

## **New York State's Foundation Aid Study: A Scholarly Perspective**

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### I. Introduction

This testimony provides my thoughts on the foundation aid study to be conducted by the Rockefeller Institute at the behest of New York State. I greatly appreciate the opportunity to weigh in on this important project.

My testimony has four parts. Section II presents my credentials, with a focus on my scholarly research on education finance. Section III provides a brief overview of foundation aid as discussed in the academic literature. Section IV explains my evaluation of New York State's legislative requirements for the foundation aid study. Section V presents a detailed example of a possible foundation aid program.

### II. Credentials

I am Professor Emeritus of Economics and of Public Administration and International Affairs at Syracuse University. I have a Ph.D. in economics from Princeton University. I was a professor in Syracuse University's Maxwell School for 36 years, following much shorter jobs at the University of Wisconsin, Harvard's Kennedy School, the University of Michigan, and the U.S. Council of Economic Advisers.

One key focus of my scholarly activities has been fiscal federalism in general and state education aid in particular. My research on state education aid has appeared in numerous professional journal articles and book chapters. These publications address state education aid not only in New York State, but also in California, Kansas, Nebraska, Maryland, Massachusetts, and Missouri. I have received several honors for my research, including the 2011 Steven D. Gold award from the Association for Public Policy and Management, the National Conference of State Legislatures, and the National Tax Association, which is given to "someone who has made a significant contribution to public financial management in the field of intergovernmental relations and state and local finance"). In 2008 I was elected to the National Academy of Public Administration.

I have testified about state education aid in New York before the New York Advisory Committee to the U.S. Civil Commission on Civil Rights (2019), the New New York Education Reform Commission (2013), and the New York Education Reform Commission (2012). My late colleague, W.D. Duncombe, and I submitted an Amicus Curiae Brief to the Supreme Court of the State of New York, County of New York, in the case of Campaign for Fiscal Equity, Inc. v. The State of New York (2004). More information on my credentials can be found at: <https://joyinger.expressions.syr.edu/wp-content/uploads/Yingercv.pdf> .

In 2001 I founded the Education Finance and Accountability Program at the Maxwell School. This program, which was recently re-named the Program for Educational Equality and Policy, promotes research, education, and debate about fundamental issues in the elementary and secondary school system in the U.S. As EFAP director until 2023, I wrote a monthly column on issues in education finance and accountability. Since 2016, ten of these columns concern education aid in New York State. See <https://www.educational-equity.org/its-elementary> or the references at the end of this testimony.

### III. Overview of Foundation Plans

A foundation plan for state education aid is designed to ensure that all school districts have the funds they need to attain the minimum student performance standard set by the state. This minimum-performance objective is popular, and some type of foundation aid is used by about 40 states, including New York.<sup>1</sup>

A foundation plan builds on the notions of education costs and of revenue-raising capacity. The cost of education in a given district depends on the state's student performance target and on the specific cost factors for that district, such as the share of students from poor families. The **foundation spending amount** is the spending per pupil that is required to reach the state's performance target in a district with average costs. A district's **expenditure need** is the foundation amount adjusted for the cost factors in that district; in other words, expenditure need is the amount an individual district must spend to reach the state's performance target once its cost environment has been considered.

A district's **revenue-raising capacity** measures its tax base for the tax system supporting public schools. With a property tax, for example, a district's revenue-raising capacity is the value of its taxable property. A district's **expected local contribution** is the amount of money it can raise with state-specified tax rates applied to its revenue-raising capacity. In the property tax example, a district's expected local contribution is the property tax rate selected by the state multiplied by the district's property tax base.

Foundation aid equals expenditure need minus the expected local contribution. For a given set of student cost characteristics, the budgetary cost of a foundation aid program rises if the target level of student performance goes up or the expected local contribution goes down.

These concepts are defined to be outside a district's control. In other words, a foundation plan is based on factors that cannot be manipulated by school district officials.

Some people may regard foundation aid for education as a zero-sum game in which some school districts receive a lot of assistance and others receive little. The widespread popularity of foundation aid suggests an alternative view, namely, that providing lower-income districts with

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<sup>1</sup> Huang (2004) counts 41 states with some form of foundation plan. Verstegen and Knoepfel (2012) count 36 states, but they also identify 9 states with tiered systems, which may include a foundation-aid component.

additional funding not only improves the education performance of students in a state's most troubled districts, but also leads to lower poverty and higher incomes for those students when they grow up. These income changes, in turn, translate into lower costs for the state's taxpayers.<sup>2</sup>

#### IV. Comments on the Foundation Aid Enabling Legislation

The list of requirements in the enabling legislation covers most of the issues that must be addressed to design a foundation aid formula. This list is consistent with the set of steps I have taken in my research and policy analysis concerning foundation aid. My testimony comments on the issues that arise in meeting these requirements.

In the following discussion, entries from the legislation are in italics; my comments are in regular type. Some parts of the legislation are not relevant and are passed over.

*3. The foundation aid formula, as modified by the recommendations of the study, shall achieve the following:*

*(a) be fiscally sustainable for the state, local taxpayers, and school districts; and*

As explained in Section II, the cost of a foundation aid plan depends on the target level of student performance selected by the state and the expected local contribution. The budget for a foundation program will be higher if the state selects a higher target for student performance or a lower expected local contribution. These issues are discussed in more detail later in this testimony.

*(b) calculate foundation aid payable for all school districts consistently using only the most recent year or years of available data on pupil counts, student needs, district income and property wealth, and other formula components.*

The need for good, recent data is worth emphasizing. With good data collecting procedures in place, the formula could be updated annually, which would promote fairness across districts.

*4. The study shall evaluate each current component of the foundation aid formula and recommend whether to retain, modify, or eliminate the component, and may evaluate and recommend new components to add to the formula. Such evaluation shall consider relevant data and research. The components to be so evaluated shall include but not be limited to the following:*

*(a) the foundation amount of instructional spending per pupil;*

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<sup>2</sup> See Jackson, Johnson, and Persico (2016), Hyman (2017), and Lafortune, Rothstein, and Schanzenbach (2018), Yinger (2016b).

This foundation amount is the spending per pupil needed to support the state target for student performance in a district with average costs and other characteristics. The foundation amount can be calculated using the coefficients from a cost regression, which is defined in the discussion of legislative requirement 4(b). To be specific, this amount is the predicted value of this regression when the student performance level is set at the state's desired target and the other variables are set at state-wide averages.

*(b) the additional weightings for pupil needs, such as for free and reduced-price lunch, census poverty, English language learners, sparsity, and pupils with disabilities;*

Requirements 4(a) and 4(b) call for the estimation of an educational cost regression. This type of regression shows the relationship between school district spending per pupil and cost characteristics, after accounting for the district's average student performance.<sup>3</sup> The main cost characteristics to consider are those listed under point (b) in the enabling legislation, although others may be discovered when comprehensive data are collected. Some academic studies have found, for example, that education costs are affected by changes in enrollment and that costs per pupil are different for elementary schools, middle schools, and high schools.

The relevant characteristics for inclusion in the aid formula should be selected on statistical grounds. In other words, the characteristics included in the aid formula should be the ones that are statistically significant in the regression analysis.<sup>4</sup>

Once the cost characteristics have been identified, they can be used to calculate a cost index for each district. This index indicates the extra spending per pupil that is required in a district with a high concentration of disadvantaged students, including students in poverty, students who are English language learners, and so on. This index can be scaled to have a value of 1.0 in a district with average cost characteristics. Districts with higher costs will have values above 1.0. An alternative approach with similar results is to use weighted-pupil measure, which indicated the extra costs for pupils with various disadvantages, often called at-risk students.<sup>5</sup>

An important qualification to this discussion is **that the current plan to eliminate required Regents' exams will make it impossible to design a fair state aid program in New York**. The only way to reliably estimate the added costs of at-risk students is through a regression analysis that examines the relationship between district spending and district shares of

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<sup>3</sup> An educational cost regression raises some complex statistical issues. A discussion of these issues is beyond the scope of this testimony, but a full discussion of them can be found in Nguyen-Hoang and Yinger (2021).

<sup>4</sup> Many scholars estimate educational cost regressions. See, for example, Duncombe, Nguyen-Hoang, and Yinger (2015), Duncombe and Yinger (2011, 2005), and Nguyen-Hoang and Yinger (2021). Cost adjustments used in different states are summarized in Hoang (2004) and Versteegen and Knoepfel (2012). Pupil weights were introduced in California for the first time in 2013-14. See Yinger (2015).

<sup>5</sup> See Duncombe and Yinger (2005).

at-risk students, holding constant districts' test score results. No other scientific approach exists. Some states have relied on the judgements of educational professionals to estimate the cost of at-risk students. In fact, however, different panels sometimes produce very different results even within the same state. In my opinion, professional judgement panels are not a substitute for an education cost regression, especially for the purpose of estimating the cost of at-risk students for a state aid formula.

Another difficulty is that various measures of student disadvantage may be altered or discontinued. In this case some measures of student advantage may no longer be available, even though they proved to be significant in the cost regressions for prior years. An example of this problem is the share of students eligible for a free lunch, which is a significant variable in recent education cost regressions.<sup>6</sup> This variable may not be available in the future so a less precise measure of poverty, such as the child poverty rate in the district as determined by the Census, may be the best one available. Changes in available data may require re-estimation of the cost regression.

The need to estimate a cost function does not imply that the design of a foundation aid formula is mechanical. Some statistical issues require judgment and choices. Moreover, some issues cannot be resolved with statistical methods. One example is the treatment of students with severe disabilities. This variable is often included in cost regressions, but aid programs for students with severe disabilities often provide districts with funds beyond those from foundation aid. Combining the share of students with severe disabilities in the cost function and with additional aid outside foundation aid seems like a reasonable procedure to me, but it is a matter of judgement.

Another judgement call is the treatment of New York City, which is a clear outlier in a data set of schools in New York State. Regressions often produce misleading results when outliers are included, so a reasonable approach is to exclude NYC from the cost regression. The weights in the cost regression without NYC could still be used to calculate an expenditure need for NYC. It is not clear, however, whether this approach would lead to reasonable NYC results. Another possibility is to calculate aid in the spirit of the CFE III decision by giving NYC its 2006 spending increased by the court-mandated \$1.93 billion and then adjusted for state-wide growth in school spending outside NYC and for the change in NYC enrollment.<sup>7</sup>

A final example is the relatively new requirement in New York State for districts to “set aside” some of their foundation aid to fund programs specified by the state legislature. This is a striking deviation from the philosophical foundations of a foundation aid program, which leaves the responsibility for expenditure decisions up to the school district. It is hard to hold school districts accountable for their performance if they are required to provide programs that are not of their choosing.

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<sup>6</sup> See, for example, Nguyen-Hoang and Yinger (2021). Yinger and Guterrez (2017) find that the share of students eligible for a free lunch is the most significant of the various poverty measures.

<sup>7</sup> For more on these issues see Yinger (2019b, 2019d).

In my view, New York State should replace these set-asides with formal evaluations of the programs the State finds appealing. This approach would allow each school district to decide, based on its own characteristics, whether these programs are likely to boost student performance. A state-level accountability system could then evaluate these district decisions.

*(c) the adjustment for regional cost differences;*

A cost regression and the resulting cost index need to account for the market price of teachers. Through no fault of their own, some school districts must pay more to hire teachers because they are in a labor market with a high cost of living or because teachers find the environment in their schools to be particularly challenging. Teacher costs are difficult to estimate because it is not possible to control directly for teacher quality. It is not appropriate to say that a district has relatively high costs because it is willing to pay high salaries to attract the best teachers. A standard approach to this issue is to use a related wage measure, such as manufacturing wages in the district's region to account for teacher costs.<sup>8</sup>

*(d) the calculation of school districts' relative wealth;*

In an education system with local contributions that come largely from the property tax, it is reasonable to treat the property tax base per pupil as a measure of wealth. This approach is used by most scholars. A conceptually appealing alternative is an "income plus exporting" approach. Whatever the tax or taxes used to fund schools, the revenue must come out of local residents' pockets, except for the portion of revenue that gets exported to non-residents.<sup>9</sup> Property taxes on commercial and industrial property, for example, may be exported to some degree to non-resident shareholders of the taxed businesses. Districts able to export a large share of their property taxes have larger revenue-raising capacity, all else equal. Tax exporting is not usually considered by scholars or policy makers, however, because it is difficult to estimate. Nevertheless, the property tax base is an appealing approximation for an income plus exporting measure because residential property value is highly correlated with income, and tax exporting by school districts occurs through property taxes on commercial and industrial property that is owned by nonresidents.

Taxpayers in New York City and Yonkers pay local income taxes. These taxes help solve local budget problems, but they are paid, just like property taxes, out of residents' pockets. As a result, they do not represent new resources for these districts. Moreover, local income taxes

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<sup>8</sup> The wage measure in Nguyen-Hoang and Yinger (2021) is the district's salary for teachers with one to five years of experience. This measure is treated as endogenous using the surrounding county's manufacturing wage as an instrument. In other words, the regression captures the effect of salary costs on school spending only to the extent that these costs are correlated with manufacturing wages.

<sup>9</sup> See Ladd and Yinger (1991).

cannot be exported, so they do not add to a district's revenue-raising capacity through this channel.<sup>10</sup>

In New York's current foundation formula, the calculations that lead to a district's expected local contribution are complex, and their link to principles of fairness or of foundation aid design are not clear. My recommendation is for the state to strive for a simpler calculation of the expected local contribution and then to make sure that the new design rests on clear principles. A foundation aid program is designed to offset the expenditure and revenue disparities in a state's education finance system. In my judgement, care should be taken to make sure that the equalizing effect of expenditure need calculations is not offset by hard-to-understand calculations of the expected local contribution.

*(e) the expected minimum local contribution toward the adjusted foundation amount;*

As discussed above, foundation aid is set equal to the difference between a school district's expenditure need (based on factors outside its control) and the expected local revenue contribution (also based on factors outside its control). The most straightforward way to define the local contribution is the local property tax base multiplied by a property tax rate that is the same for all districts. This expected local contribution is used to help define the aid a district receives, but it serves another important purpose, namely, to show the amount of money a district must raise to ensure that it can pay for its expenditure need. If a district sets a lower property tax rate than the one that is used to define the expected local contribution, then the district's expenditure need will not be fully funded despite the district's receipt of foundation aid.

The obvious way to avoid this problem is to require all school districts to levy the tax rate that appears in the expected local contribution formula. This approach is used in about half of the states, not including New York, that have a foundation aid formula. Moreover, school districts that receive a large amount of aid, which are predominantly poor districts, are likely to cut back on their own contribution in response to aid, and many districts may fall short of the required revenue if the foundation aid formula is not accompanied by a minimum tax rate requirement.<sup>11</sup> In other words, children in some districts, particularly poor school districts, are penalized unless a minimum tax rate is required.

Ironically, New York does not require a minimum tax rate, but instead imposes a tax-rate cap in the form of a maximum growth rate in a district's tax levy. This tax cap may prevent some districts from providing the foundation level of spending even if they want to. **The only way to ensure that all districts receive the revenue they need to meet their expenditure need (and hence to provide students with the education they deserve) is to require all districts to levy**

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<sup>10</sup> In the past, New York City had a commuter tax, which creates tax exporting, but no such tax is currently available for education.

<sup>11</sup> Using 2015 data from New York State, Nguyen-Hoang and Yinger (2020) find that, on average, "\$1 of state aid leads to \$0.85 in property tax relief."

**at least the tax rate built into the foundation aid formula. Any tax levy beyond that rate could be subject to the current tax-cap program.<sup>12</sup>**

*(f) the pupil counts, such as public enrollment and average daily membership.*

As I understand it, methods for counting pupils vary widely across states. From a theoretical point of view, the best method should not undercount students by collecting data on a single day or by ignoring absent students.

A key issue for a cost regression is to recognize that the relationship between cost per pupil and number of pupils is U-shaped.<sup>13</sup> To address this factor, the cost regression should have a quadratic specification for enrollment or else a set of enrollment size categories.

*5. In support of its recommendations, the study shall at a minimum examine the following:*

*(b) the extent to which the current calculation of the foundation amount is inconsistent with current adjustments for pupil needs and regional cost differences and includes costs supported by other non-local revenues;*

See the foundation aid example in Section V.

*(c) the additional instructional costs associated with addressing the needs of certain groups of students, including whether and how to properly weight students belonging to multiple such groups;*

The current New York foundation formula accounts for the costs of students who are eligible for a free or reduced-price lunch, live in a Census tract with a high poverty rate, or are English language learners. However, this formula does not consider the extent to which these categories overlap. It does not consider, for example, whether the cost of an ELL student is different when the student is eligible for a free or reduced-price lunch than when she is not. No academic study of which I am aware estimates an education cost regression that accounts for this type of overlap.

The main reason for this limitation is that the data available to scholars usually does not provide two-way tables of student characteristics. Scholars and policy analysts could calculate this type of crosstab with student-level data. This type of data of course raises concerns about confidentiality, but other states have found ways to provide scholars with this type of data with all identifying information removed.

A related point is that a credible accountability program for school districts requires program evaluations based on longitudinal data for individual student performance on

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<sup>12</sup> Of course, the tax rate in the expected local contribution could be lowered to ease the financial burden on poor districts. This step would obviously increase the burden on the state.

<sup>13</sup> See, for example, Duncombe, Nguyen-Hoang, and Yinger (2015).



standardized tests. A state cannot determine which educational programs are effective without this type of data.

*(d) the extent to which teacher salaries, other professional salaries, the cost of living, and school district spending per pupil vary by region;*

See my comment under legislative requirement 4(c).

*(e) the formula's adjusted foundation amount compared to school districts' actual spending on the costs intended to be supported by such amount;*

The foundation formula includes a district's expenditure need, which is the state-wide foundation amount multiplied by the district's cost index. The adjusted foundation amount in entry 5(e) is the same as expenditure need. The foundation amount is discussed under requirement 4(a).

*(f) the formula's expected minimum local contribution compared to school districts' actual local contribution and fiscal capacity, including but not limited to property tax levy, unexpended surplus in excess of the limit established by section 1318 of the real property tax law, and other potential offsets;*

The expected local contribution in a foundation formula is the amount a district can raise per pupil with a standardized tax system. As discussed under requirement 4(e), a foundation aid program is not fair to students in poor districts unless this minimum expected revenue is a requirement. The term "fiscal capacity" is sometimes used to mean the same thing as "revenue-raising capacity," so the minimum revenue requirement can be expressed as a share of fiscal capacity.

*(g) the extent to which school districts' property tax rates vary by districts' relative income; and*

The standard formula for foundation aid expresses the expected local contribution as a share of revenue-raising capacity. This approach reflects the judgement that all districts should be expected to make the same contribution as a share of their fiscal capacity, usually measured by their property tax base per pupil. An alternative judgement is that richer districts, based on income, should make a larger contribution, again as a share of their fiscal capacity. This alternative approach would make the foundation aid program more progressive. It is equivalent to lowering expenditure need in high-income districts. I recommend against this type of complexity in the fiscal capacity calculations.

*(h) school districts' overall financial condition, including annual operating deficits or surpluses and accumulated fund balances and reserves.*

A school district's financial condition, which is under the district's control, should not affect the district's foundation aid, which is based on factors outside the district's control. In other words, a foundation aid program should not reward a district for poor management. Poor

financial condition should be addressed through accountability policies, not through the design of a foundation aid formula.

However, it is appropriate to account for school district efficiency in a cost regression. The estimated pupil weights might be biased if efficiency is not accounted for. Efficiency cannot be measured directly, but cost regressions can be designed to account for variables related to efficiency and for unobservable factors, such as efficiency, that do not vary over time.<sup>14</sup>

## V. Example of an Updated Foundation Aid Program

In 2017, Emily Gutierrez and I estimated pupil weights for a foundation aid program in New York (excluding New York City) using data from 2011-2012 through 2014-2015.<sup>15</sup> We used standard scholarly methods to estimate pupil weights for students from poor families, students who speak English as a second language, and students with severe disabilities. In a follow-up policy brief we used those weights to design a foundation aid program for 2015 and compared that program to the actual state foundation aid program at that time.<sup>16</sup>

Our main conclusion concerning pupil weights: “We find that the share of students eligible for a free lunch, FL, is the poverty measure with the strongest link to spending. The average district pupil weight for this measure is 1.25; that is, it costs 125% more to bring a poor student (by this measure) up to the same level of student performance as a non-poor student. Our estimated weights are 0.61 for ELL students and 0.39 for students with a severe disability. This ELL weight is significantly higher than the 0.5 weight in the current aid formula. These weights are higher than the ones in the current state aid formula.”

The foundation formula in our follow-up analysis accounts not only for the costs associated with at-risk students, but also for regional costs that may affect salaries and for the cost-impacts of district enrollment scale. We measure the expected local contribution as 1.5 percent of a district’s property tax base. We then compare the aid that would be awarded based on our formula with the current foundation aid amounts, holding constant the total aid budget.

“Figure 1 summarizes our results. This figure plots actual state aid (the vertical axis) and district fiscal health (the horizontal axis) for all districts in New York State except New York City. It shows that actual state aid in New York is [negatively] correlated with district fiscal health. In other words, districts in poor fiscal health tend to receive more state aid per pupil than other districts.

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<sup>14</sup> For more on ways to account for efficiency, see the references cited in footnote 3.

<sup>15</sup> See Yinger and Gutierrez (2017). At the time, Ms. Gutierrez, now Dr. Gutierrez, was a Ph.D. student at the Maxwell school.

<sup>16</sup> Yinger and Gutierrez (2018).

Nevertheless, three troubling lessons emerge from this figure. First, state aid does not fully compensate low-health districts for their disadvantages. To be specific, a \$1 increase in the need-capacity gap leads to only a \$0.62 increase in state aid. Moreover, the expected gap between fiscal-health-based aid and actual aid per capita is \$5,488 higher in a school district with a 100 percent of its students eligible for a free lunch than in a school district with no student poverty.

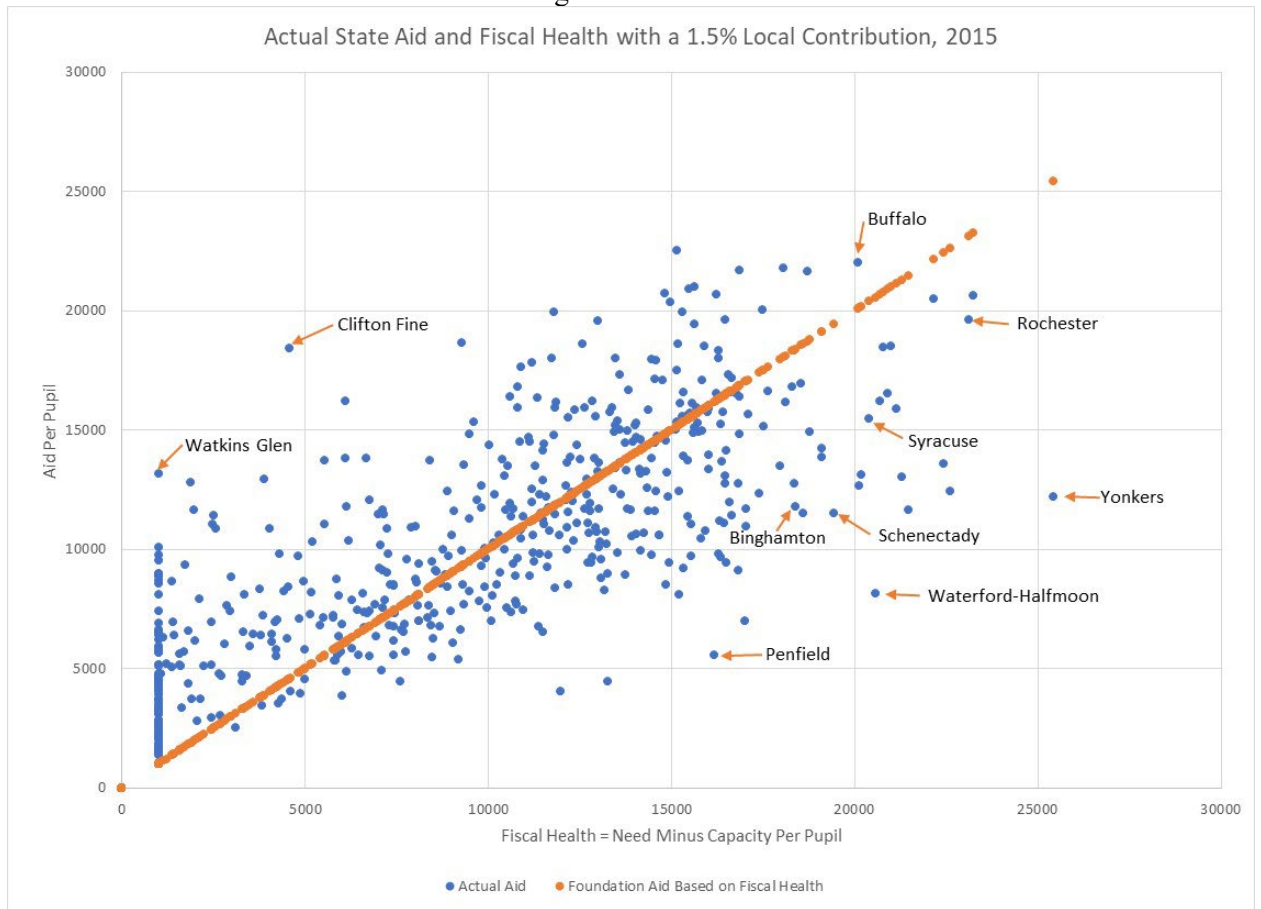
Second, many large and/or high-need districts receive far less aid than warranted by their fiscal health. Actual aid falls short of fiscal-health based aid by \$3,495 per pupil in Rochester, \$4,930 per pupil in Syracuse, \$6,612 per pupil in Binghamton, \$7,924 per pupil in Schenectady, and an astonishing \$13,214 per pupil in Yonkers. Buffalo is the only high-need district that receives more actual aid, almost \$2,000 per pupil, than aid based on fiscal health.

Third, the districts that receive more aid than warranted by their fiscal health alone are, on average, remarkably similar to the average district overall. Their average enrollment is slightly smaller (2,160 pupils compared to 2,403 pupils), their free lunch share is slightly lower (33.3 percent compared to 38.3 percent), and their per-pupil wealth is virtually identical. The advantageous aid received by these districts, in other words, cannot be explained by factors related to their fiscal health.

Overall, educational aid in New York State certainly has an equalizing impact, but this impact falls far short of giving the neediest districts the aid they need to meet the state's implicit student performance standards."

This example is obviously not ready for implementation because the data are limited and out-of-date. Nevertheless, it emphasizes the need for a new, fairer formula, and it provides some guidance for the design of foundation aid revisions.

Figure 1.



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