Interpretation of the Special Education Weight Estimated for the New Hampshire Commission Study of School Funding

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Interpreting the Estimated Special Education Funding Weight Adjustment

The influence of funding adjustment weights in a weighted student funding system on how funding is differentiated across districts depends on three factors: (a) the magnitude of the weight, (b) the magnitude of the base, and (c) the amount of variation across districts in incidence of the relevant weighting category. The results of our cost model and weight estimation indicate that special education should have a weight of almost 4.3 (compared to a free or reduced lunch eligible [FRL] weight of 1.5 and an English learner [EL] weight of 2.2). Importantly, the special education weight represents the additional per-pupil funding provided in a district with 100% of its students eligible for special education services relative to the per-pupil funding for a district with no special education students. It also represents the additional funding for each special education student. At first blush the special education weight seems particularly large. However, as noted above, the magnitude of the base is only one factor that affects the differentiation of funding. In the case of our estimated weights and base, the base is relatively low (at around $6,000 per student), tempering the effect of large weights. Furthermore, compared with FRL, the variation in special education rates across districts is quite narrow, which also limits the degree if differentiation across districts resulting from the application of the special education weight. We present three figures below to help explain these concepts further.

Magnitude of the Weights and Base

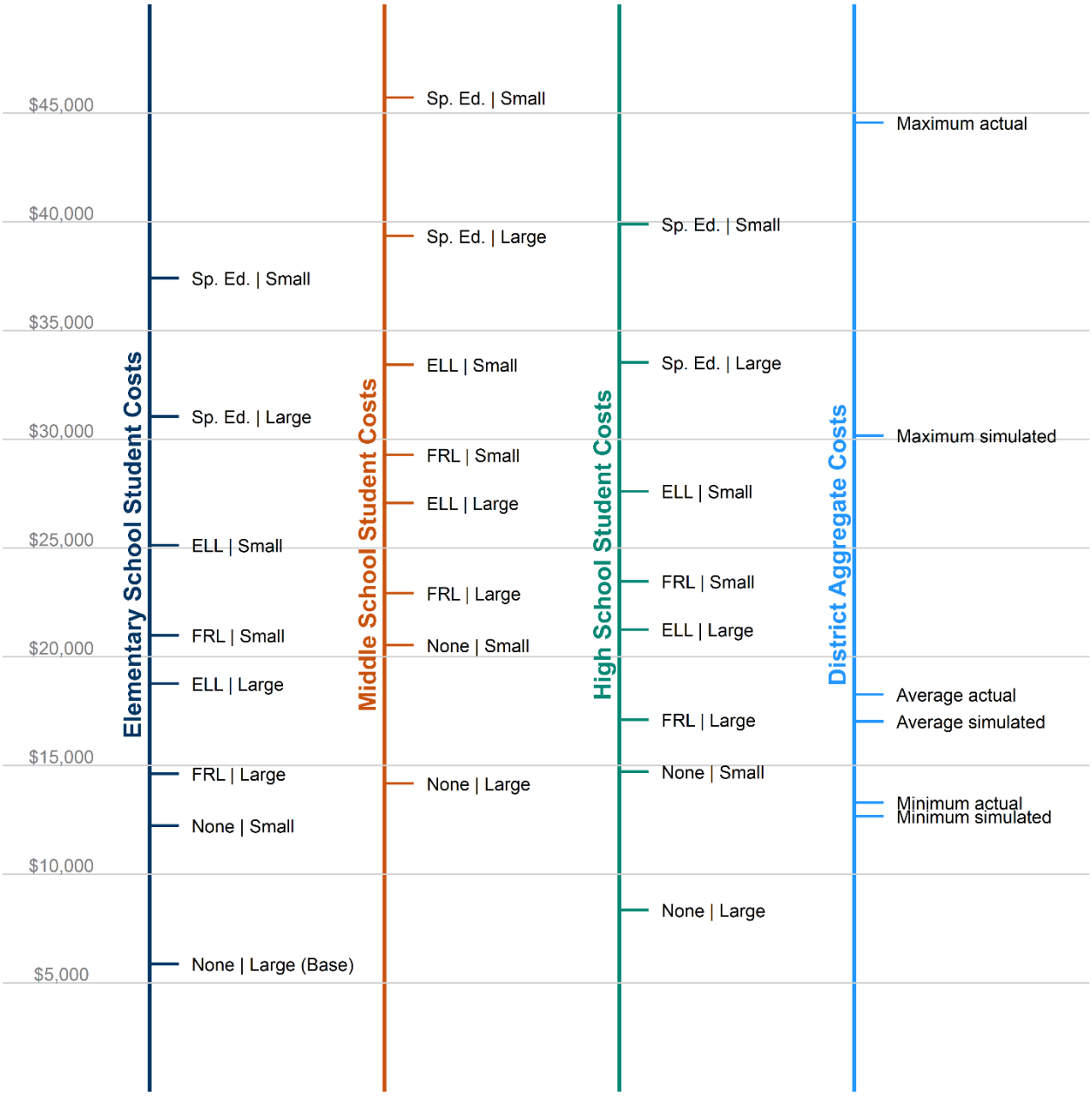
Figure 1 shows the per-pupil cost estimates for various types of students by grade level student need and district size. Estimated costs are distinguished by grade level in the first three columns. Within each grade level we show different combinations of student need ("None" denotes no identified student needs) and district size. For simplicity, we only included two district size categories: districts larger than 2,000 students (denoted "Large" in the figure) and districts with 200 or fewer students (denoted "Small" in the figure). As shown, there is substantial variation in costs across student types, from a low of around $6,000 for an elementary student with no identified needs in a large district to a high of over $45,000 for a middle school special education student in a small district. Even higher cost estimates could be calculated if students qualify for multiple need categories.

Costs for special education students based on our estimated base and weights range from just over $30,000 for an elementary special education student in a large district to the previously mentioned $45,000. We would point out that the state currently spends almost $20,000 per student, on average. As with any average, there is variation around the average. It is unsurprising that providing special education students an equal opportunity to achieve adequate outcomes would cost several times the overall average spending level. AIR's Special Education Expenditure Project (SEEP) concluded in the early 2000s, which is widely cited and still considered the most accurate account of differential spending on special education students,[1,2] found that about twice as much was spent on the typical special education student compared to the typical non-special education students. However, it is important to note that the SEEP study only looked at existing spending on special education relative to non-special education students irrespective of the outcomes achieved, not what it would cost to provide an equal opportunity to achieve at an adequate level (such as the statewide average target used in the current AIR study).

The numbers presented in Figure 1 represent costs for specific types of students (FRL or EL) in specific sized districts. School districts represent many different types of students each with specific associated costs. When costs are aggregated to the district level to account for the set of students served by each district, we see very reasonable cost estimates.

[1] For more information on SEEP, please go to https://www.air.org/project/center-special-education-finance-csef.
[2] See Griffith, M. (2016). "Do We Spend Too Much on Special Education?". EdNote Policy Blog. Denver, CO: Education Commission of the States. Retrieved August 28, 2020 from https://ednote.ecs.org/do-we-spend-too-much-on-special-education-in-this-country/.

Figure 1. Student-Level Cost Estimates Resulting from Base and Weights



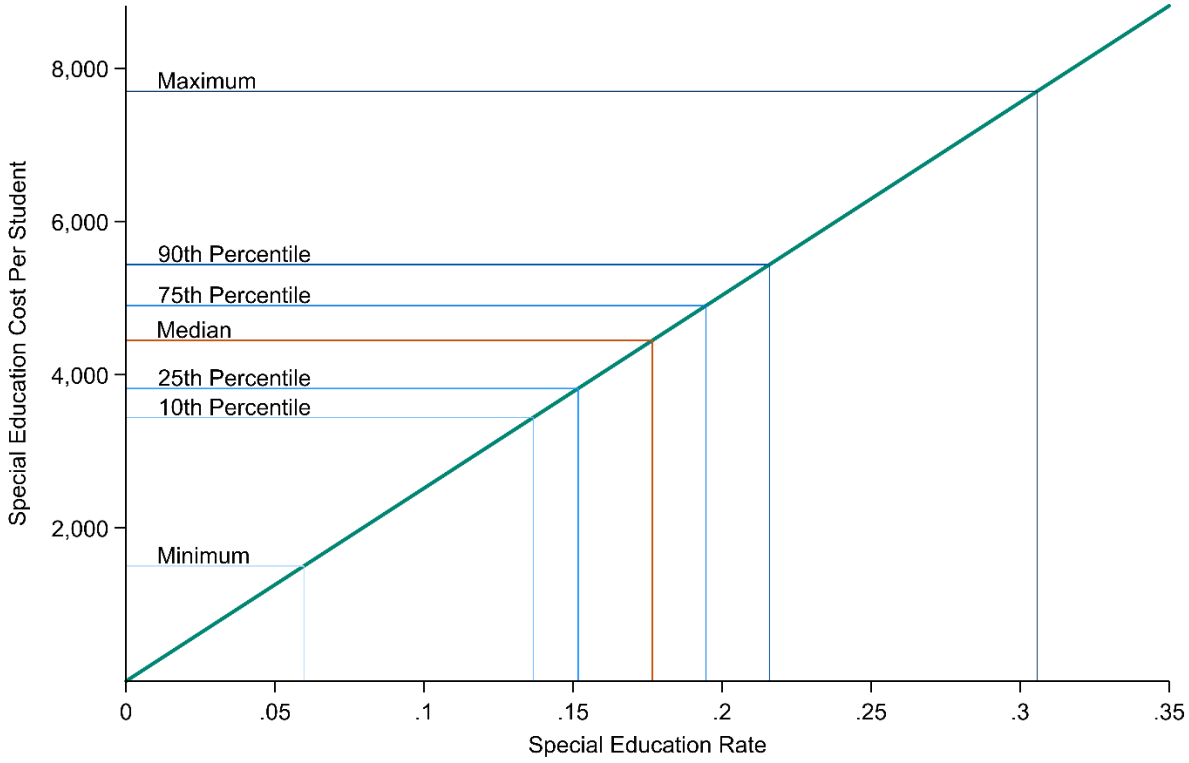
Variation Across Districts in Special Education Rates

In Figure 2, we look more explicitly at the amount of funding distributed to districts due to the special education weight (on a per-pupil basis). The linear trend line shows how much funding per student (were the denominator is total enrollment) is distributed according to the special education weight in the formula we have derived. This is calculated as the product of the special education weight, the proportion of students who are identified as special education, and the base amount per student.

$$Additional\ Funding\ Through\ Special\ Education\ Weight = Special\ Education\ Weight * Special\ Education\ Rate * Base\ Amount$$

As shown, districts with a higher special education rate will get more funding from the special education weight than those with a lower special education rate. The minimum amount of funding through the special education rate that any district would receive through the formula is around $1,600 due to a special education rate of around 6%. The maximum any district would receive through the special education weight would be around $7,700 due to a special education rate of just over 30%. The districts at these extremes are outliers and are also very small districts. The 10th to 90th percentile range in special education rates is from around 14% to 22%, meaning that 80% of students attend districts that would receive between $3,300 and $5,300 per student from the special education weight. In other words, the tight variation in special education rates across districts limits the distributional effect of the special education weight.

Figure 2. Distribution of Funding Across Districts Due to the Special Education Weight (FY19)

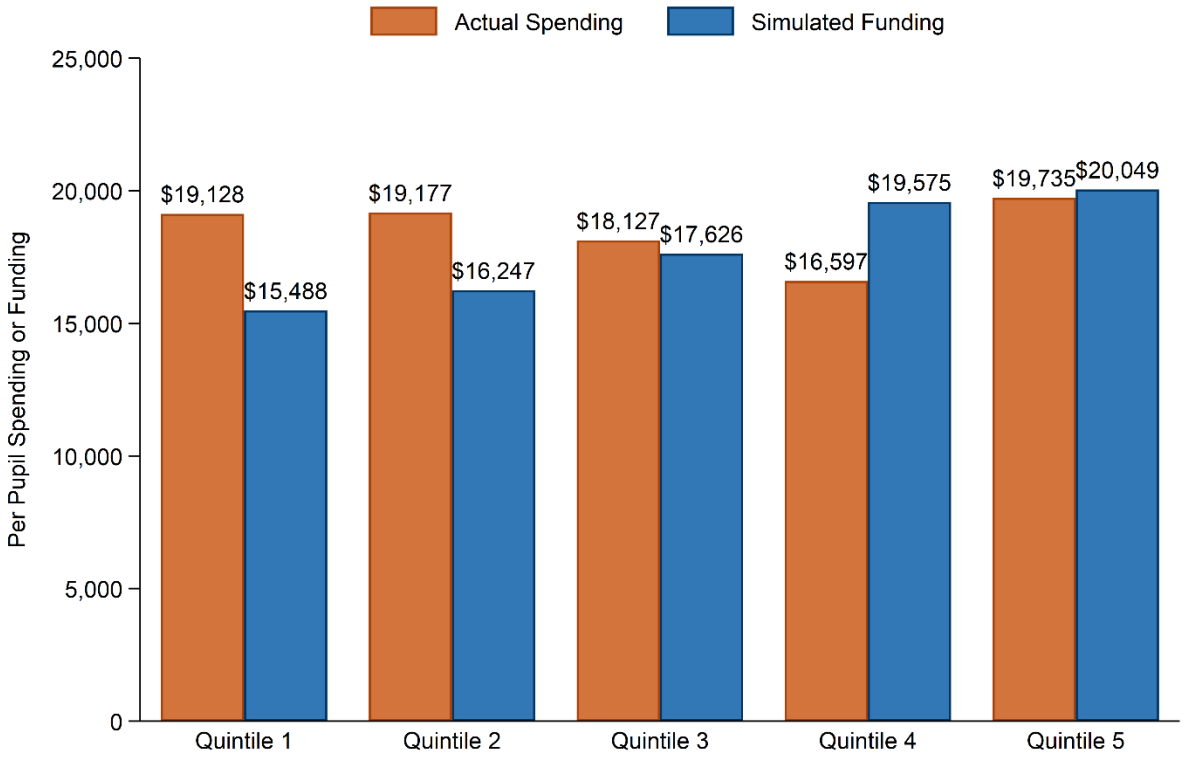


Note: Percentiles were calculated as enrollment weighted percentiles; meaning that the percentiles refer to the percentage of students rather than districts.

Putting it All Together

Lastly, in Figure 3, we show the average simulated per-pupil funding and actual spending per pupil in districts by quintiles of special education rates. The large special education weight when combined with a relatively low base and narrow range in special education rates results in a sensible distribution of funding across districts with respect to special education. According to the formula-based simulations, the districts with the lowest special education rates (Quintile 1) would receive $15,488 per student, on average. The districts with the highest special education rates would receive $20,049 per student, on average. However, it is important to note that the average special education rates across the districts in Quintiles 1 and 5 are 12% and 22%, respectively.

Figure 3. Per Pupil Actual Spending and Simulated Funding by Special Education Quintile



Note. Quintiles were calculated at the district level based on special education rates. Each quintile represents approximately 20% of the districts in the state. Quintile 1 represents districts with the lowest special education rates; Quintile 5 has the highest special education rates. Averages within quintiles are weighted by enrollment. Calculations are based on data from the New Hampshire Department of Education, 2018–19.