SUPREME COURT OF THE STATE OF NEW YORK
COUNTY OF NEW YORK: IAS PART 25

CAMPAIGN FOR FISCAL EQUITY, INC., *et al.*,	Hon. Leland DeGrasse
Plaintiffs,	Index No.: 111070/93
v.	Special Referees: Hon. William C. Thompson, Hon. E. Leo Milonas, John D. Feerick, Esq.
THE STATE OF NEW YORK, *et al.*,	
Defendants.	

AFFIDAVIT OF FRANK J. MAURO

STATE OF NEW YORK)
: ss
COUNTY OF ALBANY)

FRANK J. MAURO, being duly sworn, testifies and states as follows:

1. I am the Executive Director of the Fiscal Policy Institute, a nonprofit research and education organization that studies matters related to state and local finances. Prior to joining the Fiscal Policy Institute in February 1993, I was the Deputy Director of the Nelson A. Rockefeller Institute, the public policy research arm of the State University of New York. My prior experience in matters related to New York State tax, budget and policy matters includes service as Secretary (staff director) of the New York State Assembly Ways and Means Committee, and Director of Research for the last major revision of the New York City Charter.

2. Plaintiffs have requested that I submit this affidavit in order to respond to several questions raised by the Panel of Special Referees in these proceedings: (1) what impact would eliminating the top-spending 5% of districts and the bottom-spending 5% of districts in the Standard & Poor's successful schools sample (and/or the top- and bottom spending 25% of such districts) have on the resource gap estimates that are set forth in Figures 5 and 15 on pages 11 and 26 of the Standard & Poor's Resource Adequacy Study (the "S&P Study")?; (2) what is the resulting regional cost index for New York City when the New York Regional Cost Index

("NYRCI") and the Geographic Cost of Education Index ("GCEI") are averaged?; (3) what impact would using this average of the NYRCI and the GCEI have on the resource gap estimates that are set forth in Figures 5 and 15 on pages 11 and 26 of the S&P Study, and on the estimates of those gaps determined in accordance with questions (1) and (2) above; and (4) whether the Need-Scale Index for New York City that resulted from the AIR/MAP Study can be broken down into individual weightings for economically disadvantaged, special education, and limited English proficient students, which then might be applied to the base figures derived from another cost analysis?

Effect of Alternative Cost-Effectiveness Filters on the S&P Resource Gap Estimates

3. My staff and I analyzed the data underlying the S&P Study and determined what the resource gap estimates would be for each of the four performance scenarios in the S&P Study if the Panel's suggested that 5% and 25% outlier cost-effectiveness filters were used. The following chart shows the estimated spending gap in New York City if the top-spending 5% of districts and bottom-spending 5% of districts are eliminated from the S&P successful schools sample, *i.e.*, by looking at the middle 90% of districts:

New York City's Spending Gap in Terms of Estimated 2002-2003 Expenditures After Eliminating the Top- and Bottom-Spending 5 Percent of Districts				
Geographic Cost Index	**Top Performers**	**2006 Targets**	**2008 Targets**	**Regents Criteria**
NYRCI	$6.65 billion	$6.58 billion	$7.47 billion	$6.17 billion
GCEI (old)[1]	$4.68 billion	$4.64 billion	$5.55 billion	$4.06 billion
GCEI (revised)	$5.01 billion	$4.30 billion	$5.38 billion	$4.19 billion

[1] This refers to the version of the GCEI that dates from 1997 that was used in the S&P Study. As S&P acknowledged, a revised version of the GCEI was made available in connection with the AIR/MAP Study. *See* S&P Study at 98 n.68.

And the following chart eliminates the top and bottom 25% of districts, *i.e.*, looking at the middle 50% of districts:

New York City's Spending Gap in Terms of Estimated 2002-2003 Expenditures After Eliminating the Top- and Bottom-Spending 25 Percent of Districts				
Geographic Cost Index	**Top Performers**	**2006 Targets**	**2008 Targets**	**Regents Criteria**
NYRCI	$6.39 billion	$6.00 billion	$6.85 billion	$5.81 billion
GCEI (old)	$4.45 billion	$4.27 billion	$5.04 billion	$3.87 billion
GCEI (revised)	$4.76 billion	$3.36 billion	$4.78 billion	$3.70 billion

4. The estimates contained in the above charts were obtained using the data on which the S&P study and the related EdResource Calculator on the S&P School Evaluation Services's website (http://www.sp-ses.com/) are based. The S&P Study and the EdResource Calculator utilize data on enrollment, spending, demographic characteristics and conformance (or nonconformance) with each of four achievement scenarios for 638 K-12 districts for which sufficient data was available to S&P. After importing the data underlying the EdResource Calculator[2] into a Microsoft Excel spreadsheet and manually replicating S&P's matching of each of the districts contained in the database to the four achievement scenarios used in the S&P Study, we then applied the formulas set forth in Figures 29, 30, 32, 33 and 34 on pages 46, 47, 48 and 49 of the S&P Study, along with the Panel's suggested 5% and 25% outlier elimination methodology in addition to the lower 50% elimination methodology presented in Figure 30. In other words, we replicated the calculations performed by S&P in arriving at the resource gap estimates presented in its study and available from its EdResource Calculator, and we added a feature that allowed us to apply the Panel's suggested outlier elimination methodology. We also

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[2] The data is available at http://www.sp-ses.com/nys/calc/SESdistricts.xml.

added features that allowed us to utilize (a) the new New York Geographic Cost of Education Index numbers that were calculated by the AIR/MAP team in conjunction with the completion of the New York Adequacy Study, and (b) the average of the NYRCI numbers and the old GCEI numbers, or of the NYRCI numbers and the new GCEI numbers, for cost adjustment purposes.

5. In order to verify that we had replicated the calculations correctly and exactly, we compared the estimates we obtained from our analysis using *no* cost-effectiveness filter at all with the estimates set forth in Figure 16 on page 26 of the S&P Study. We also compared our estimates for various scenarios and various needs weightings with the results obtained from the EdResource Calculator. In all cases, our calculations matched those of the S&P Study and/ of the S&P EdResource Calculator exactly, indicating that we had successfully replicated S&P's methodology in our analysis.

Average of the NYCRI and the GCEI

6. Determining the New York City regional cost index that results from averaging the NYRCI and the GCEI is a straightforward mathematical exercise because each index is a discrete number. Accordingly, finding the average is just a matter of adding the indices together and dividing by two. Performing this calculation results in an average index of 1.366 using the GCEI index used in the AIR/MAP study and 1.435 using the GCEI index used in the S&P Study. However, the impact of utilizing either of these averages in conjunction with the methodology used in the S&P study is not a simple or straightforward matter since the impact of the estimated resource gap for New York City or for any other needy district depends not only on that district's cost index number but also on the cost index numbers for all of the successful schools in the scenario being analyzed.

Effect of the NYCRI/GCEI Average on the S&P Resource Gap Estimates

7. Applying the average indices described in paragraph 6 above to the to the revised resource gap estimates contained in the charts in paragraph 3 yields the estimates for

New York City's resource gap shown in the following charts. Excluding the top- and bottom-spending 5 percent of districts:

New York City's Spending Gap in Terms of Estimated 2002-2003 Expenditures After Eliminating the Top- and Bottom-Spending 5 Percent of Districts				
Geographic Cost Index	**Top Performers**	**2006 Targets**	**2008 Targets**	**Regents Criteria**
Average of NYRCI and old GCEI	$5.69 billion	$5.56 billion	$6.43 billion	$5.05 billion
Average of NYRCI and revised GCEI	$5.97 billion	$5.36 billion	$6.48 billion	$5.18 billion

Excluding the top- and bottom-spending 25 percent of districts:

New York City's Spending Gap in Terms of Estimated 2002-2003 Expenditures After Eliminating the Top- and Bottom-Spending 25 Percent of Districts				
Geographic Cost Index	**Top Performers**	**2006 Targets**	**2008 Targets**	**Regents Criteria**
Average of NYRCI and old GCEI	$5.27 billion	$4.07 billion	$5.88 billion	$4.78 billion
Average of NYRCI and revised GCEI	$5.52 billion	$4.72 billion	$5.84 billion	$4.78 billion

Conversion of the AIR/MAP Needs-Scale Index

8. In response to the Panel's request, my staff and I have calculated weightings for economically disadvantaged, special education, and English Language Learner students that reflect the implicit weightings contained in the AIR/MAP Study. Attached hereto as Exhibit A is a detailed explanation prepared by my staff of how we derived these implied weightings.

9. Using the methodology described in Exhibit A resulted in the following implied weightings:

	Special Education	Economically Disadvantaged	English Language Learner
Elementary	2.370	1.854 to 1.925	1.257
Middle school	1.495	1.438 to 1.397	1.238
High School	1.678	1.672 to 1.532	1.267
NYC Weighted Average	1.9815	1.6901 to 1.7060	1.2553
Statewide Weighted Average	1.9733	1.6855 to 1.7035	1.2554

10. The NYC Weighted Average and Statewide Weighted Average figures shown in the chart above are based on the actual distributions of special education, economically disadvantaged and English Language Learner enrollments in New York City and throughout the state. Using the actual enrollment figures, we calculated the weighted averages of the implied weightings for elementary, middle school and high school.

11. Although the implied weightings described in the chart above may provide some general comparative perspectives for the Panel's deliberations, I would strongly advise against applying these weightings to base figures derived from the Standard and Poor's successful schools analysis or any other studies for two basic reasons. First, the implicit AIR/MAP weightings we calculated were based on the AIR/MAP Study's recommended instructional costs, but do not and cannot take into account the district administrative cost factors that are taken into account by the S&P analysis. Second, the base cost figures used by the AIR/MAP analyses are based on very different assumptions.

12. In addition, I note that my staff and I did not consult with the AIR/MAP researchers concerning the methodology or accuracy of our analysis. It would therefore be inappropriate to conclude that the AIR/MAP researchers would agree either with the implied weightings we have found or that these implied weightings could or should be used in connection with any other study.

Frank J. Mauro

Sworn to before me this
_____ day of October, 2004.

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Notary Public

EXHIBIT A

Calculating Implicit Weights from the AIR/MAP Study

In order to estimate the pupil weightings that are implicit in the AIR/MAP study, we used the parameter estimates and the standardized per pupil cost for each of the base models found on page 116 of the Appendix C of AIR/MAP Costing Out Study to calculate the revenue requirement for a school of average size (558 for elementary, 792 for middle school, and 943 for high school) for different combinations of percentages of students eligible for free and reduced price lunch, percentages of special education students, and percentages of students with limited English proficiency. We also calculate the "base per pupil amount" for a hypothetical school with no students eligible for free or reduced price lunch, no students requiring special education and no limit English proficiency students by dividing the revenue requirement for a school with these characteristics by the average number of students per type of school.

The implicit weight for free or reduced price lunch eligible students is calculated by subtracting the revenue requirement for a school with no FRPL eligible students from the revenue requirement for a school with a given FRPL percentage subtracting and dividing this difference by the number of FRPL students (FRPL percentage times the number of students) and then dividing the result by the base per pupil amount for a hypothetical school with no students eligible for free or reduced price lunch, no students requiring special education and no limit English proficiency students.

Similarly, the implicit weight for special education students is calculated by subtracting the revenue requirement for a school with no Special Education students from the revenue requirement for a school with a given percentage of Special Education students and dividing this difference by the number of Special Education Students (Special Education percentage times the number of students) and then dividing the result by the base per pupil amount.

Finally, the implicit weight for English Language Learners (ELL) is calculated by subtracting the revenue requirement for a school with no ELL students from the revenue requirement for a school with a given level of ELL Students and dividing this difference by the number of ELL students (ELL ratio times the number of students) and then dividing this result by the base per pupil amount.

These calculations were done separately for Elementary, Middle and High Schools using the three sets of parameters found in Exhibit C-2 and the three standardized per pupil costs found on page 116 of the AIR/MAP Appendix C. The three resulting numbers were averaged using the percentage of pupils in each of the three classifications of schools from the AIR/MAP summary of the Institutional Master File data.

The weights for Special Education Students and ELL Students do not vary by the levels of the Special Education or ELL percentages, therefore resulting in a single weight for each characteristic for each kind of school. The weight for FRPL however varies with the FRPL percentage (because the underlying regression equation includes the square of

the FRPL percentage) and so this method results in a range of estimated weights which depend on the FRPL percentage. For elementary schools, the AIR/MAP parameters provide a higher FRPL weight as the FRPL percentage increases. For middle and high schools, the AIR/MAP parameter for the square of the FRPL percentage is negative and therefore the implicit weight for FRLP students decreases as the percentage of students for FRPL increases. When these three series are averaged, they result in an estimate of the FRPL weight of about 70%.

There are two categories of expenses that are not taken into consideration when calculating these weights, district level administrative expenses and expenses for pre-Kindergarten and Early Childhood Development (ECD)programs. The equations used in this analysis were used by the AIR/MAP team to calculate school level revenue requirements. In order to calculate district level requirements, the AIR/MAP study summed these school level estimates for each district and added to this sum the current level of district level expenditures. To the extent that these district level expenditures are a function of student characteristics, the weights resulting from this analysis understate the AIR/MAP estimates.

The AIR/MAP study also included estimates of the cost of pre-K and Early Childhood Development programs for 3-year olds and 4-year olds. The number of students to be served by these pre-K and ECD programs in each district was a function of the FRPL percentage in each school. The AIR/MAP study increases the pupil count used to calculate the proposed revenue requirements to take into account full day pre-K attendance and half day ECD attendance by the number of kindergarten students eligible for FRPL. The weights we have calculated do not include these pre-K and ECD expenditures and therefore understate the implicit weight given to elementary level FRPL students in the AIR/MAP study.