

Would School District Consolidation Lead to Cost Savings in Major Metropolitan Counties?

A Cost Function Analysis

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Prepared by

Lori L. Taylor
Timothy J. Gronberg
Dennis W. Jansen

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Executive Summary

Senate Bill (SB) 2 (83rd Texas Legislature, Regular Session) added Section 12.1013(e) to the Texas Education Code (TEC). Among other provisions, this section required the Texas Education Agency (TEA) to provide “an analysis of whether the performance of matched traditional campuses would likely improve if there were consolidation of school districts within the county in which the campuses are located.” The requirement “applies only to a county that includes at least seven school districts and at least 10 open-enrollment charter schools.” The required report, which analyzed the potential gains from school district consolidation in the five counties that match the requirements (Bexar, Dallas, Harris, Tarrant and Travis), was prepared in August 2014. The current report updates the original analysis of the gains from school district consolidation in these five counties.

Gains are possible because there are well-recognized economies of scale in education. Research has demonstrated that the per-pupil cost of operating a very small school district is much higher than the per-pupil cost of operating a larger district.

On the other hand, consolidation reduces school choice, and the economics literature strongly suggests that school districts produce higher educational outcomes from the same level of resources (i.e., are more efficient) when there is more choice.

Thus, there is a trade-off. Consolidation could lower operating costs but it could also lower school district efficiency and thereby increase operating expenditures. Among very small districts, the benefits of consolidation are likely to outweigh the efficiency loss, but among larger districts the efficiency loss could outweigh any cost savings.

The historical experience with consolidation in Texas does not provide any evidence that can inform the proposed consolidation. There have been only 20 school district consolidations in Texas since 1994–95. In all but three of the 20 cases (Wilmer-Hutchins ISD, North Forest ISD, and La Marque ISD) the consolidation folded a single-campus district into another, larger district. None of the consolidations involved more than two districts.

Cost function analysis is a common strategy for quantifying both economies of scale and relative efficiency, and is therefore the best available strategy for determining whether or not the proposed consolidations would generate cost savings that could be used to improve student performance. In the educational context, a cost function describes the relationship between school spending and student performance, given the price of educational inputs (such as teachers or school supplies), student characteristics, and other determinants of the educational environment such as school district size.

As in the 2014 report, this report uses a cost function analysis approach to predicting the likely effects of consolidation of the type and scale identified in TEC Section 12.1013(e). The basic approach is to estimate a model of campus spending that yields estimates of a best practice cost function and estimates of campus deviations from that cost frontier. The model provides estimates of cost economies or diseconomies associated with changes in district enrollment due to consolidation and of inefficiencies associated with changes in the structure of the education market. The approach implements a simulation of the proposed consolidations based on the results of the formal cost function analysis of the relationship between school performance and school district size.

This analysis supports four key findings.

1. The cost function estimates indicate substantial scale economies up to a district size of around 7,700 students and diseconomies as district size increases beyond about 7,700 students.
2. The cost function estimates indicate that increased market concentration leads to inefficiency and increased spending over and above what the cost function indicates is necessary to achieve specific outcomes with given environmental conditions.
3. There are no expected cost savings from consolidation to the county level in any of the counties under analysis. County-level consolidation increases the predicted expenditure per pupil by 9.9% in Bexar, 8.9% in Dallas, 11.5% Harris, 9.9% in Tarrant, and 3.9% in Travis. In addition to the predicted increases in the consolidating districts, expenditures are also expected to rise in the rest of their metropolitan areas (due to the loss of competition in those education markets).
4. A more limited and focused consolidation of districts that are currently eligible for size adjustments under the school funding formula could generate savings in three of the five counties under analysis, but the impact is quite small. Only the consolidation of the three school districts serving military bases in San Antonio was predicted to reduce spending by more than \$62 per pupil.

Although the estimated range of economies to size is greater in the current study than in the 2014 study (the diseconomies set in at 3,200 students in the 2014 cost function estimates), the estimated increase in predicted spending remains. The spending increase prediction is robust because significant per pupil cost savings from increasing district size are, basically, exhausted at a very small district size. The existing districts in the specific counties under analysis already enjoy substantial economies of scale. Any modest potential cost savings from increased size are eclipsed by the expected loss of cost efficiency from the weakening of competitive incentives due to consolidation and from the diseconomies associated with very large districts.

It is important to recognize that the simulation has been constructed assuming that the consolidated, countywide school districts did not close any campuses in the wake of consolidation. This is a reasonable assumption, given the political barriers to closing an existing operating neighborhood school. It is true however, that a possible response of some of the new countywide districts will be to eliminate some small campuses with an attendant increase in average campus size. The cost function analysis indicates that there can be substantial cost savings from campus consolidation (If nothing else changes, combining two 200-student campuses into one 400-student campus, for example, is expected to reduce operating costs by 14% on average).The simulation thus likely overstates somewhat the increase in expenditures that would arise from county-level consolidation for Bexar, Dallas, Harris, Tarrant and Travis counties.

Given the lack of cost savings under the simulation, it is highly unlikely that student performance would improve if there were consolidation in the designated counties. This result does not imply that there are no potential cost-reducing consolidations. The second limited and targeted simulation illustrates this point.

The fundamental conclusion of the 2014 Report remains intact: there is no reason to believe that the proposed five countywide consolidations would lead to improvements in student performance, and there is good reason to believe that student performance would fall.