnt-Essx-War-Wash	0.17199	0.19655	.5092	.4496	17
6	Del-Chen-Mad-Otsego*	-0.87766	-0.88525	.0001	.0001	17
7	Dutchess	-0.52604	-0.42856	.0648	.1440	13
8	Erie 1	-0.33744	-0.37123	.1457	.1071	20
9	Erie 2 -Catt -Chaut	-0.04665	-0.04730	.8136	.8111	28
10	Franklin-Essex-Hamilton*	-0.69262	-0.70192	.0386	.0350	9
12	Hamilton-Fulton-Mont	-0.32691	-0.30548	.2539	.2882	14
13	Herkimer-Ful-Hamltm-Ots*	-0.79711	-0.78543	.0019	.0025	12
14	Jef-Lew-Ham-Herk-Oneida	0.09691	0.05399	.7114	.8370	17
15	Gen-Livingston-Steu-Wyoming	-0.21887	-0.25341	.3278	.2552	22
16	Madison-Oneida	0.13255	0.16565	.7151	.6474	10
17	Monroe 1*	-0.52564	-0.52337	.0968	.0985	11
18	Monroe 2-Orleans*	-0.38559	-0.39269	.3054	.2958	9
19	Nassau	-0.63909	-0.64510	.0001	.0001	53
42	New York City	-	-	-	-	-
20	Oneida-Mad-Herk*	-0.49803	-0.53170	.0994	.0752	12
21	Onondaga-Cortland-Madison*	-0.53116	-0.46926	.0076	.0207	24
22	Ontar-Cay-Sen-Wyne-Yts*	-0.44053	-0.45359	.0243	.0199	26
23	Orange-Ulster	-0.23632	-0.28370	.3451	.2539	18
24	Orleans-Niagara*	-0.63287	-0.60604	.0203	.0281	13
25	Oswego*	-0.89745	-0.90460	.0010	.0008	9
26	Otsego-Del-Schoh-Greene	0.08758	0.10947	.7214	.6555	19
27	Putnam-Westchester	-0.29585	-0.23526	.2333	.3473	18
28	Renss-Columbia-Greene	0.12692	0.12793	.5735	.5705	22
29	Rockland	-0.08965	-0.08989	.8328	.8324	8
30	St Lawrence-Lewis	-0.25362	-0.25838	.3099	.3006	18
32	Schuyler-Chemung-Tioga	-0.24476	-0.29858	.5968	.5154	7
33	Steuben-Allegany	-0.38572	-0.38615	.1732	.1726	14
34	Suffolk 1	0.22780	0.18875	.1154	.1940	49
36	Suffolk 3	-0.31145	-0.21232	.2084	.3976	18
37	Sullivan	-0.24254	-0.30999	.4996	.3834	10
38	Tompkins-Seneca-Tioga*	-0.76359	-0.76135	.0275	.0282	8
39	Ulster*	-0.71409	-0.69197	.0466	.0572	8
40	Wash-Sar-Warren-Hamltm-Essex	-0.68313	-0.72573	.0001	.0001	31
41	Westchester*	-0.57239	-0.52751	.0015	.0039	28

* Denotes odds of correlation due to chance alone less than 10 percent.

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This finding can be also interpreted as supporting the notion that as nonresidential property becomes more important in the composition of a school district's tax base, it becomes politically easier to impose higher millages.³⁶

OTHER ISSUES:

STABILITY OF INCOME VS. PROPERTY TAXATION

A major perceived advantage of the local property tax is its stability in revenues over time. From the point of view of the local school tax collector, it is usually presumed that monies from the property tax vary less than would tax revenues from a local income tax. Unfortunately, data on actual assessed values and actual millages per district per year are not available over a long enough time period to test this hypothesis. On the other hand, New York State does collect systematic data on adjusted gross income over time, property tax collections, and equalized full value.

Property tax collections reflect not only changes in the assessed tax base, but also behavioral responses by school boards to changing state and federal aid as well as local assessments. If these political decisions are made to smooth out gyrations in the assessed base, we would expect the variation in the growth rate of property tax collections to be relatively smaller than that in adjusted gross income.

We shall examine the issue of stability of the local income tax compared to the local school property tax by comparing the *relative* variability in the adjusted gross income base per school district compared to the variability of actual property tax collections.

The coefficient of variation, defined as the standard deviation of the growth rate in tax base divided by the mean growth rate in tax base is our measure of volatility. For three tax base measures, we have growth rates for the period 1983-1992. For each school district, we have 10 percentage changes in property taxes, 10 percentage changes in equalized value, and 10 percentage changes in AGI. For each school district, we may calculate a coefficient of variation in each set of 10 percentage changes. The entries in Table 21 correspond to sorting the 687 districts by each of the

35. New York City has only 1 observation and so a correlation can not be performed.

36. Ladd and Harris in "Statewide Taxation," report statewide regression results for New York that display an inverse relationship between the percent of equalized residential property values and expenditure per pupil.

ES

	Number of SDs
190	25
443	15
247	25
433	9
496	17
001	17
1440	13
1071	20
8111	28
0350	9
2882	14
.0025	12
.8370	17
.2552	22
.6474	10
.0985	11
.2958	9
.0001	53
-	-
.0752	12
.0207	24
.0199	26
.2539	18
.0281	13
.0008	9
.6555	19
.3473	18
.5705	22
.8324	8
.3006	18
.5154	7
.1726	14
.1940	49
.3976	18
.3834	10
.0282	8
.0572	8
.0001	31
.0039	28

TABLE 21
COEFFICIENTS OF VARIATION IN GROWTH RATES OF DIFFERENT TAX BASES

Percent	CV Property Tax Growth Rate	CV Full Value Growth Rate	CV AGI Growth Rate
90%	149.6	118.9	140.8
75%	99.9	94.8	90.4
50%	67.0	78.0	62.3
25%	46.0	67.1	48.8
10%	34.7	52.3	39.4
q3-q1	53.8	27.7	41.6

Source: Author's Calculations.

three coefficients of variation, and examining the median coefficient and other parts of the distribution.

Table 21 displays the distribution of these measures of relative volatility in growth rates by type of tax base. The median district's coefficient of variation of property tax collections growth rate was 67.0, while the comparable figure for full value growth rate was 78.0 (more volatile), while the comparable figure for adjusted gross income growth rate was 62.3 (less volatile). Thus, for the median district, the income tax base shows somewhat less volatility in growth rate than either measure of the property tax base.

The property tax base shows greater relative volatility for all points in the distribution, and the interquartile range compared to the adjusted gross income measure of relative variability: compare 53.8 to 41.6. On the other hand, the full value growth rate measure has the smallest interquartile range of variation of 27.7.

OTHER ISSUES:

WINDFALLS TO HOMEOWNERS DUE TO PROPERTY TAX ELIMINATION

Actual implementation of the complete or partial substitution of the local school property tax with a local income tax will alter the local financial landscape. For many homeowners, school property tax are often half of their local tax bill. A question arises whether the elimination of the school property tax will create a windfall. Two sorts of windfalls can be imagined:

- a major tax reduction for homeowners who are income-poor, say the elderly; this windfall entails a major tax re-

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duction for them, and tax increases on those who have relatively higher income, and have relatively lower real estate wealth.

- for the class of all homeowners whose property taxes might go down by 30 or 40 percent, the value of their homes could be expected to rise by the capitalized value of the tax reduction. In this view, the local school property tax "destroys" the value of real estate, and a property tax reduction would create a once-and-for-all increase in the market value of residences.³⁷

The first sort of "windfall" represents changes in tax burden that result from tax reform. That is, those with ability to pay at the local level would now be taxed to support the costs of public education. Forestalling this shift would be to engage in contradictory public policies.

With respect to the second issue of possible capitalization effects, several observations are in order. First, if the shift in revenue source is phased in over time, the windfall will be slight.

Second, even if it is made in one year, the effects may be small. Consider the following calculations. According to the New York State Department of Equalization and Assessment, total residential school property taxes were \$5.870 billion in 1992-93, while the total equalized value of residential property was about \$491.363 billion. If the mortgage rate of interest is 9 percent, the most the capitalized value of the \$5.870 billion could be is \$65.2 (\$5.870/.09). If we compare this \$65.2 billion rise in value that might occur were the residential property tax eliminated to the initial equalized base of \$491.363 billion, this is at most a 13 percent "windfall." Changes in the mortgage rates in 1994 have been at least of this order of magnitude; compare 9 percent with 7 percent for example. From these calculations it would appear that this second "windfall," especially if the tax substitution were phased in over time, would be modest.

CONCLUSIONS

The purpose of this study has been to review the arguments for and against replacing the local school property tax with a local income tax. The essential argument in favor of such a major restructuring of New York's system of school finance is that a local income tax better reflects the ability to pay of a school

37. A simple way to estimate the largest possible size of this effect is to divide the once and for all property tax reduction by the mortgage interest rate.

district's residents than does the real property tax base or residential real property tax base in the district. For those who have modest incomes and are "paper-rich," such a tax reform will move their burdens to those with greater ability to pay. Given the current difficulties with New York's real property tax, such tax substitution is viewed as a workable alternative to trying to reform the assessment process statewide. The essential arguments against such a proposal involve new administrative complexities, and the practical argument for not disturbing a fiscal landscape which may be relatively settled.

While it is often said that the local property tax is a stable form of finance, a review of the relative volatility of adjusted gross income compared to property tax collections indicates that income was more stable. While actual collections can vary for a number of reasons besides volatility in the underlying assessed tax base, these empirical results at least raise a question about one of the major virtues of the local school property tax.

The 1992 local school property tax was 4.4 percent of 1992 total adjusted gross income (\$11.3 billion/\$257.6 billion), and 6.3 percent of estimated total 1992 New York State taxable income of individuals (e.g., \$11.3 billion/\$178.9 billion). The 1992 estimated residential local school property tax was 2.3 percent of total 1992 adjusted gross income (e.g. \$5.9 billion/\$257.6 billion), and 3.3 percent of estimated 1992 taxable income (e.g., \$5.9 billion/\$178.9 billion).

If one wishes to engage in this form of local tax reform, we find that it is possible, with a 'mandatory' local income tax rate on the order of 2 percent to 3 percent to eliminate the residential portion of the school property tax in conjunction with changing the New York school aid formula to a foundation program. I say 'mandatory' because some districts are sufficiently well endowed with nonresidential property that they would need income tax rates below 3 percent to maintain their current spending levels.³⁸

Eliminating a portion of the local property tax can raise complex questions of how to deal with nonresidential property taxation. Neither a homestead exemption or the classification of nonresidential property are simple; however, these mechanisms can be refined to reflect relative relationships among types of real property.

While a local income tax on the order of 2 or 3 percent will be sufficient to replace the local residential school property tax for most school districts in New York, there are a number of prima-

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rily small districts where this is not possible. Further research is also necessary to understand the particular economics of these areas, and whether special rules might be needed to make such a tax substitution acceptable. Further work is also necessary to understand the implications of such a tax substitution for renters in commercial apartment buildings. This will be especially important in urban areas, and New York City in particular.

This analysis has presumed that a statewide foundation amount of \$8,068 is an appropriate spending level. Further investigation of devising a more meaningful foundation standard is needed. This entails examining differential costs of living, transportation needs, capital costs, differing student needs and demographics, and differing salary levels necessary in different parts of New York to attract and retain qualified teachers. Districts currently make decisions in each of these school resource areas; at issue is what is necessary, for various parts of New York State, to provide educational services to students in order for the State to fulfill its obligation to them.

It is likely that legislative consideration of the substitution of a local income tax for the school property tax will entail providing the local income tax as an *additional* revenue source to local school districts, rather than the elimination of the school property tax. If so, care must be taken not to create revenue windfalls to local districts.

38. It may also be of interest to consider a reform which would provide for statewide taxation of commercial and industrial property in conjunction with a local income tax to replace the residential school property tax.