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SCHOOL SYSTEM CONSOLIDATION

by Ed Young and Harry A. Green

SCHOOL SYSTEMS IN TENNESSEE

As of 2005, Tennessee has 135 full-service public school systems[1]. There are 93 county systems, 28 municipal systems, and 14 special districts. Some see this as a large number and ask whether consolidations might be more cost effective. How does Tennessee's total compare with other states in the Southeast and with other states with similar numbers of students? What are the advantages and disadvantages of district consolidation? Would the best interests of students be served by larger school systems? The purpose of this report is to examine these questions, present background information and comparative data, and discuss the research literature on this issue.

Table 1 shows the history of school system consolidations in Tennessee from 1970 to 2005. Not all the 15 changes in this 35-year period were consolidations in the practical sense of the word. During the 1981-82 school year, the Gibson County system ceased to function as a separate school system, and its students were assigned to other systems in the county. This was more of a decentralization than a consolidation. In the 1985-86 school year, after Morristown

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Table 1. School System Changes in Tennessee 1970 to 2005

Year	System Closed	System Consolidated With
1970-71	Brownsville	Haywood County
1970-71	Sparta	White County
1980-81	Watertown	Wilson County
1981-82	Atwood	Both merged with the newly created West Carroll Special School District
1981-82	Trezevant	
1981-82	Gibson County	Gibson County ceased to function as a regular school system. A new Gibson County Special School District was opened and students were assigned to the municipal or special school districts within the county.
1983-84	Crockett Mills	All three merged with Crockett County
1983-84	Friendship	
1983-84	Gadsden	
1985-86	Morristown	Hamblen County
1987-88	Knoxville	Knox County
1990-91	Jackson	Madison County
1996-97	Chattanooga	Hamilton County
2002-03	Covington	Tipton County
2002-03	Harriman	Roane County

Source: Tennessee Department of Education

TACIR ◆ Suite 508, 226 Capitol Boulevard ◆ Nashville, TN 37243
Phone: 615.741.3012 ◆ Fax: 615.532.2443 ◆ E-mail: tacir@state.tn.us

voters rejected a school consolidation referendum, municipal officials contracted with Hamblen County to operate the city school system, thus effecting a *de facto* consolidation that still exists to this day. In 12 of the cases cited, municipal systems were merged with the county school system, and in one case, 2 municipal systems combined to form a special district.

SCHOOL DISTRICTS IN OTHER STATES

In general, the more heavily populated a state is, the more school districts it has, but there are exceptions to this generalization. Table 2 lists the 10 states with the largest number of school districts. These states, for the most part, are also among those with the largest K-12 enrollments. However, it is surprising to see Nebraska and Oklahoma on this list, as their enrollments would not seem to justify such a large number of districts. Other factors such as land area, population distribution, tradition, and political considerations also affect the number of school districts.

Table 2. Ten States with Largest Number of School Districts

State	Number of School Districts	Estimated K-12 Enrollment 2003	Enrollment per District
Texas	1,039	4,201,792	4,044
California	986	6,173,506	6,261
Illinois	893	2,063,429	2,310
New York	701	2,882,030	4,111
Ohio	613	1,804,027	2,942
New Jersey	598	1,347,964	2,254
Nebraska	557	283,930	509
Michigan	553	1,696,622	3,068
Oklahoma	541	624,202	1,153
Missouri	524	924,372	1,764

Source: U.S. Department of Education 2003

Table 3 lists the 10 states with the smallest number of school districts. In general, they are small states, both in terms of land area and in the number of K-12 enrollees. Hawaii is unique as the only state with a single statewide school district, so it has been omitted from this list. Among the states with the smallest number of school districts, all but Florida have relatively small populations. Public schools are all county-based in Florida.

Table 3. Ten States with Smallest Number of School Districts

State	Number of School Districts	Estimated K-12 Enrollment 2003	Enrollment per District
Nevada	17	369,498	21,735
Delaware	19	111,282	5,856
Maryland	24	866,743	36,114
Rhode Island	36	157,286	4,369
Utah	40	483,066	12,076
Wyoming	48	85,966	1,790
Alaska	53	133,303	2,515
West Virginia	55	281,591	5,119
Louisiana	66	723,252	10,958
Florida	67	2,536,699	37,861

Source: U.S. Department of Education 2003

Tennessee does not appear on either list, so where does our state rank? Taking K-12 enrollment as the basis for comparison, Table 4 shows Tennessee, the next 5 states with larger K-12 enrollments, and the next 5 states with smaller enrollments. Seven of these 10 states have more school districts than Tennessee, and only 3 have fewer. Only 3 of the 10 have a higher average enrollment per district than Tennessee's 6,558.

Table 4. Tennessee Compared to States with Similar K-12 Enrollments

State	Estimated K-12 Enrollment 2003	Number of School Districts	Enrollment per District
North Carolina	1,314,632	117	11,236
Virginia	1,164,135	135	8,623
Washington	1,014,577	296	3,427
Indiana	999,713	294	3,400
Missouri	924,372	524	1,764
Tennessee	905,059	138	6,558
Arizona	886,057	319	2,777
Wisconsin	879,016	437	2,011
Maryland	866,743	24	36,114
Minnesota	839,377	417	2,012
Massachusetts	825,312	350	2,358

Source: U.S. Department of Education 2003

Table 5 compares Tennessee to other Southeastern states. Of the 9 states listed, Tennessee ranks fourth in total K-12 enrollment and fifth in number of school districts. Among the 50 states, 17 have fewer school districts than Tennessee, and 32 states have more.

Table 5. Tennessee Compared to Other Southeastern States

State	Estimated K-12 Enrollment 2003	Number of School Districts	Enrollment per District
Georgia	1,495,819	180	8,310
North Carolina	1,314,632	117	11,236
Virginia	1,164,135	135	8,623
Tennessee	905,059	138	6,558
Alabama	727,900	128	5,686
South Carolina	694,584	89	7,804
Kentucky	660,782	176	3,754
Mississippi	491,623	152	3,234
Arkansas	450,203	311	1,447

Source: U.S. Department of Education 2003

Since the 1930s, when statistics first began to be collected, the number of regular school districts in the United States has declined steadily; the number of students enrolled in public K-12 schools has almost doubled; and the average size of each school district has increased more than ten-fold. Table 6 shows these trends.

Table 6. U.S. Public School Districts and Enrollment 1920-2000

Year	Regular Public School Districts*	Enrollment in K-12 Public Schools	Student/District Ratio
1919-20	N/A	21,578,000	N/A
1929-30	N/A	25,678,000	N/A
1939-40	117,108	25,434,000	217
1949-50	83,718	25,111,000	300
1959-60	40,520	35,182,000	868
1970-71	17,995	45,894,000	2,550
1979-80	15,929	41,651,000	2,615
1989-90	15,367	40,543,000	2,638
1999-2000	14,928	46,857,000	3,139

Source: National Center for Education Statistics, Digest of Education Statistics, 2001 and 2002 Editions

*Totals include operating and non-operating districts. Totals do not include districts operated by the U.S. Bureau of Indian Affairs, those operated by the Department of Defense, or state-sanctioned charter schools established as separate school districts. Because of expanded survey coverage beginning in 1986, later data are not directly comparable with figures prior to that date.

The decline in the number of school districts is one of the most pronounced trends in public education in the twentieth century. As existing students in defunct districts were absorbed into consolidated districts, the number of students per district increased. In addition, normal growth in school populations caused the size of the average district to grow even more. The combination of these trends has clearly resulted in fewer, but much larger, school districts. Has this been good for public education? Does school district size really matter?

SURVEY OF THE RESEARCH ON SCHOOL DISTRICT CONSOLIDATION

For most of the twentieth century in the United States, the consolidation issue concerned individual schools, many of them rural, with one room, and very limited facilities and opportunities for students and teachers. The advantages of such schools were that they provided some measure of public education in remote places where there were no other options. Students could walk (or ride a mule) to school from their homes. The small size of these schools enabled the teacher to know each child personally and enabled the students to know and bond with each other. The teacher in such a school was highly respected, and the school, modest as it was, was a source of community pride.[2]

However, public education in these settings is frequently over-romanticized. There were definite and multiple disadvantages also. Most schools had no running water, no electricity, and only a wood-burning stove for heat in the winter. Books were old, and few, and used over and over again year after year. School supplies were virtually non-existent. There were no cafeterias, no school nurses or guidance counselors, and few, if any, extra-curricular activities. Teachers in such schools received scant payment, and there were no opportunities for professional development

or interaction with other teachers. In the period following World War I, there was a growing realization that consolidation of these small schools with larger systems offered more advantages than disadvantages, but this realization didn't always come easily. Rural parents feared that their poorly-dressed or handicapped children would be ridiculed by their new classmates. Communities suffered a very real psychological blow when their schools were closed. Students who could walk to school before now had to spend a larger portion of the school day being transported to and from the new consolidated school. A child's new teacher lived in another community, and parents found it difficult to travel to school meetings. Students would have larger classes and receive less personal attention from their teachers.[3]

However, the opportunity for children to get a better education in a more adequate facility overcame all objections. A consolidated school was likely to have electricity, indoor plumbing, central heat, more adequate books and supplies, a library, extra-curricular activities such as 4-H clubs and debate teams, health nurses, and, most likely, a daily hot lunch in the school cafeteria. The consolidated school had a much broader curriculum, offering home economics and vocational education as well as advanced math and science classes. Teachers who were consolidated received higher salaries and benefits, more opportunities for professional development, and the chance to interact with other teachers at the same grade level. These were the factors involved in the issue of consolidation throughout most decades of the early 1900s, and the factors that led to the steady decline in the number of school districts.

This discussion of the motivations for school consolidation is included not just for historical background, but because some of these same factors remain relevant to the issue of school district consolidation. While indoor plumbing and electricity are no longer central to the issue, transportation, community pride, and improved opportunities for students and teachers are still major considerations in school district consolidation controversies.

It should be noted that many sources examined in this research failed to make or maintain a clear distinction between the consolidation of school districts and the consolidation of schools within districts. In some cases the term "consolidation" is used interchangeably with "district consolidation" and, in others, the intended reference is unclear. The distinction can be important. The consolidation of 2 schools, and the closing of one of them, should always produce savings because heating, cooling, and daily maintenance costs are eliminated, and personnel costs may be reduced. Also, the lease or sale of the building and the land can produce additional revenues for the district. The combining of 2 school districts, on the other hand, may or may not result in savings, depending upon the sizes of the districts and a number of other factors.

This is an important and timely issue that has been the subject of recent policy debates in Alabama, Alaska, Arkansas, Georgia, Illinois, Kentucky, Maine, Mississippi, New York, North Carolina, North Dakota, and Ohio. Even in states where district consolidation is not a "front burner" issue, there is often a belief among policy makers that consolidation of school districts would save tax dollars and improve the delivery of educational services. However, the research indicates that consolidation involves issues other than the most cost-effective delivery of services,[4] including

- economies of scale,
- optimum size,
- educational and social outcomes of independence and merger,
- community impacts,
- the outcomes for teachers and staff, and
- other factors.

ECONOMIES OF SCALE

State and local policy makers are rightfully vigilant in their responsibility to prevent and correct inefficiencies in the allocation of public resources. The number and size of school districts have been common concerns for many years. In 1959, James B. Conant, a noted expert on public education, said, "The enrollment of many American public high schools is too small to allow a diversified curriculum, except at exorbitant expense. I believe such schools are not in a position to provide a satisfactory education for any group of their students. Furthermore, such schools use uneconomically the time and efforts of administrators, teachers, and specialists."[5] He prescribed systematic statewide plans for school district reorganization.

In most states, the perception of inefficiency in the expenditure of public education dollars has been the primary justification for promoting school district consolidation. The basic rationale is that scale economies can be achieved when smaller school districts are merged with larger ones, and research seems to bear that out with certain qualifications. An economy of scale reduces production costs by spreading fixed costs over a larger operation. Its application to education is patterned after the model used in industry and is intended to improve efficiency and enhance the quality of education.[6]

A 2003 study of scale economies in school district consolidations identified 5 potential sources of cost savings resulting from larger size:[7]

- Indivisibilities. Services provided to each student by certain education professionals do not diminish in quality as the number of students increases. A single school board and central administration can function more efficiently, where there were two before. Efficiencies can be realized in the area of support personnel such as librarians, guidance counselors, school nurses, and curriculum development staff.
- Increased dimension. Larger units can produce output at a lower average cost. In consolidated school districts this can apply to heating and cooling plants, communication systems, and facilities such as science and computer labs. It also can result in improved transportation routing, maximum building utilization, and elimination of duplicate facilities.
- Specialization. Larger school districts may be able to employ more specialized labor such as advanced math and science teachers and foreign language instructors.
- Price benefits. Larger districts are in a better position to negotiate lower prices on supplies and equipment, and to use their monopsony power to impose lower wages, salaries, and benefits on employees.
- Learning and innovation. Larger districts can implement innovations at lower cost, and teachers can be more productive because they can draw on the experience of many colleagues.

In point of fact, all research studies of district size have found some economies of scale over some range of enrollment. One study of small, rural New York districts found that instructional and administrative costs are far lower in a district with 3,000 students than in one with 100. "We find evidence that school district consolidation substantially lowers operating costs, particularly when small districts are combined."[8] Overall, that study concluded, consolidation is likely to lower the costs of two 300-pupil districts by more than 20%, to lower costs of two 900-pupil districts by 7% to 9%, and to have little, if any, impact on the costs of two 1,500-pupil districts. It should be noted that those results include the effects of state funding incentives for consolidation.

In their 1998 study of Georgia district consolidations, Boex and Martinez-Vasquez concluded that grade level is an important

variable. As high school enrollments increased, the cost per student decreased. A 10% increase in high school enrollment, per their calculation, would result in savings of $7 per student. However, they found no economies of scale at the elementary level. Costs for elementary students remained unchanged with increased enrollments. They concluded that potential savings from scale economies are small for most school districts, but could be substantial when a small district merges with a neighboring district that is several times larger.

Trostel and Reilly's 2005 study of Maine found potential cost savings from the consolidation of some of the state's 327 school districts, only one of which has more than 350 students per grade. In the 2001 school year, the average district in Maine had 734 students, and the number of K-12 students was diminishing. A study by the University of Arkansas concluded that school districts with the highest and lowest enrollments experienced the highest costs.[9] In 1994, Duncombe, Miner, and Ruggiero found that the state of New York could achieve sizable cost savings with consolidation in districts with fewer than 500 students. Above this level, costs continue to decline slowly, reaching the minimum for this sample of New York districts at an enrollment of 6,500 and then begin to rise slowly. The authors could find only 17 of the state's 785 districts that were strong candidates for full consolidation, but they identified 43 districts that could benefit from the sharing of administrative and support functions. The same study showed no reduction in total expenditures per pupil in the first few years after consolidation. The maximum savings from school district consolidation in New York was estimated at $27.5 million annually—about .001% of the total expenditures for education.

For the most part, school district consolidations occur voluntarily. A sub-county system decides, for a variety of reasons, that it will cease to exist as an independent entity, and the county then has to take over the students and facilities of that district by default. In North Carolina several years ago, the state legislature seriously considered mandating the consolidation of selected districts, but the proposal stirred tremendous controversy, and the effort failed. Many states offer financial incentives for consolidation, and others have raised the bar for eligibility for certain grants and assistance. Still others have enacted standards that smaller districts could not meet, and this has resulted in consolidations.

It is obvious that residents of many small independent districts prefer to maintain what they have despite potential savings from economies of scale. Other values are plainly involved. In their 1998 Georgia study, Boex and Martinez-Vasquez went beyond the cost factors to examine why some districts decided to consolidate while others decided to remain independent. Their findings are interesting:

- The greater the potential economies of scale, the greater the probability of consolidation.
- The more similar 2 districts are in geographic size, the greater the probability of consolidation.
- All the independent districts in Georgia that decided to consolidate had higher tax burdens than the county district.
- The heavier the concentration of minorities in the independent district, the greater the probability of consolidation.
- The greater the disparity in enrollments between an independent district and the county district, the less likely consolidation will occur.
- In Georgia, the fewer miles of roads in a county, the more likely consolidation was to occur.

In their 1994 study of New York, Duncombe, Miner, and Ruggiero established criteria for identifying school districts that were prime candidates for consolidation:

- lack of K-12 continuity,
- reduced or declining enrollment,
- high overhead for non-instructional expenditures,
- high dependence upon state assistance, and
- high tax rates and low average wealth.

Relationships among costs, size, and educational performance are non-linear.[10] The trick seems to be to have school districts that are large enough to capture economies of scale, but not so large that diseconomies are experienced.

Several observations can be made about the research on economies of scale. First, such savings are a compelling motivation, and certainly one that has merit. Looking back at Table 2, it is easy to conclude that 600 to 1,000 school districts in a state are too many. The same arguments that propelled school consolidation in the early twentieth century would seem to apply to school districts in many of those states. However, geographic size, topography, and population density are relevant factors, and options are limited where populations are sparse and distances are great. Whether scale economies can be realized may be a function of circumstances and state law. Savings can be realized when buildings are closed and teachers and staff are terminated. However, if all teachers in the combined district must be brought up to the same salary and benefit level, which is done in Tennessee pursuant to statute, the cost of this may offset any savings resulting from increased size.

The psychological appeal of economies of scale is also interesting. In states that do not have large numbers of school districts, there is still a perception that there are too many. A case in point is Alaska (53 school districts) where the governor recently stated: "Very frankly, we have too many school districts in this state. I know it's very nice for each community to have it's own district, but there are certain limits to how we can best spend our dollars, and we can reduce substantially administrative expenses."[11]

An extensive survey of the research turned up only two studies of the financial effects of consolidation. The first, a 1991 project by Streifel, Foldesy, and Holman compared pre-consolidation financial data with corresponding post-consolidation data. The departments of education in all 50 states were asked to provide financial information for school districts that consolidated during the years 1980 through 1984. From the responses, the researchers selected 19 school district mergers in 10 states that met the operational definition established.[12] Only mergers of fully operational K-12 systems were considered. Information about district operations was collected for each of the 3 years prior to consolidation and for the first 3 years following consolidation.

Table 7 shows the average costs before and after the 19 consolidations for 7 expenditure categories. The percent changes for each district were compared with overall state changes. Differences were presumed to be attributable to the effect of consolidation.

Administration was the only category with statistically significant savings when the district change was compared to the overall state change. Operations and maintenance and instruction showed small, but less significant savings. Total revenue went up, but this may have been because of financial incentives for district consolidation or budgetary increases in transportation and capital projects. The authors drew the following conclusions from this study:

Table 7. Financial Effects of Selected School District Consolidations
(Average Dollars Per Pupil)

	CONSOLIDATED DISTRICTS			STATEWIDE		
	Pre-Consolidation	Post-Consolidation	Percent Change	Pre-Consolidation	Post-Consolidation	Percent Change
Administration	$159	$175	10%	$132	$173	31%
Instruction	$1,104	$1,380	25%	$1,247	$1,605	29%
Transportation	$145	$189	30%	$99	$124	25%
Operations/Maintenance	$225	$262	16%	$233	$292	25%
Total Costs	$1,873	$2,481	32%	$2,059	$2,648	29%
Capital Projects	$131	$465	255%	$155	$177	14%
Total Revenue	$1,987	$2,707	36%	$2,163	$2,760	28%

Source: Streifel, Foldesy, and Holman 1991, 16-19.

- Administrative costs increased at a significantly slower rate than state average costs, but overall, this may be less than 5% of the total budget.
- The overall financial impact of district consolidation is variable. Some showed savings in some categories, while others spent more. There is no basis for expecting significant financial advantages as an outcome of consolidation.
- Districts considering consolidation should strongly examine all the financial and other factors involved, as diseconomies may not be manifested in the financial data.

Of particular interest in this study was the inclusion of 2 Tennessee district consolidations. Table 8 isolates those 2 cases.

These results are different from the overall results and show greater financial advantages for consolidation in the Tennessee cases. Large savings appeared in both systems for administration, in particular. System #1 had significant savings in instruction and capital costs, but higher costs than the state average in transportation, operations and maintenance. Consolidation resulted in a significant improvement in the total expenditures of this district, yet overall revenues lagged behind state increases. System #2 had higher increases than the state average in instruction and capital costs, but tracked the state average in the other categories. The experiences of the 2 systems varied considerably from category to category, demonstrating the validity of the conclusion that all factors must be considered carefully in each individual case.

The second study of the financial effects of district consolidation in rural New York by Duncombe and Yinger looked at 12 consolidations of small school districts that occurred between 1987 and 1995. This study focused on how consolidation affected operating and capital costs per pupil, controlling for other factors, including student performance. The researchers compared costs in 1985, before consolidation, with the data in 1997, after all the consolidations were finalized. They found that operating costs per pupil declined by 28.8% when two 300-student districts merged, and by 7.0% when two 1,500-pupil districts combined.[13] Doubling a district's enrollment cut administrative costs per pupil by nearly 43% regardless of size.

Table 8. Financial Effects of Two Tennessee School District Consolidations
(Average Dollars Per Pupil)

		SYSTEM			STATEWIDE		
		Pre-Consolidation	Post-Consolidation	Percent Change	Pre-Consolidation	Post-Consolidation	Percent Change
Administration	#1	$109	$47	-57%	$33	$42	27%
	#2	$69	$50	-28%	$28	$35	25%
Instruction	#1	$664	$767	16%	$827	$1,044	26%
	#2	$574	$753	31%	$715	$875	22%
Transportation	#1	$68	$113	66%	$73	$82	12%
	#2	$0	$0	0%	$62	$75	21%
Operations/Maintenance	#1	$104	$142	37%	$181	$218	20%
	#2	$86	$116	35%	$146	$194	33%
Total Costs	#1	$1,464	$1,617	10%	$1,523	$1,898	25%
	#2	$992	$1,237	25%	$1,300	$1,611	24%
Capital Projects	#1	$732	$618	-16%	$95	$132	39%
	#2	$26	$27	4%	$145	$101	-30%
Total Revenue	#1	$1,631	$1,735	6%	$1,606	$2,008	25%
	#2	$1,079	$1,313	22%	$1,387	$1,696	22%

Source: Streifel, Foldesy, and Holman 1991, 16-19.

Interestingly, this study found that per-pupil transportation costs declined steadily as enrollment increased. This runs counter to the results of other studies that found higher transportation costs following consolidation. The anomaly in this case may be due to the small sizes of the merging districts. Ten of the 12 consolidations involved districts with fewer than 500 students. The authors also noted that capital costs shifted upward substantially after consolidation, in part because New York provides an additional 30% in building aid for capital projects that are committed within 10 years of reorganization.[14]

OPTIMUM SIZE

When 2 school districts merge, the consolidated district will have the combined enrollments of both. This raises 2 questions: If some districts are too small, are there districts that are too large? Is there an optimum size for a school district that maximizes both economies of scale and the quality of the student's education experience? These questions have intrigued scholars for years.

There are actually several dimensions of optimum size: the size of the school district; the sizes of individual schools; the total number of students in a grade level; and class size. The American Association of School Administrators recommends that school districts have a minimum of 1,200 students. In California and Illinois, the minimum for unified districts is 1,500.[15] In 1989, a legislative task force in Kentucky concluded that school districts enrolling fewer than 500 pupils operated less efficiently than larger systems. The task force considered, but did not recommend, consolidation for all school districts under 800 in enrollment. The 1994 New York study by Duncombe, Miner, and Ruggiero showed that per-pupil costs declined as district enrollment increased, but that 80% of potential savings were realized by the time a district size of 500 students was reached. This

later study also found relatively small diseconomies even in districts with enrollments of 5,000 or more.

The Illinois Board of Education concluded in 1985 that high schools enrolling between 500 and 1,300 students facilitated optimum student achievement and maximum efficiencies. The State of Washington has defined optimum sizes by grade: 300 for K-8; and 1,000-1,500 for K-12.

In Arkansas (340 school districts), consolidation has been a front-burner issue for the past several years. In an effort to assist legislators who were grappling with numerous approaches, Barnett, Ritter, and Lucas conducted a major study of optimum size in 2002. They found that high schools enrolling between 600 and 900 students are best situated to balance the social benefits of a small school environment with the curricular diversity and financial benefits associated with larger schools. In Arkansas, high schools with fewer than 200 students, and the very largest ones, are the most expensive to operate. The researchers concluded that there appears to be no statistically significant relationship between school size and student academic achievement when the effects of socioeconomic status are factored out.

McGuffey and Brown's 1978 study found that operating costs increased when the number of students was fewer than the maximum that the building was designed to serve. The Ohio School Facilities Commission, which helps local districts build new school buildings with funding, technical assistance, and management oversight, requires a proposed facility to serve at least 350 students to be eligible for assistance.

Empirical evidence from Marlow's 1997 California study indicates that having a larger number of schools and school districts promotes higher student achievement as evidenced by higher math and verbal SAT scores, better results on math proficiency tests, and lower high school dropout rates. The conclusion was that while a larger number of schools and school districts resulted in higher spending for public education, higher student achievement appeared to follow as well. Brasington's unique 1997 project in Ohio found that doubling the size of a school lowered student proficiency rates by 1% and lowered the average prices of nearby homes by $400. He concluded that the perceived quality of a school is such an important determinant of real estate values that the cost savings to a homeowner from school district consolidation would have to exceed $1,344 in order to break even. The Ohio study is the only one linking school size, student performance, and housing values to consolidation.

ENRICHMENT

The goal of public schools is to provide students with the best education that is humanly and financially possible. While efficiency of expenditure will, and should, always be a consideration, enrichment of the student—socially and educationally—should be the primary value. Few parents would want to send their children to a school where cost minimization was the most important thing. Many high school courses in science, math, languages, or even advanced placement courses, could not be justified on a purely cost-driven basis, since only a small percentage of students may take those courses. Some districts have higher salary scales than others in order to attract the best teachers and support personnel, which would not be justified if minimizing expenditures were the only goal. In a purely cost-driven system, magnet schools, special equipment, libraries, art teachers, health nurses, guidance counselors, and help for special needs students might be cut back or dispensed with altogether. School districts obviously do spend more money for enrichment when they could get by on much less. These investments are made to serve the best interests of students and to make sure that public schools

remain competitive with private and parochial schools. The benefits society gains from these expenditures accrue in the long term and are difficult to quantify.

There is abundant research showing that students and teachers can benefit when a small school district is combined with a larger one. Students have access to a more diversified curriculum, and a wider range of extra-curricular opportunities. Teachers in the larger system usually receive a higher salary, better benefits, and more opportunities for professional development and collaboration. When the merger of school districts can effect greater economies and provide enrichment for students and teachers, it should definitely be seriously explored. However, there are potential diseconomies associated with consolidation and larger size that should also be taken into account. There may also be detrimental effects depending on whether individual schools within the new, larger district are consolidated or remain the same. Some of these are higher transportation costs, more time lost to busing, more disciplinary problems, higher rates of vandalism, lower graduation rates, less parental involvement, and less individualized instruction.

In their 2002 survey of school consolidation research, Barnett, Ritter, and Lucas noted that "most of the recent consolidation literature, it must be said, is purely hypothetical and tends not to be buttressed with empirical data. . . . Complicating matters further is the difficulty of assessing claims for or against consolidation when they are cast in the form of purely descriptive assertions." Following are lists of perceived advantages and disadvantages of school and school district consolidation compiled from the literature.

Benefits Thought to Accrue to Consolidated School Districts

- more efficient use of public dollars through economies of scale
- lower per pupil costs
- expanded curriculum
- more extra-curricular activities and opportunities
- psychological boost from more prominent identity (sports teams)
- higher salaries and better benefits for teachers
- more specialized teachers and support staffs
- better instructional materials and equipment
- more resources for advanced and special needs students
- greater student competition and challenges
- greater cultural diversity
- lower turnover of teachers
- elimination of spending disparities between the merged districts
- increased funding from state incentives to consolidate

Liabilities Thought to Accrue to Consolidated School Districts

- higher transportation costs and more time lost to busing
- less parent-teacher interaction
- less community support for schools and bond issues for education
- adverse economic consequences: loss of business; lower housing values; more pressure on property tax base
- declines in enrollment
- decreases in educational alternatives available to parents
- failure to achieve significant savings from economies of scale
- increased power of teacher unions

- incurrence of one-time costs for new signs, uniforms, stationery, etc., that can reach $75,000-$100,000
- possible loss of services provided by former community schools
- diseconomies that can result if the consolidated district is too large

Benefits Thought to Accrue to Independent School Districts

- community pride and identity
- more responsive to the needs of individual students
- closer relationships among students, faculty, and staffs
- less bureaucracy and fewer management problems
- neighborhood schools requiring less transportation
- more parent-teacher interaction
- local control over curriculum and policies
- more sense of belonging and loyalty, and more positive attitudes
- more opportunity for development of student leadership skills
- fewer disciplinary problems, lower dropout rates, and higher graduation rates

Liabilities Thought to Accrue to Independent School Districts

- higher per pupil costs
- limited curriculum
- less schedule flexibility for teachers, and fewer opportunities for professional development and collaboration with colleagues
- fewer instructional supplies and inferior equipment
- lower expectations
- heavier faculty loads and more non-specialized assignments
- too few students in grade for same-age competition

Much may depend on whether schools within the newly formed district are also consolidated.

OTHER FACTORS/CONCLUSION

Individual schools serve a variety of functions in addition to educating children. They may also be used for evening adult education or as polling places, community centers, or meeting places for clubs and even church congregations. School ball fields and playgrounds provide year-round recreation opportunities for children and adults. Schools are frequently an integral part of a community or neighborhood and a source of community pride. While district consolidation may or may not result in the closure of individual schools, the immediate community may lose control of those schools after consolidation, and this can have a negative psychological impact.

Traditionally, the merger of smaller school districts with larger county districts presented greater opportunities for students and teachers. Today, in many cases, the independent sub-county districts may have the advantages. Many such systems in Tennessee have higher per pupil expenditures, specialized curricula, higher teacher salaries, and the most up-to-date laboratory and computer equipment. This often results from the additional taxes that can be levied by these systems without sharing the revenue they generate.

While some economies of scale could be achieved through consolidation, few county systems would be financially able to provide and maintain these enhancements. Because counties, as a practical matter, do not have the option of going out of the school business, and because independent districts have chosen to maintain themselves at a higher cost in spite of the economies they could achieve, it might be

productive to explore alternative means for educational enrichment and spending efficiencies. At the same time, it should be noted that their ability to continue to do this may be limited by the Tennessee Supreme Court's decisions in the small schools lawsuit requiring substantially equal educational opportunities for all students.

Distance learning using interactive communications has been proposed in New York as an alternative to district consolidation.[16] Beginning in 1974, because of low enrollments, three rural counties in Georgia could no longer afford to fund countywide public school systems. They entered into long-term (25-year) contracts with neighboring districts for the provision of high school education.[17] Joint purchasing agreements, joint hiring of specialized faculty, state technical assistance for capital projects, pooling of bond issues, cooperative building maintenance, and the sharing of specialized equipment are other examples of cooperative arrangements that can effect cost savings without consolidation.

While almost all earlier studies were conducted by education academics, it is surprising to see that economists have become interested in this issue. They tend to view the subject differently than educators. One economic study states, "Consolidation may reduce consumer satisfaction if the level of service provided by the new merged entity is less apt to match the demand of consumers. Efficiency gains must be weighed against losses in allocative efficiency."[18] Another is concerned with reduced choices in the educational marketplace and concludes "evidence suggests that the growing monopolization of the public education market through school district consolidation has led to a deterioration in the quality of public schools."[19] Still another found a causal chain that starts with district consolidation, which results in higher enrollments, which leads to lower school quality, lower housing values, and higher tax rates required to maintain current spending levels.[20]

Of particular interest to economists is why residents of small independent districts are willing to pay a premium for education and to defy the conventional economic wisdom by forgoing savings that often appear to be substantial. Policy makers should seek a greater understanding of this phenomenon.[21] As one study states: "Cost and efficiency are not the same."[22]

School and district consolidation can have positive, negative, or negligible effects on student performance and educational economies. Each individual situation must be analyzed carefully. Barnett, Ritter, and Lucas offer some guidelines to consider in their 2002 study. The parties examining consolidation should consider the number of existing districts, and the characteristics of the districts involved, including the number of students, land area, miles of road, population distribution, transportation network, operating and capital costs, fixed and variable costs, the number of schools in the proposed new district, and the number of students in each grade. What are the estimated savings from economies of scale, and what diseconomies may accrue?

To these questions should be added the effect on community support for education, as well as an assessment of whether and how students and teachers would benefit from a merger. Alternatives to consolidation should be examined. Finally, the questions of spending equalization and what is required to achieve a constitutionally equitable and adequate education must be addressed.

NOTES

[1] Although 135 has been the actual number of full-service systems since July 2003, for comparative purposes this report uses the 138 total shown for 2003 by the National Center for Education Statistics, U.S. Department of Education.
[2] The author's mother began a 40-year teaching career in such a school in Arkansas in the 1930s.
[3] Kay, et.al. 1982.
[4] Boex and Martinez-Vasquez 1998, v.
[5] Quoted in Barnett, Ritter, and Lucas 2002, 3.
[6] Self, 2001, 3.
[7] Duncombe and Yinger, 2003, 3.
[8] Duncombe and Yinger, 2001.
[9] Barnett, Ritter, and Lucas 2002.
[10] Trostel and Reilly, 2005.
[11] Juneau Empire, June 6, 2003.
[12] The states, and mergers, studied were Arkansas (5), California (2), Iowa (1), Kentucky (1),New York (1), North Carolina (2), Oregon (2), Tennessee (2), Texas (2), and Washington (1).
[13] Duncombe and Yinger (2003), 22.
[14] Ibid., 27.
[15] Adams and Foster 2002.
[16] Duncombe, Miner, and Ruggiero 1994.
[17] Boex and Martinez-Vasquez 1998, 4.
[18] Duncombe, Miner, and Ruggiero1994.
[19] Marlow 1997, 617.
[20] Brasington 1997.
[21] Boex and Martinez-Vasquez 1998.
[22] Adams and Foster 2002.

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