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Competition or Consolidation? The School District Consolidation Debate Revisited

by Vicki Murray, Ph.D., Education Analyst, Goldwater Institute, and Ross Groen, Education Researcher, Goldwater Institute

EXECUTIVE SUMMARY

In November 2002, the Arizona Office of the Auditor General (OAG) released a report on school districts' administrative spending that found, on average, small school districts spent more per pupil than large districts. In response, the Arizona State Legislature established a commission to study the potential savings from statewide school district consolidation.

Understandably, taxpayers want education dollars spent in the classroom, on teacher compensation and smaller class size, not on wasteful administration. Current proposals by the state superintendent of public instruction, Tom Horne, and Pinnacle West Capital Corporation's vice president of government affairs, Martin L. Shultz, therefore attempt to reduce administrative costs from roughly 11 percent to five percent of Arizona's education spending to redirect the savings into the classroom.

A closer examination of the OAG report suggests statewide school district consolidation is unlikely to produce the hoped-for fiscal savings. Moreover, empirical research shows consolidation increases administrative costs at the expense of classroom instruction, yielding larger classes, fewer teachers, and lower student achievement. Therefore, consolidation is a marginal reform, best implemented on a limited, case-by-case basis.

Research shows that competition, not consolidation, improves school efficiency. By fully exercising Arizona's existing open enrollment law, school efficiency could rise by 10 percent, achievement could be roughly three to six percentile points higher, and spending could be almost eight percent lower. Expanding Arizona's charter schools could improve test scores of charter students and students attending nearby traditional public schools by one to three percentile points, while yielding a per-pupil savings of \$1,530 – more than 90 times greater than the estimated \$17.34 per-pupil savings from current consolidation proposals.

Like policymakers in Arizona, policymakers in dozens of other states are weighing the potential savings from projected administrative efficiencies against the potential pitfalls of consolidation. What is the potential fiscal impact of statewide school district consolidation for Arizona? What other educational quality issues might be affected? This study examines those questions.

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Introduction

Over the past 50 years, public schools nationwide have borne the responsibility for a growing number of non-instructional programs, including provision of transportation, meals, and numerous health and social services. While state and federal governments have dramatically increased funding for such programs, the corresponding administrative staff charged with oversight has grown disproportionately large and, in effect, now competes for limited resources with instructional programs.¹

Arizona's Office of the Auditor General (OAG) confirmed this trend in its March 2002 report, *Arizona Public School Dollars Spent in the Classroom*. According to the OAG, "Higher expenditures for certain non-instructional costs, such as food service, transportation and administration were associated with lower classroom dollar spending."² As a result, "Arizona has historically been below the national average for spending on instruction."³

In a subsequent analysis, *Factors Affecting School Districts' Costs*, the OAG paid special attention to districts with unusually high or low per-pupil administrative costs in 2001, as well as school districts in which per-pupil administrative costs increased or

decreased compared with 1999 data.⁴ It found that administrative costs varied widely among Arizona's school districts, with some districts spending as little as \$1 on administration for every \$7 spent on instruction, and others spending as much as \$1 on administration for every \$3 dollars spent on instruction.⁵

In response, the Arizona legislature established a 19-member School District Unification and Consolidation Commission to study potential savings associated with the reduction of school administration and personnel.⁶

Consolidation proposals under consideration, such as those proposed by the state superintendent of public instruction, Tom Horne, and Pinnacle West Capital Corporation's vice president of government affairs Martin L. Shultz, rely heavily on select OAG findings that larger school districts have lower administrative costs. While those consolidation plans address related educational issues, each focuses on achieving "economies of scale" by increasing school district size to generate administrative savings. According to Shultz, "A central issue in this debate centers on the effective and efficient use of faculty and administrative resources and how to spread necessary fixed costs over a larger base to produce dollars to go directly into the classroom."⁷ Superintendent Horne concurs:

The first reason [for consolidating school districts] is the efficiency. The Joint Legislative Budget Committee did a study very recently where they found efficient large districts spend \$300 and some per pupil on administration, where some of the smaller districts spend as much as \$1,000 per student on administration. We only give \$4,700 per student. So a thousand dollars is a big chunk out of the budget. People expect the money to be spent in the classroom on teacher compensation and on smaller class size, rather than wasteful administration.⁸

To illustrate, Horne compares the average per-pupil administrative costs for 88 school districts – 51 small, 36 large, and one very large.⁹ The small districts averaged \$1,297 per pupil on administrative costs, while the large districts averaged \$517, and the very large district averaged \$368. This means the very large district spent an estimated eight percent of its revenue on administration, the large districts spent 11 percent, and the small district spent 28 percent. Thus, consolidation proponents maintain that overall administrative spending would decline if Arizona's smaller school districts were either absorbed by larger districts or combined to create larger districts.

While the OAG's 2002 report helped bring school district consolidation to the forefront of Arizona's education debate, the issue is

more than a century old and has been considered in nearly every state. For example, New York recently consolidated its community districts into a single centralized system, and Michigan awards a per-pupil bonus for districts that consolidate.¹⁰

Wyoming's legislature, however, recently defeated consolidation legislation, while Oregon is considering ways to reduce the size of its expanding school districts. In California, efforts are underway to divide one of the country's largest school districts, Los Angeles Unified School District, with 905,020 students, into 30 separate districts. Nevada is also considering measures to reduce the size of one of its largest districts, Clark County School District, which has 244,684 students.¹¹

Arkansas, Idaho, Iowa, Kansas, and South Dakota are among a growing number of states still grappling with this issue. Like policymakers in Arizona, policymakers in those and other states must weigh the potential savings from projected administrative efficiencies against the potential pitfalls of consolidation. These include loss of local control and representation, increased travel times for students, and even decreased child safety because of the increased distance between home and school.¹²

Those are just some of the stated reasons why some states are consolidating school districts, while others are breaking them up. What is the potential fiscal impact of statewide

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medium districts would be eliminated, as well as some large districts. Such eliminations translate into an estimated 83 percent reduction in the number of school districts, from well over 200 to roughly 40.¹⁶

The Potential Fiscal Impact of Statewide School District Consolidation

If consolidation were implemented, all very small, small, and medium districts would be eliminated, as well as some large districts. Such eliminations translate into an estimated 83 percent reduction in the number of school districts, from well over 200 to roughly 40.

Statewide, administration spending per pupil varies widely, from as little as \$360 per pupil to \$6,013 per pupil. The OAG concluded in both its 2000 and 2002 reports that, in general, districts with higher administrative costs are usually smaller, while districts with lower administrative costs are typically larger.

The OAG examined 209 of Arizona's 233 regular school districts that range broadly in size, or average daily membership (ADM); 51 are very small, 37 are small, 85 are medium-sized, and 36 are large districts (13 of which have 15,000 students or more enrolled).¹³ It concluded that districts with high costs typically serve fewer than 600 students and those with low costs serve 5,000 or more students.¹⁴

Based in part on these findings, the Shultz consolidation plan recommends school districts be combined to serve between 6,000 and 30,000 students, while Horne prefers closer to 30,000 students.¹⁵ If either of those recommendations were implemented, however, all very small, small, and

Horne believes that school district consolidation of this magnitude would ultimately bring administrative costs down from an estimated 11 percent to five percent of Arizona's education spending.¹⁷ If successful, such a reduction would make Arizona a national leader in administrative efficiency. But will such savings be realized through statewide school district consolidation, and will those savings actually reach the state's classrooms?

A closer examination of the OAG's findings from its 2000 and 2002 reports on school districts' administrative costs reveals that the relationship between school district size and administrative costs is more complex than it seems. The factors affecting administrative costs are many, and for this reason, statewide consolidation efforts may not produce the hoped-for fiscal savings.

According to the OAG, administrative costs arise from three sources: the individual school, the district, and the governing board, which includes superintendents' offices.¹⁸ The largest portion of administrative expenses, 52 percent, occurs at the individual school level. Those administrative costs include salaries and benefits for principals, clerical support staff, and assistants, who oversee school

operations, activities, and staff evaluations.¹⁹ Importantly, in its analysis of accounting data from 206 school districts on factors influencing administrative costs, the OAG identified the size of individual schools, not districts, as a key factor.²⁰

In contrast, business and central support services constitute 33 percent of administrative costs and occur predominately at the district level. Business support services include budgeting and payroll; purchasing, storing, and distributing equipment, supplies, and furniture; and publishing and printing. Central support services include planning, research, and evaluation services; publicizing educational and administrative issues to students, staff, and the public; personnel recruiting, placement, and training; and data processing.²¹

Expenses related to governing boards and superintendents' offices, which also occur at the district level, account for only 15 percent of administrative costs. Those costs include elections, staff relations, and secretarial, legal, audit, and other services. They also include superintendent salaries, benefits, and office expenses, in addition to lobbying expenses and expenses related to community, state, and federal relations.²²

Because the majority of all administrative costs (52 percent) occurs at the individual school level, current consolidation proposals would address less than half of all administrative costs. Their potential fiscal impact is further

diminished because these proposals do not target the most expensive types of administrative costs.²³

The primary goal of proposed consolidation measures is to produce greater economies of scale. As the OAG explains, "Districts have certain functions that must be performed, such as purchasing supplies and accounting for the expenditure of public monies [which requires purchasing the service of accountants]. Consequently, small districts are more likely to have higher per-pupil administrative costs because there are fewer students over which to spread these costs."²⁴

A review of the OAG's findings on school districts' administrative costs, however, indicates that the potential fiscal impact of current consolidation proposals has been greatly overstated. Purchased services and supplies costs, such as those described by the OAG above, constitute only 14 percent of all types of administrative costs. In contrast, salaries and benefits constitute 84 percent of administrative costs.

Proponents will counter that a secondary consequence of consolidation is the reduction in the number of schools, and therefore, overall administrative staff. As described extensively below, empirical research demonstrates that this is not the case. On the contrary, consolidation efforts in other states have resulted in larger, not smaller administrative staffs, further eroding already meager projected economies-of-scale savings.

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Current consolidation proposals designed to redirect administrative savings to the classroom presume it is possible to reverse the OAG's administration-to-classroom-dollars formula: "For every one percent increase in administrative costs, there is a .5 percent reduction in the classroom dollar percentage."²⁵ That is, for every dollar saved on administration, fifty cents could be redirected to the classroom. Thus, in theory, only half of any administrative savings from consolidation would be available for the classroom. If realized, based on available OAG data, these savings would redirect only \$17.34 more to each student in the Arizona public school system.

According to Joint Legislative Budget Committee (JLBC) calculations, the total administrative costs for the 209 districts studied by the OAG in its 2002 report amounted to \$395 million. A 14 percent reduction in administrative purchased service and supplies costs is actually only a seven percent reduction, because only the district level is targeted, and that is the source of less than half of all administrative costs.

Divided among the 797,102 students enrolled at schools in the 209 districts studied by the OAG for the 2001-02 school year, this figure amounts to \$34.69 extra per pupil. However, any potential savings must be reduced once more because, as suggested above, only half of any administrative savings would reach the classroom, resulting in a savings of \$17.34 savings per pupil. Furthermore, the projected savings of

\$17.34 to \$34.69 per pupil is valid only if the most expensive types of administrative costs-salaries, benefits, and staffing levels-remain constant at both the district and individual school levels.²⁶

By focusing exclusively on the potential administrative savings from making school districts larger, current consolidation proposals overlook the most expensive types of administrative costs. A closer examination of the OAG's sample school districts reveals that the relationship between school district size and administrative costs is not as linear as consolidation proposals presume, so even the potential savings of \$17.34 to \$34.69 per student is likely overstated.²⁷

Moreover, school district consolidation reduces the number of individual schools and makes them significantly larger, as described in greater detail below.²⁸ As a result, consolidation could adversely affect student achievement, classroom size, and administrative efficiency.

School District Size is a Poor Predictor of Administrative Costs

Turning to the sample districts the OAG selected for closer examination, it becomes clear that size is only one factor affecting school district administrative costs. To determine the factors affecting high or low per-pupil administrative costs, the OAG selected a sample of 20 school districts statewide, 11 with high

costs and nine with low costs.²⁹ While it identified six factors that contribute to higher administrative costs (size, salaries, staffing level, benefits, purchased services, and supplies), the OAG focused on size.³⁰

Of the 11 sample districts singled out in the OAG report for high administrative costs, nine are classified as small.³¹ Given OAG's general conclusion about district size and administrative costs, one might expect that only the smallest districts would stand out for high administrative costs. This is not the case. Districts having high administrative costs ranged in size from 15 to 21,115 students.³² In fact, a large district and even an extra-large district are cited as having unusually high administrative costs.³³

Common sense dictates that textbooks, transportation, and cartons of milk would all be less expensive if bought in bulk, as would contracting for services. If small size makes it more difficult for some districts to achieve economies of scale, then all of the small and very small districts listed by the OAG as having unusually high costs should also have higher-than-average costs relating to purchased services and supplies. Again, this is not the case.

Only four of the nine smaller districts had higher than average supplies costs, while six of the nine had higher than average purchased services costs. In contrast, both of the large and extra-large districts in this group had higher than average purchased services

costs. The large district also had higher than average supplies costs. These findings suggest size alone is not a reliable indicator of administrative efficiency.

An examination of sample school districts selected by the OAG for having lower than average administrative costs also indicates that size alone does not predict efficiency. Of the eight districts selected by the OAG for low administrative costs,³⁴ one was very small, three were medium, one was large, and four were very large.³⁵ The common denominator for all lower-spending districts, including small districts, was lower than average services and supplies costs, not size. In fact, the only low-spending district listed that was not cited as also having low purchased services costs was a large district.³⁶

Similarly, among the sample districts that had changing administrative costs, either higher or lower in 1999 than 2001, the OAG identified nine with increased costs and two with decreased costs.³⁷ Among the districts identified as having growing administrative costs were districts of all sizes: three very small districts, four small districts, one large district, and one very large district.

Smaller district size was common to six of the nine higher-cost districts. Yet, if small district size alone caused higher administrative costs, other costs such as salaries, benefits, and purchased services would have remained constant. They did not.

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These findings indicate that large size is not sufficient to contain the most expensive types of administrative costs. They further suggest that the impact of various types of administrative costs on overall costs is far more complex than linear size-cost consolidation proposals admit.

Contrary to expectations, the only districts that reduced administrative costs during this period were two smaller districts. And just one of the two lower-spending districts experienced an increase in size, which further suggests that district size alone is not sufficient to affect significant cost changes over time. In fact, among the 11 sample districts selected for changing administrative costs, fluctuating district size was a factor common to only seven of them. Changes in purchased services were common to 10 of the 11 sample high-cost districts studied, yet the only district that did not experience increased purchased services costs was a very small district. Likewise, both of the districts with reduced administrative costs experienced lower purchased services costs.³⁸

Thus, the relationship between administrative costs and school district size is not as simple as it initially appears. Such is the case even with regard to fixed administrative costs, namely purchased services and supplies, where larger districts would be expected to achieve significant cost reductions through economies of scale alone. The failure of the larger districts to realize savings in these types of administrative costs indicates that district size alone is an insufficient factor in controlling administrative costs. This failure further suggests that other, more significant costs besides purchased service and supplies costs drive up a district's overall administrative costs.

The OAG cited salaries and benefits

as contributing more significantly to administrative cost than size, purchased services, or supplies. For example, among the 11 sample districts selected for changing administrative costs, small size was listed as a factor for nine districts, but higher salaries was a factor cited for 10 districts. Similarly, among the eight sample districts cited for particularly low costs, large size was a factor for four districts, while staffing levels was cited as a factor for six districts. For the 11 districts with changing administrative costs, decreased size was a factor for seven districts, while salaries and benefits were factors for eight.

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Smaller Districts Regularly Have Lower Administrative Costs than Larger Districts

Another consequence of linear size-cost consolidation proposals is that they overlook the administrative costs of Arizona's medium districts. Current consolidation proposals take as their departure point the OAG's conclusion that, in general, smaller districts (fewer than 600 students) have higher administrative costs, while larger

districts (over 5,000 students) have lower administrative costs. Yet 39 percent of all school districts examined by the OAG in its 2002 study are medium districts, which fall between those size ranges. The OAG did not cite any medium district as having particularly high administrative costs, but it did select three for having low costs, which constitutes one-third of the OAG sample.

To conduct a more comprehensive analysis of school district administrative costs, we used Table 6 of the OAG's 2002 report, which ranks all 209 districts from highest to lowest administrative spending per pupil.³⁹ The OAG table does not, however, show school district size. School size figures were calculated by taking the total cost column amounts in Table 6 and dividing them by the per-pupil cost amounts. With this larger sample size, it is possible to test how the administrative costs of smaller and medium districts statewide compare to those of larger districts.

If larger districts spend the least per pupil on administration generally, then the state's 10 largest districts should provide a standard by which to judge the spending of medium districts. The state's 10 largest school districts spent between \$348 and \$638 per pupil on administration in 2001. Fifty-two, or 64 percent, of medium-size districts fall within this range.⁴⁰ The average size of medium districts within this range is 2,406 students, while the average large district within this range is nearly seven times larger, at 15,765 students.⁴¹

Contrary to expectations, the school district ranked first in terms of lowest administrative spending per pupil is very small. This district is an anomaly, however, as the county superintendent has agreed to manage the district for free.⁴² Nevertheless, it is illustrative of the finding highlighted by the OAG in its 2000 report, but not in its 2002 report: "Districts that assigned two or more duties to one employee . . . were frequently associated with low administrative costs per pupil."⁴³ According to the OAG, small districts often assign multiple duties to their administrators, thereby reducing the number of employees and associated compensation costs, which constitute the largest types of administrative costs.⁴⁴

Next on the list for lowest per-pupil administrative costs are two medium districts.⁴⁵ Among the top tier of school districts for lowest per-pupil spending on administration (the top 70 of 209) - where one would expect large school districts to dominate - medium, small, and even one very small district spent less on administration per-pupil than many of Arizona's 10 largest school districts. In fact, one of the state's largest districts, Phoenix Unified High School District, does not even rank among the top tier, as shown in Table 1.

Medium districts Snowflake Unified School District (4,632 students) and Peach Springs Unified School District (1,834 students) outperformed all of Arizona's 10 largest school districts, which range in size from 69,148 students (Mesa Unified School District)

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Table 1. Top Tier School Districts for Lowest Per-pupil Spending on Administration from Highest to Lowest^a

District name	Number of students	Size category ^b	Per-pupil spending on administration
Murphy ESD	2,409	Medium	571
Colorado River UHSD	1,981	Medium	570
Sierra Vista USD	6,478	Large	570
Page USD	3,065	Medium	569
Liberty ESD	1,455	Medium	565
Buckeye UHSD	1,112	Medium	564
Mohave Valley ESD	1,651	Medium	558
Eloy ESD	1,311	Medium	555
Cottonwood-Oak Creek ESD	2,260	Medium	552
Naco ESD	284	Small	551
Glendale UHSD	13,479	Large	550
Buckeye ESD	1,270	Medium	540
Agua Fria UHSD	2,372	Medium	537
Vail USD	3,200	Medium	535
Douglas USD	4,183	Medium	534
Blue Ridge USD	2,339	Medium	531
Tolleson UHSD	4,353	Medium	530
Gadsden ESD	3,209	Medium	529
Winslow USD	2,481	Medium	525
Santa Cruz Valley USD	2,363	Medium	512
Osborn ESD	3,791	Medium	504
Litchfield ESD	3,438	Medium	502
Dysart USD	5,205	Large	494
Tempe UHSD	12,528	Large	493
Payson USD	2,761	Medium	488
Tucson USD #2	59,068	Large	488
Amphitheater USD	15,957	Large	487
Williams USD	747	Medium	481
Sunnyside USD	13,963	Large	480
Casa Grande ESD	5,035	Large	479
Madison ESD	4,600	Large	473
Nogales USD	6,139	Large	471
Apache Junction USD	5,335	Large	470
Isaac ESD	7,825	Large	469
Balsz ESD	3,030	Medium	468
Prescott USD	4,804	Large	462
Chino Valley USD	2,415	Medium	462
Deer Valley USD #6	26,124	Large	457
Scottsdale USD #7	26,082	Large	457
Higley USD	2,050	Medium	455

Table 1 (continued). Top Tier School Districts for Lowest Per-pupil Spending on Administration from Highest to Lowest^a

District name	Number of students	Size category ^b	Per-pupil spending on administration
Quartzsite ESD	314	Small	450
Yuma ESD	9,515	Large	450
Humboldt USD	5,094	Large	449
Clarkdale-Jerome ESD	347	Small	449
Marana USD	11,522	Large	448
Lake Havasu USD	5,604	Large	445
Safford USD	2,792	Medium	442
Kyrene ESD	18,402	Large	441
Yuma UHSD	7,988	Large	439
Creighton ESD	7,895	Large	438
Flowing Wells USD	5,822	Large	437
Chandler USD #9	20,729	Large	435
Mesa USD #1	69,148	Large	428
Toltec ESD	793	Medium	426
Avondale ESD	3,150	Medium	423
Pendergast ESD	7,661	Large	423
Flagstaff USD	11,145	Large	417
Alhambra ESD	13,050	Large	414
Kingman ESD	4,459	Medium	411
Tempe ESD	11,894	Large	411
Peoria USD #4	32,569	Large	404
Glendale ESD	11,303	Large	390
Washington ESD #8	23,507	Large	388
Bullhead City ESD	3,628	Medium	372
Cartwright ESD	17,612	Large	363
Casa Grande UHSD	2,443	Medium	362
Paradise Valley USD #3	33,616	Large	349
Gilbert USD #5	27,979	Large	348
Snowflake USD	4,632	Medium	326
Peach Springs USD	1,834	Medium	233
Blue ESD	0	Very small	0

^aThe top 70 out of 209. Listing based on Table 6 of *Factors Affecting*, 2002. The 2001 number of students was calculated by taking the total cost column amounts in Table 6 and dividing them by the per-pupil cost amounts. Ranks for 10 largest schools districts are given next to their names.

^bAccording to the OAG, very small districts have fewer than 200 students; small districts have between 200 and 599 students; medium districts have between 600 and 4,999 students; and large districts have 5,000 students or more. The National Center for Education Statistics (NCES) categorizes extra-large districts as 15,000 students or more and super-large districts have 40,000 students or more.

to 21,115 (Phoenix Unified High School District). While Snowflake Unified School District spent \$326 per pupil on administration and Peach Springs Unified School District spent \$233 per pupil, Arizona's 10 largest districts spent between \$348 and \$638 per pupil.

Comparing the OAG's 2000 and 2002 district rankings based on 1999 and 2001 fiscal year data shows that the performance of the state's best smaller and medium districts is not an aberration. Small and medium districts that performed as well or better than their very large counterparts in 2001 also did so in 1999.

As the OAG makes clear, however, one-time or idiosyncratic expenses can have a significant impact on the per-pupil administrative costs for school districts of all sizes during any given fiscal year. For example, to attract a new superintendent, one district increased its salary level by roughly \$10,000 per year. Another district had an estimated \$100,000 in attorney fees relating to contract and personnel matters. Two districts pre-paid health insurance premiums, inflating administrative costs in one fiscal year but achieving increased savings in subsequent fiscal years.⁴⁶ For this reason, a district's administrative spending for a single fiscal year can be misleading. To ensure that the instances of very small, small, and medium districts outperforming the state's 10 largest districts were not aberrations, we compared the OAG's 2002 district rankings and expenditures with the OAG's 2000 district rankings and expenditures.⁴⁷

Using Arizona's 10 largest districts as a guide, we identified all very small, small, and medium districts that fell within the per-pupil spending ranges for the state's largest districts in 1999 (\$326 to \$634) and 2001 (\$348 to \$638). Of the 52 medium districts that fell within

the 2001 spending range, only two did not also fall within the fiscal year 1999 range: Peach Springs Unified School District and Higley Unified School District. However, both of these districts were classified by the OAG as small districts in 1999.

All seven of the small school districts that fell within the 2001 per-pupil administrative spending range for Arizona's top 10 largest school districts also fell within this range in fiscal year 1999. Very small district Kirkland Elementary School District, which spent only \$5 more per pupil on administration in 2001 than the tenth-largest district, Phoenix Unified High School District, spent \$198 less per pupil than Phoenix Unified High School District in 1999.

Comparing the OAG's 2000 and 2002 district rankings based on 1999 and 2001 fiscal year data shows that the performance of the state's best smaller and medium districts is not an aberration. Small and medium districts that performed as well or better than their very large counterparts in 2001 also did so in 1999.

For example, in 1999, medium district Snowflake Unified School District outperformed only one of Arizona's 10 largest districts, spending \$492 per pupil on administration compared to Phoenix Unified High School District's \$634. By 2001, Snowflake Unified School District's administrative spending had dropped by 34 percent to only \$326 per pupil, tied

with top-ranked large district Scottsdale Unified School District and outperforming the state's other nine largest districts. Also in 1999, medium district Casa Grande Unified High School District outperformed eight of the state's largest school districts, spending \$364 per pupil on administration.

Therefore, according to the OAG's rankings, the best small and medium districts perform on par with or better than Arizona's 10 largest districts in terms of administrative cost per pupil. That is, both very small and small school districts averaging 307 students and medium districts averaging 2,406 students compete well with the state's ten largest districts, which average 33,994 students. The fact that significantly smaller districts can keep administrative costs so low indicates that the impact of various types of administrative costs is far more complex than the linear size-cost consolidation model suggests.

A cursory review of the OAG's findings on school district administrative costs revealed that the potential fiscal impact would yield at most an additional \$17.34 to \$34.69 per student. In fact, a closer examination of how the best smaller and medium districts compare with Arizona's largest districts suggests that even this projection may be too optimistic, since factors other than size influence schools district administrative costs.

Current statewide consolidation

proposals would reduce the number of school districts statewide by 83 percent (from over 200 to roughly 40), eliminating very small, small, medium, and even some large school districts. Yet our analysis of 209 Arizona school districts reveals that smaller districts averaging 307 students and medium districts averaging roughly 2,400 students perform as well as or better than the state's 10 largest districts averaging almost 34,000 students. In light of these findings, the recommended optimal school district size of 6,000 to 30,000 students appears unwarranted.

Furthermore, the negligible potential fiscal savings of school district consolidation must be weighed against its negative impact on numerous education quality issues.

Bigger Districts Lead to Administrative Bloat, not Streamlining

In light of available Arizona data, statewide school district consolidation appears ill-advised. A growing body of national research on consolidation supports this assessment. Syracuse University's Maxwell School Center for Policy Research scholars Matthew Andrews, William Duncombe, and John Yinger recently surveyed three decades of empirical research on school district consolidation. They concluded that cost savings might be achieved by moving from a very small district (500 or fewer

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students) to a district with enrollment between 2,000 and 4,000 students, roughly the size of Arizona's most efficient medium districts.⁴⁸

In fact, the Shultz proposal calling for consolidation of school districts to reach between 6,000 and 30,000 students bases its recommendation on the work of Duncombe, who is the associate director of the Education Finance Accountability Program at Syracuse University, as well as a senior research associate of the Maxwell School's Center for Policy Research.⁴⁹

Yet Shultz's recommendation runs counter to Duncombe's findings, namely that 6,000 is the optimal number of students in a district for total cost effectiveness. Furthermore, Duncombe finds "no support for the use of state tax dollars to encourage consolidation among districts with 1,500 or more pupils."⁵⁰

While both the Shultz and Horne consolidation plans point to districts of 6,000 or more students as models of administrative savings, Andrews, Duncombe, and Yinger caution that diseconomies of scale begin to emerge when districts grow larger than 6,000 students, and "sizeable diseconomies of size may begin to emerge for districts above 15,000 students."⁵¹

Similarly, a growing body of research questions the validity of economies of scale applied to school district performance. As industrial economics expert Bela Gold puts it, "From the

standpoint of economic analysis, it is important to recognize that the widespread faith in the 'economies of scale' has not gained much support from the relevant theoretical and empirical literature."⁵² In his study of New York state school districts, economist Herbert Kiesling concludes that "no evidence has been found to support the popular idea of economies of scale in school district performance."⁵³

James W. Guthrie, now chair of the Peabody Center for Education Policy at Vanderbilt University, concluded that the consolidation trend has generally failed to produce promised economies of scale.⁵⁴ Likewise, William F. Fox, director of the Center for Business and Economic Research at the University of Tennessee at Knoxville, finds much of the research on economies of scale in education to be flawed methodologically and concludes that "size economies results must be applied cautiously, and with full recognition of the unique characteristics of each place, because considerations [besides size] are vital to determining the cost implications of policy decisions."⁵⁵

Over 30 years of research indicates that school district size does not determine efficiency. As far back as 1972, research indicated that school district size did not affect spending patterns, there was no absolute "optimum" size, and in general, the impact of school district size on efficiency must not be considered in a vacuum.⁵⁶ Writing for the *American School Boards Journal*, Carolyn Mullins

While both the Shultz and Horne consolidation plans point to districts of 6,000 or more students as models of administrative savings, Andrews, Duncombe, and Yinger caution that diseconomies of scale begin to emerge when districts grow larger than 6,000 students, and "sizeable diseconomies of size may begin to emerge for districts above 15,000 students."

reviewed the pros and cons of consolidation and found consolidation is no “panacea for all education’s ills.” Mullins concluded, “Like the bikini, it isn’t for everybody and never will be.”⁵⁷

Potential Impact of Consolidation on Educational Quality Issues

Superintendent Horne favors statewide school district consolidation because, as he says, “People expect the money to be spent in the classroom on teacher compensation and on smaller class size, rather than wasteful administration.”⁵⁸ However, empirical research indicates that consolidation, and the accompanying centralization, will increase administration at the expense of classroom instruction, with fewer resources, larger classes, and more administrative work for teachers.

In 2002, a research team led by William Ouchi, a professor at UCLA’s Anderson School of Management, examined nine different school systems, including the United States’ three largest districts. The research team found that the centralized management of schools brought about by consolidation actually led to administrative bloat, not streamlining. For example, in the highly centralized Los Angeles Unified School District, only 45 percent of education dollars were spent in the classroom.⁵⁹

Education expert Mike Antonucci explains, “Paradoxically, the larger a school district gets, the more resources it

devotes to secondary or even non-essential activities.” He refers to this phenomenon as “mission creep,” in which secondary administrative support services subvert a district’s primary purpose of educating students.⁶⁰ Focusing on theoretical economies of scale, consolidation proponents overlook the negative constraints of large school districts. Former Clinton Administration assistant secretary of the U.S. Department of Education and Education Commission of the States senior education analyst Kent McGuire cautions that such “negative mechanisms” include shifting resources away from core educational activities.⁶¹

From 1938 to 1980, school administrations changed from small, local organizations to large, professionally run bureaucracies.⁶² It was widely believed that schools and districts, like corporations, should be made larger and be run according to the “scientific management” model to achieve higher productivity at reduced costs. Yet as early as 1955, F. W. Terrien and D. L. Mills’ analysis of California districts for the 1951-52 school year showed that as school districts grow, “the school administrator may expect that the percentage of his organization which is devoted to administrative tasks may rise.”⁶³

Seven years later, Raymond E. Callahan published *Education and the Cult of Efficiency*. His findings confirmed that consolidated districts run by professionals according to the “scientific management” model sacrifice

Writing for the American School Boards Journal, Carolyn Mullins reviewed the pros and cons of consolidation and found consolidation is no “panacea for all education’s ills.” Mullins concluded, “Like the bikini, it isn’t for everybody and never will be.”

educational quality. According to Callahan:

The tragedy itself was fourfold: that educational questions were subordinated to business considerations; that administrators were produced who were not, in any true sense, educators; that a scientific label was put on some very unscientific and dubious methods and practices; and the anti-intellectual climate, already prevalent, was strengthened.⁶⁴

Contrary to expectations, research overwhelmingly shows smaller, decentralized school districts have superior student achievement and efficiency. After examining school districts nationwide, Ouchi and his UCLA research team conclude, “Our data generally support the view that decentralized public school districts outperform more centralized districts on student performance outcomes, administrative efficiency, and incidence of corruption.”⁶⁵

Commonwealth Foundation senior fellow and University of Idaho economics professor emeritus John T. Wenders concludes that increased school district centralization consumes any savings intended to go to the classroom: “The result [where districts have been consolidated] has been higher, not lower, per-pupil costs and worse education. In the jargon of Economics 101, any economies gained by movements down cost curves have been more than offset by upward shifts in these same curves.”⁶⁶

National data confirm that as school districts consolidate they become more inefficient, the number of individual schools declines, and schools become larger. According to the National Center for Education Statistics (NCES) June 2003 *Digest of Education Statistics*, “During most of the last century, the trend to consolidate small schools brought a large decline in the total number of public schools in the United States.” For example, from the 1938-39 school year to the 2000-01 school year, the number of school districts declined almost twice as fast as overall enrollment increased, resulting in larger schools. More recently, from 1990-91 to 2000-01, the average elementary school size grew by six percent, while the average secondary school size grew by seven percent.⁶⁷

As discussed above, the consolidation plans proposed by Horne and Shultz would drastically reduce the number of school districts statewide without addressing the primary source of all administrative costs, the individual school. As a result, any potential fiscal savings would amount, at best, to between \$17.34 and \$34.69 per pupil. But if school district consolidation also reduces the number of individual schools, would not administration levels also decline, yielding savings at the source of most administrative costs?

The lion’s share of consolidation research focuses on this very question but finds that administrative levels have skyrocketed. Cato Institute executive vice president David Boaz and writer R.

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Morris Barrett found that between 1960 and 1984, the number of school districts nationwide declined 39 percent, from 40,520 to 15,747. During this time, however, school administration grew by a staggering 500 percent, while “the number of teachers and principals grew by a comparatively puny 57 percent and 79 percent, respectively.”⁶⁸

Data from the NCES reveal that as schools get bigger, pupil/teacher ratios grow. As a result of elementary enrollment rising faster than the number of schools, class sizes increased nationwide from the 1990-91 school year to the 2000-01 school year.⁶⁹ Nevertheless, the average public elementary and secondary pupil/teacher ratio has dropped nearly constantly from the fall of 1955 to the fall of 2001, from roughly 27:1 to 16:1.⁷⁰

Larger schools, however, have higher pupil/teacher ratios. As of fall 2000, only schools with fewer than 499 students had pupil/teacher ratios below the national average of 16:1.⁷¹ Schools with enrollment between 500 and 999 did not have statistically higher pupil/teacher ratios than the national average. Schools with enrollment between 1,000 and 1,999 had pupil/teacher ratios of more than 17:1, and those with enrollment over 1,500 were higher still, at more than 19:1.⁷²

While national pupil/teacher ratios have been decreasing, from the fall of 1995 to the fall of 2000, Arizona’s ratio increased slightly, from 19.6 students per teacher to 19.8 students per teacher,

almost 4 more than the national average.⁷³ In fact, Arizona’s current overall ratios are higher than those of the country’s largest schools.⁷⁴ Consolidation would exacerbate this trend, given that the resulting larger schools tend to have higher pupil/teacher ratios.⁷⁵

Furthermore, following years of school district consolidation nationwide, administrators now equal, and in some states exceed, teachers and instructional staff as a proportion of school staff. In fact, from 1994 to 2000, teachers in public elementary and secondary schools as a percentage of staff have decreased overall nationally from 52.0 percent to 51.6 percent.⁷⁶

In Arizona, this trend is even more pronounced. Over the same period, teachers in the state’s public elementary and secondary schools as a percentage of staff have decreased from 51.2 percent to 49.3 percent. As a result, Arizona ties for the tenth worst teacher-as-a-percentage-of-staff ranking in the country.⁷⁷

As of the 1999-00 school year, 71 percent of public school teachers nationwide indicated “routine duties and paperwork interfere with the job of teaching.”⁷⁸ Thus, after decades of school district consolidation, teachers believe that they are doing more administrative work, even though there are now as many or more administrators than teachers on staff.

Consolidation efforts nationwide have also resulted in diminished local

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and parental influence. The research of education scholar and former teacher Matthew J. Brouillette found:

The dramatic reduction of school districts and the increase in student population dilutes the parental influence on their children's education. Whereas smaller districts allowed for greater parental involvement because school board members and school officials were more accessible and had fewer constituents, larger districts have diminished the role of parents and increased the influence of special interest groups. This effect is unavoidable when districts consolidate and become more bureaucratic.⁷⁹

Rural districts, typically the targets of consolidation efforts, pay an especially high price in this regard. Idaho is currently considering two school district consolidation measures. State representative Allen Andersen (D-Pocatello), who is also the director of the Idaho Education Association in southeast Idaho, notes that local schools are an essential part of the rural community's identity and structure. For this reason, rural constituents typically oppose consolidation. According to Andersen, "Most of their activities and identity revolve around the school district. So I think there is a fear from folks that that sense of identity and community spirit would be lost."⁸⁰

In perhaps one of the first seminal

studies to question the belief that bigger schools are better, *Big School, Small School: High School Size and Student Behavior*, University of Kansas psychologists and authors Roger G. Barker and Paul V. Gump document the vital contribution small local schools make to rural communities, and the opportunities small schools offer students. For example, Barker and Gump found that the proportion of students participating in artistic, journalistic, and student government competitions was highest in high schools with between 61 and 150 students. Not only were the number and kinds of activities twice as great in smaller schools, participation levels were also three to 20 times higher in smaller high schools.⁸¹

Emil J. Haller and David H. Monk, professors of education administration at Cornell University, studied rural school district consolidation from the 1940s to the 1970s and concluded that consolidation was "profoundly undemocratic."⁸² Focusing his research on rural school districts, Paul Nachtigall explains why: "Seeking economies of scale through school consolidation are, at best, elusive," and at worst, he continues, "to the extent that closing schools [as a result of district consolidation] contributes to the demise of rural communities, the dollars saved are a high price to pay for the loss of those communities."⁸³

According to the NCES, Arizona currently has 1,706 regular public schools. Excluding the state's charter

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schools, there are 351 schools statewide whose student populations range from 800 to over 3,000 students.⁸⁴ Roughly 84 percent of these schools are in or located near large cities.⁸⁵ By increasing the number of large high schools and creating more populated elementary and secondary schools, consolidation efforts would substantially alter the majority of Arizona's schools, roughly 74 percent of which have fewer than 800 students. In addition, rural areas would be affected disproportionately, as only 20 schools with more than 800 students now exist in rural areas, or less than six percent of all schools. Research further suggests that potential administrative savings do not justify the upheaval attendant to school closures in rural areas.

Tracing consolidation and related efforts in rural areas back to 1840, Jonathan P. Sher and Rachel B. Tompkins conclude the claim that consolidation of rural districts "will, ipso facto, save money appears to have no empirical or logical basis. It is simply incorrect to assert that consolidation is synonymous with economy."⁸⁶

Rural residents are not the only ones who want a vital connection to their local schools. Nationwide, as public elementary and secondary enrollments were increasing overall, and the number of regular school districts and schools were decreasing, public survey respondents have consistently given their local schools and the nation's schools lower grades.⁸⁷ From 1974 through 1989, the average grade respondents would give their local (and

the nation's) public schools was in the C+/C range. From 1990 to 1994 the average grades declined to the C/C-, even D+, range.⁸⁸

Over this twenty-year period, the decline in the number of school districts and the corresponding decline in the number of schools outpaced shrinking enrollment by five to one and three to one, respectively. As a result, schools became more crowded, and this phenomenon likely contributed to lower public approval ratings. Not surprisingly, the items most frequently cited as major problems facing public schools from 1992 to 2002 were large schools and overcrowding (increasing from 9 to 23 percent), and lack of discipline (17 percent in both 1992 and 2002).⁸⁹

Potential Impact of Consolidation on Student Achievement

Research thus far shows that consolidation fails to reduce wasteful administration or achieve significant savings. In fact, data show that in consolidated districts administration grows, instructional staff shrinks, and economies of scale fail to materialize. Likewise, a growing body of research now suggests school district consolidation may have a negative impact on student achievement.

While acknowledging the methodological challenges to comparing student achievement in centralized and

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decentralized school districts across the country, Ouchi's UCLA research team concluded that "decentralized school districts will outperform centralized school districts in producing positive student achievement in academics."⁹⁰

Kathleen Cotton of the Northwest Regional Education Laboratory analyzed more than 100 documents, including 69 studies, evaluations, reviews, and syntheses on school size and educational quality.⁹¹ As with Ouchi et al., Cotton found that roughly half the literature found no difference in achievement between students attending large and small schools, while the other half of the literature concluded achievement levels were higher in small schools. Cotton notes, "None of the research finds large schools superior to small schools in their achievement effects."⁹²

All of the researchers Cotton cites reached their conclusions about school size and student achievement after controlling for other variables, including student and staff characteristics. Among those characteristics is the advantage of a rural setting, where most of the country's small schools are found. While most consolidation proponents consider a rural setting a disadvantage, some research shows it contributes to higher student achievement.

For example, Cotton refers to Herbert J. Walberg, research professor of education and psychology at the University of Illinois at Chicago and distinguished visiting fellow at the Hoover Institution at Stanford

University, who concludes that "even discounting the positive effects of rural location, smaller high schools yielded greater achievement and years of attained education after high school. Thus, smaller schools showed long-range effects independent of rural setting."⁹³

While all students appear to benefit academically from smaller schools and districts, at-risk students benefit even more. Ouchi's UCLA research team found that when districts decentralize, "data generally show improvements in average [student] achievement across every ethnic group and every grade."⁹⁴ Further, data suggest that in decentralized districts, ethnic achievement gaps are smaller.⁹⁵

This finding substantiates the findings of previous research on school district consolidation and minority student achievement. As Cotton summarized, the effects of small schools on achievement for both minority students and students of low socioeconomic status are the most positive. Similarly, research shows large schools disproportionately harm achievement for these students.⁹⁶

In October 2002, the American Legislative Exchange Council (ALEC) released its *Report Card on American Education*, which included a state-by-state analysis of education outcomes from 1976 through 2001. Among the many factors the ALEC report examined were school district size, school size, and their effects on student achievement.⁹⁷

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The report concluded that on average, fewer students per school and fewer schools per district (which means more and smaller districts with more and smaller schools) are associated with higher SAT, ACT, and National Assessment of Educational Progress (NAEP) scores.⁹⁸ Likewise, trendline analyses from 1981 to 2001 suggest positive relationships between higher average SAT scores and smaller school sizes, as well as fewer schools per district.⁹⁹

Figures 3.7, 3.8, and 3.9 from the Report Card on American Education are shown in Figure 1.¹⁰⁰ The bold line drawn through each diagram is the trend line. In all three diagrams, the trendline slopes down, indicating that fewer schools per district may be associated with higher academic achievement. Each dot represents a single state. Each state's average number of schools per district is measured along the vertical axis, while the average test scores are measured along the horizontal axis. Thus, if a state's dot is located in the upper left corner, the state has a large number of schools per district but a low average test score. In contrast, if a state's dot is located in the lower right corner, it has a low number of schools per district but a high average test score.

Statistical analysis, however, reveals that no single factor guarantees student achievement, including fewer districts, smaller schools, more per-pupil spending, more federal funding, higher teacher salaries, or lower pupil/teacher ratios. In fact, when all other factors are

held constant, only fewer students per school had a positive, statistically significant relationship with student achievement, albeit a weak one.¹⁰¹

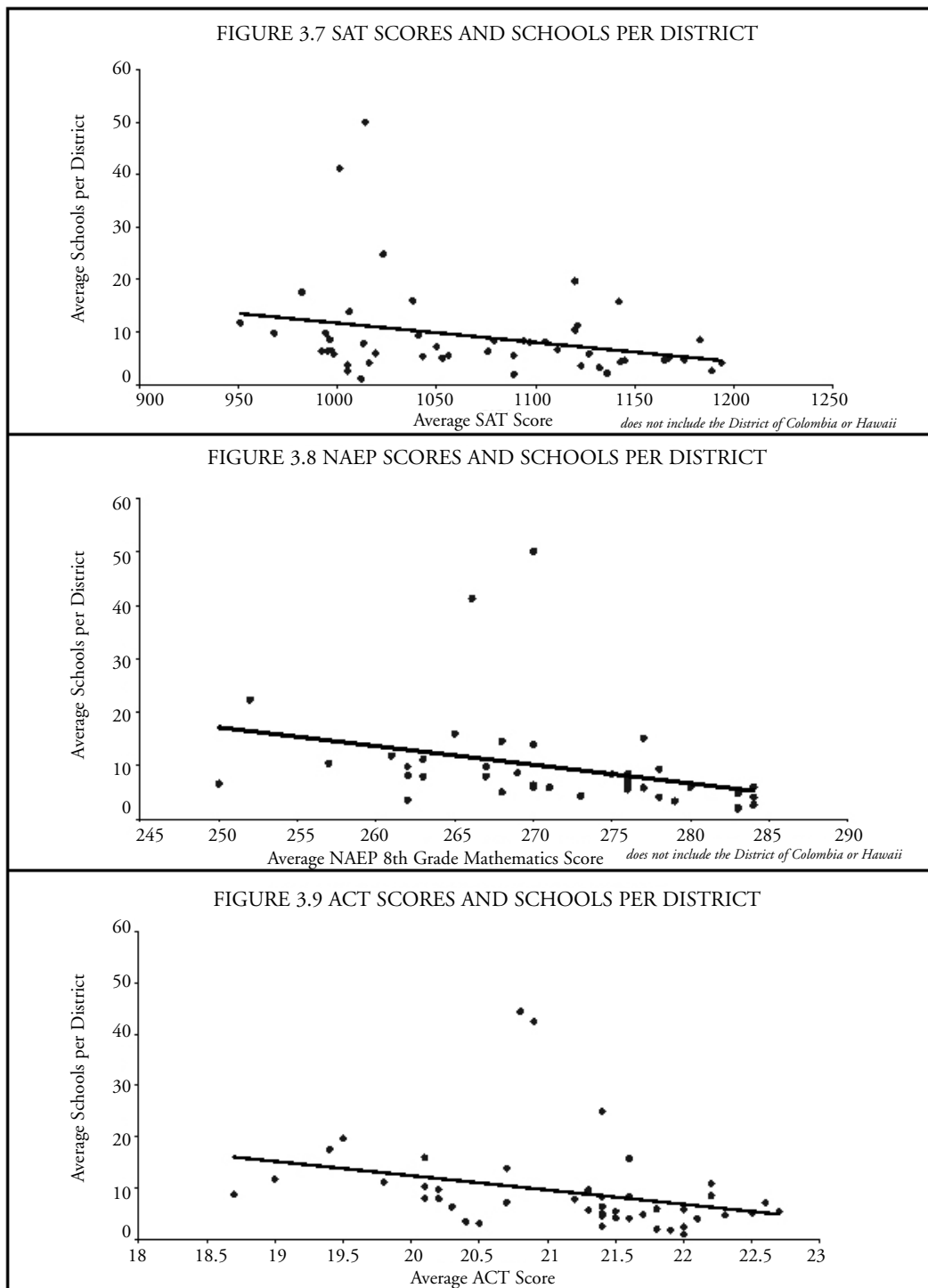
While the ALEC report shows no statistical relationship between the individual factors and student achievement over time, Arizona data from 1981 to 2001 is revealing. During that period, the average nationwide SAT score rose by 2.5 percent, while Arizona's average SAT score dropped by 6.1 percent, placing the state last in the nation.¹⁰² From 1977 to 1999, Arizona had a nearly 60 percent increase in the number of students per district, roughly three times the national average. At the same time, the number of Arizona schools per districts fell by more than three percent.

Nationwide, the number of schools per district grew nearly five percent. Likewise, as pupil/teacher ratios fell an average of 13 percent nationally, Arizona's ratio hardly budged, falling less than one percent. In contrast, top-ranking Alabama improved its SAT scores by more than 10 percent, while the number of students and schools per district fell by roughly four and five percent, respectively.

As seen in Tables 2 and 3, a more detailed examination of the 10 best and worst states for SAT positive score changes, including the changes in students and schools per district, is even more revealing. Nationwide, from 1981 to 2001, average SAT scores improved 2.5 percent. In the case of the ten worst

On average, fewer students per school and fewer schools per district (which means more and smaller districts with more and smaller schools) are associated with higher SAT, ACT, and National Assessment of Educational Progress (NAEP) scores.

Figure 1. Standardized Test Scores and Schools per District



Source: Andrew T. LeFevre and Rea S. Hederman Jr., *Report Card on American Education: A State-By-State Analysis, 1976-2001*, ALEC, October 2002, p. 94.

Table 2. Top Ten States for Positive SAT Changes

State	SAT Score Change 1981-2001 (%)	Rank	Changes in Students per District 1977-1999 (%)	Rank	Changes in Schools per District 1977-1999 (%)	Rank
AL	10.5	1	-3.96	39	-6.46	9
SC	8.7	2	9.40	28	8.59	38
IL	8.7	3	11.60	26	-1.41	19
DC	8.0	4	-94.81	51	28.05	1
ID	8.0	5	23.09	17	-0.42	20
MO	7.9	6	8.33	30	-4.76	13
NC	7.5	7	33.62	11	1.90	23
MI	6.1	8	-33.10	50	-10.67	5
WI	6.0	9	4.25	33	3.10	27
GA	5.8	10	37.07	10	28.17	50
U. S. Average	2.5		18.85		4.74	

Table 3. Ten Worst States for Negative SAT Changes

State	SAT Score Change 1981-2001 (%)	Rank	Changes in Students per District 1977-1999 (%)	Rank	Changes in Schools per District 1977-1999 (%)	Rank
AZ	-6.1	51	59.62	4	-3.39	15
MT	-4.9	50	24.60	16	-11.70	4
WA	-4.6	49	33.00	12	0.73	22
WY	-3.5	48	-1.79	35	-2.31	17
WV	-2.9	47	-25.09	49	0.55	21
NV	-2.6	46	120.40	1	23.89	48
UT	-2.2	45	42.91	8	15.53	43
AK	-2.0	44	52.64	7	34.19	51
DE	-1.6	43	-8.05	43	8.60	39
SD	-1.1	42	4.26	32	-6.05	11
U.S. Average	2.5		18.85		4.74	

Note: Tables based on Table 3.4 of Andrew T. LeFevre and Rea S. Hederman Jr., *Report Card on American Education: A State-By-State Analysis, 1976-2001*, ALEC, October 2002, pp. 102-103.

states, the average change in SAT scores was a three percent decline, while the best states realized an average achievement increase of nearly eight percent.

Corresponding to this time frame (1977 to 1999), the average number of students in districts with the worst SAT changes grew nearly four times faster than the number of schools per district. Conversely, in states with the greatest improvement in SAT scores, the number of schools per district increased while the number of students per school decreased.

It is important to note that states with the highest achievement losses experienced an overall average enrollment growth that was eight times greater than states with the highest achievement gains, roughly 24 percent and three percent, respectively. High-achieving states were well below the national average enrollment growth of 8.6 percent from 1979 to 2002, and low achieving states were well above the national average.¹⁰³

Nevertheless, ensuring the number of schools per district keeps pace with explosive growth in student enrollment should be a primary concern for state policymakers, especially since Arizona's average growth from 1979 to 2002 was 69 percent, second only to Nevada.¹⁰⁴

Competition, not Consolidation, Improves the Classroom

Consolidation efforts are designed to increase classroom spending by redirecting administrative savings into the classroom. But administrative savings can be elusive, and if they do materialize, there is no guarantee that they will reach their intended destination.¹⁰⁵

As explained above, the trend toward consolidation during most of the 20th century has reduced the number of public schools. Because enrollment has grown steadily, the result is fewer, larger schools. And, empirical research indicates a negative impact of consolidation on student achievement scores. However, as the NCES explains, the rising number of alternative schools has mitigated the average increase in school size.¹⁰⁶ The emergence of these schools is a recent development, but the positive impact of even the limited amount of competition they offer traditional public schools is already discernable.

In contrast to consolidation, the benefits of competition upon student performance and school efficiency are well documented. In their meta-analysis of 41 empirical studies spanning 30 years, Columbia University researchers Clive R. Belfield and Henry M. Levin demonstrate that the literature overwhelmingly shows a statistically significant, positive relationship between competition and educational outcomes.¹⁰⁷

In contrast to consolidation, the benefits of competition upon student performance and school efficiency are well documented.

Nowhere is this trend more evident than in Arizona. Unlike many states that strictly regulate any competition to public schools, Arizona lawmakers have introduced greater competition into the state's education system over the last decade. As a result, Arizona has twice been named the national leader in educational freedom, according to the Manhattan Institute's *Education Freedom Index*, by Jay P. Greene.¹⁰⁸

Research indicates that not only does educational innovation and freedom result in greater academic achievement for all students, the introduction of educational competition, such as charter schools, scholarships, and open enrollment, improves productivity for every per-pupil dollar spent.

As Greene demonstrates, competition raises test scores without increasing per-pupil spending. Two public school approaches in particular distinguish Arizona from other states according to Greene: an unrestricted inter-district public school choice program and the largest number of charter schools in the country.¹⁰⁹

Greene finds that "a one point increase in the EFI [Education Freedom Index] produces the same improvement in NAEP math results as increasing per-pupil spending by \$2,490, about a 36 percent increase in spending over the current national average."¹¹⁰ Similarly, a state's median household income would have to increase by more than \$6,000 to achieve the same improvement as a one-

point increase on the EFI.

Greene's findings, however, are not isolated. In her study of more than 6,500 school districts nationwide, Harvard economist Caroline Hoxby examined the effects of inter-district choice, or choice among various public schools, on school productivity. She finds that "[inter-district] choice raises productivity [of each education dollar] by simultaneously raising achievement and lowering spending. The effects on productivity, student achievement and per-pupil spending are substantial in size if one considers the potential of [inter-district] choice as a policy."¹¹¹

Contrary to consolidation measures that decrease the number of school districts and schools, Hoxby's research demonstrates that school district multiplicity raises school productivity and academic achievement. For example, she finds that the decrease in per-pupil spending produced by competition from inter-district choice actually increases teaching resources per student by decreasing pupil/teacher ratios. "An increase from 0 to 1 in the index of [inter-district] choice," according to Hoxby, "generates a decrease of 2.7 students in the student-teacher ratio."¹¹² Moreover, productivity increases by at least one-quarter of a standard deviation in states where school districts are controlled locally, compared with only one-tenth of a standard deviation in consolidated, state-controlled districts, which have less financial independence.¹¹³

Research indicates that not only does educational innovation and freedom result in greater academic achievement for all students, the introduction of educational competition, such as charter schools, scholarships, and open enrollment, improves productivity for every per-pupil dollar spent.

Thus, “When inter-district choice goes from its minimum to its maximum value (from 0 to 1), school productivity rises by 10 percent; achievement is 3.1 to 5.8 percentile points higher; and spending is 7.6 percent lower.”¹¹⁴ In fact, Hoxby believes, “[Inter-district] choice among districts is the most powerful market force in American public education.”¹¹⁵ Yet she notes school district consolidation is one factor that greatly inhibits inter-district choice and its effectiveness.

Hoxby believes, “[Inter-district] choice among districts is the most powerful market force in American public education.” Yet, she notes, school district consolidation is one factor that greatly inhibits inter-district choice and its effectiveness.

Unfortunately, and despite new federal mandates, in many instances such inter-district freedom is restricted. School districts often put up roadblocks that make it difficult to switch to another public school.¹¹⁶

Arizona’s open enrollment law is one way to achieve significant administrative savings through inter-district public school competition while improving student achievement and enhancing local control. The state’s existing law should be enforced more rigorously to prevent school districts from blocking student transfers. School districts should become smaller to increase the probability of having many good schools located close by and to diminish the undue hardships associated with relocating, which might prevent parents from enrolling their children in the schools that are best for them.

Arizona’s charter schools offer another path to administrative efficiency. Enacted in 1994, Arizona’s charter school legislation is considered

the nation’s strongest charter school law, with no limit on the number of charter schools that can be created. There has been a meteoric rise in the number of charter schools in Arizona, increasing by 663 percent, from 70 schools during the 1995-96 school year to more than 460 as of the 2002-03 school year.¹¹⁷

Charter schools are public schools and must provide the same level of educational quality as traditional public schools. Yet charter schools in Arizona receive about 80 percent of the per-pupil funding that traditional public schools receive, so they are forced to be efficient.¹¹⁸

Last June, Manhattan Institute scholars Jay P. Greene, Greg Forster, and Marcus A. Winters released an in-depth study of charter school performance, which found that “charter schools serving the general student population outperformed nearby regular public schools on math tests by . . . 3 percentile points for a student starting at the 50th percentile. These charter schools also outperformed nearby regular public schools on reading tests by . . . 2 percentile points for a student starting at the 50th percentile.”¹¹⁹

Focusing on Arizona’s charter schools and their effect on surrounding traditional public schools, Hoxby finds that students in both types of schools benefit. Even after controlling for both kinds of schools’ initial conditions, data showed “charter competition made Arizona public schools improve their productivity *relative to their own initial*

*trends.*¹²⁰ That is, when faced with charter school competition, Arizona's regular public schools raised productivity by improving achievement levels within initial per-pupil spending levels.¹²¹

Hoxby concludes that in Arizona, "Charter competition focused on public schools that initially had achievement and productivity that was below average, but charter competition induced public schools to improve their productivity and achievement . . . relative to the schools' own past performance and relative to gains made, over the same period, by schools that were not subjected to charter competition."¹²²

Even public schools that lagged behind other public schools improved their student achievement dramatically in response to charter competition. For example, public schools with achievement gains 0.6 percentile points lower than public schools not facing charter competition raised their annual improvement on NAEP scores by 1.4 and 1.39 percentile points in fourth grade reading and math, respectively, once charter school competition was introduced.¹²³

Arizona's charter school heritage provides a strong foundation for administrative streamlining in the state's traditional public schools. A recent series of papers by the non-partisan Education Commission of the States (ECS) recommends all-charter public school districts as an effective solution to the very inefficiencies consolidation

proposals are designed to correct.¹²⁴

Nelson Smith, vice president for policy and governance at New American Schools and author of the ECS study, writes, "The top-down flow of power and responsibility in traditional school districts has been likened to an inverted pyramid weighing down on the heads of schools."¹²⁵ The prevailing bureaucratic school district structure impedes innovation and would only become more rigid under the centralizing nature of current Arizona consolidation proposals.

In fact, this centralizing tendency is the primary reason most large districts nationwide are decentralizing. For example, in July 2001, the Los Angeles Alliance for Student Achievement approached WestEd for recommendations on improving student performance in the Los Angeles Unified School District (LAUSD), which has 905,020 students. Paul Koehler, former superintendent in Peoria and associate state superintendent in the Arizona Department of Education, led the WestEd project team.

In 2003, WestEd recommended breaking up the LAUSD, implementing a network of new charter schools, and streamlining the charter approval process to make it "straightforward and timely."¹²⁶ Koehler's team proposed, "Taking the concept of charter schools to the next level by thinking systematically from the start and creating a network of highly accountable, independent charter

"The top-down flow of power and responsibility in traditional school districts has been likened to an inverted pyramid weighing down on the heads of schools." The prevailing bureaucratic school district structure impedes innovation and would only become more rigid under the centralizing nature of current Arizona consolidation proposals.

By employing the charter district model rather than consolidation, each district school would be able to tailor its educational programs to the particular needs of prospective students. Parents, in turn, would be genuinely free to choose any school in the state. This would provide a wide variety of educational options to all families. Schools would be free to budget independently and find cost savings without needing the approval of a central office or unelected board.

schools that effectively serve students in LAUSD’s most challenging communities.” Unlike highly centralized districts “that might not directly address the needs of students in a particular school community, charter schools will receive resources that they can target directly to programs designed with their community in mind.”¹²⁷

Ouchi and his research team corroborate Koehler’s conclusion, based on twenty years of data, that decentralized districts foster the innovation and flexibility essential to the success of schools: “Our findings confirm what [Richard] Daft (1982) has asserted: that organizations that are highly centralized and bureaucratic are less likely to innovate and perform effectively.” Ouchi concludes, “Most important of all, our results suggest that a properly organized school district can produce superior educational results for children, including those of low-income, minority homes.”¹²⁹

Writing for the Progressive Policy Institute, Nelson Smith analyzed findings from three in-depth studies on student achievement in California charter schools. The results show charter schools do a superior job of educating at-risk students than non-charter schools.¹³⁰ Furthermore, the average Academic Performance Index (API) gains over the past five years for charter high schools are twice as high as other public high schools, and while only 38 percent of California charter schools have been in existence long enough to test improvement over time, 70 percent

of them showed improvement over the previous year’s scores.

There is much debate surrounding the potential savings or costs of the charter district model. Smith and members of the ECS charter district working group acknowledge potential sources of additional savings from the charter model: “With just a handful of employees, the new central office itself will cost far less than its predecessor, and competition may well drive down the cost of services.” In addition, charters can compete for grants on their own. However, facilities costs were shown to drive up operational costs in Massachusetts charter schools. Members of the working group therefore concluded that the charter district model is a revenue-neutral reform.¹³¹

By employing the charter district model rather than consolidation, each district school would be able to tailor its educational programs to the particular needs of prospective students. Parents, in turn, would be genuinely free to choose any school in the state. This would provide a wide variety of educational options to all families. Schools would be free to budget independently and find cost savings without needing the approval of a central office or unelected board.

And, because charter schools receive only 80 percent of traditional public school funding, there is a potential per-pupil fiscal savings that far surpasses that of statewide school district consolidation. According to data from

the Joint Legislative Budget Committee (JLBC), per-pupil funding for regular school districts in Arizona is \$7,816, compared to \$6,286 for charter schools.¹³² Per-pupil savings from competition is therefore over 90 times greater than the projected per-pupil savings from consolidation, or \$1,530 compared to an estimated \$17.34.

The limited amount of choice provided by charter schools nationwide has already encouraged traditional public schools to compete for students, resulting in greater parental satisfaction¹³³ and improved academic achievement.¹³⁴ The success of the public charter model underscores that the educational goals of policymakers and the general public can be reconciled. In contrast to the goals of consolidation efforts, the public wants more schools with diverse curricula. And by virtually eliminating an entire layer of extra school-site administration, charter schools achieve the primary goal of consolidation measures: significant administrative savings that go directly into the classroom.

Recommendations

Based on data presented in this report, to achieve optimal productivity in classrooms and administrative programs, policymakers should consider the following reforms.

Promote Competition, not Consolidation

Enhancing educational competition through the promotion of inter-district choice and charter schools has a potential savings of \$1,530 per pupil compared to only \$17.34 to \$35 per pupil from statewide consolidation under the best-case scenario. Research indicates that if Arizona's system of inter-district choice were fully exercised, school productivity could rise by 10 percent, achievement could be three to six percentile points higher, and spending could be almost eight percent lower. Strictly enforcing the state's open enrollment policy and improving educational freedom in Arizona by as little as one point on the Education Freedom Index, would produce the same improvement in NAEP math results as increasing per-pupil spending by \$2,490 or raising the median household income by more than \$6,000.

Emulate Best Practices of Efficient Schools of All Sizes

While statewide consolidation will likely not result in anticipated administrative savings, the OAG's reports show schools of all sizes are cutting costs and achieving sustained administrative efficiencies. A linear size-cost analysis should be replaced with a more in-depth analysis of those schools, so that schools of all sizes could adopt administrative best practices. Because 52 percent of all administrative costs arise at individual schools, reform at the school level, not the district level, could address the major source of inefficiency. Moreover, such a ground-up cooperative effort within districts would make them

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progressively more efficient without stifling innovation and competition.

Examine the Performance of Medium-size Districts

Medium-size school districts may provide an indispensable “mean-between-the-extreme” approach to school district efficiency. Unfortunately, the linear size-cost analysis considers only small or large school districts. Closer examination of 209 Arizona school districts reveals that medium districts averaging roughly 2,400 students perform as well as or better than the state’s 10 largest districts, which average nearly 34,000 students. These findings suggest that administrative savings are not simply a matter of size. While current consolidation proposals focus on creating districts ranging from 6,000 to 30,000 students, medium districts avoid many of the disadvantages associated with large districts.

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Conclusion

Superintendent Tom Horne aptly sums up the rationale of current school district consolidation proposals: “People expect the money to be spent in the classroom on teacher compensation and on smaller class size, rather than wasteful administration.”

Upon closer examination, however, consolidation appears to be at best a marginal reform yielding negligible fiscal savings. Economists find little evidence

that economies of scale improve school district efficiency, and empirical consolidation research indicates smaller, decentralized school districts are significantly more efficient than larger, centralized districts. Likewise, in Arizona, data show that small and medium districts consistently spend as much as or less on administration than the state’s largest districts.

In fact, empirical research shows that in consolidated school districts, the result is worse education and higher, not lower, per-pupil costs. Consolidation and its accompanying centralization would likely increase administration at the expense of classroom instruction, leading to larger classes, more administrators, and fewer teachers. Partly as a result of decades of consolidation, administrators nationwide now equal, and in some states exceed, teachers and instructional staff as a proportion of school staff. This imbalance is especially pronounced in Arizona, which has the 10th worst teacher-as-a-percentage-of-staff ranking in the country.

Of paramount concern is student achievement, and evidence suggests smaller districts contribute to higher SAT, ACT, and NAEP scores. For example, comparing the 10 best and 10 worst states in terms of SAT achievement gains from 1981 to 2001, average SAT scores declined three percent in states with larger school districts, while average SAT scores increased nearly eight percent in states with smaller school districts.

Competition, rather than consolidation, improves school efficiency. By fully exercising Arizona's existing inter-district choice policy, school efficiency could rise by 10 percent, student achievement could be roughly three to six percentile points higher, and spending could be almost eight percent lower. Research also shows that expanding Arizona's charter schools would improve test scores of charter students and students attending nearby traditional public schools by one to three percentile points, while yielding a per-pupil savings over 90 times greater than that promised by consolidation proposals, \$1,530 per pupil compared to an estimated \$17.34.

It is possible that consolidation could achieve limited administrative savings if carefully implemented on a case-by-case basis. Yet targeted consolidation measures cannot approach the potential fiscal savings from expanding existing school choice policies in Arizona. School district consolidation also poses significant risks to educational quality. Expanding options for parents and students by encouraging growth in the number of charter schools and fully exercising Arizona's existing open-enrollment law are far more promising ways to direct more education dollars into the classroom.

NOTES

1. Thomas D. Synder and Charles M. Hoffman, *Digest of Education Statistics 2002*, National Center for Education Statistics (NCES), June 2003, p. 6; cf. Tables 29-35 and Table 167.

2. Deborah K. Davenport, Auditor General, *Arizona Public School Dollars Spent in the Classroom*, March 2002, p. ii.

3. *Ibid.*, p. 1. The Office of the Auditor General's definition of "dollars spent in the classroom" is based on NCES categories: classroom personnel; instructional aids; general instructional supplies, tuition, and activities, which includes field trips, athletics; and co-curricular activities such as band and choir. See p. 4.

4. Data from fiscal year 1999 was the subject for the OAG's previous report to the legislature, also called *Factors Affecting School Districts' Administrative Costs*, November 2000. Unlike its 2000 report, the 2002 OAG report, based on fiscal year 2001 data, included additional analysis using NCES expenditure categories for administrative costs in programs other than regular and special education programs.

5. *Factors Affecting, 2002*, p. 16.

6. Senate Bill 1180, May 29, 2002.

7. Consolidation proponents cite school board membership and

governance as important issues to consider, but their primary focus is with increasing local school district size to achieve administrative cost savings. Goldwater Institute education analyst Vicki Murray met with Superintendent Horne to discuss his consolidation proposal on July 17, 2003. For Horne, consolidation encompasses four core issues: 1) reducing administrative costs; 2) fortifying student curriculum; 3) ensuring professional school leadership; and 4) capital finance. Martin L. Shultz, "A Case for Unification and Where Appropriate Consolidation of Districts in Arizona" (unpublished paper; copy in authors' files), advocates increasing the number of school governing board members from five to nine; increasing the governing board's role; and developing a Superintendent's Institute to "re-educate" administrators in management and technology-assisted instruction. See Shultz, "A Case for Unification," p. 3.

8. The OAG's 2002 *Factors Affecting* report is based largely on Joint Legislative Budget Committee (JLBC) data. Superintendent Horne explained the need for consolidation to host Michael Grant during the PBS KAET public affairs show *Horizon* on January 22, 2003 (elipses indicate statement quoted in text above):

Grant: You are a strong supporter of school district consolidation.

Horne: Yes, I am

Grant: What about the local control issue? That's the one that is always brought up and in fact was mentioned in the package.

Horne: Well, there is an ideal size for a school district, sufficiently large for economies of scale but small enough so that people have a say in the school district and that's probably around 30,000 students or so. But we have districts with just a few hundred students. So we can still have local control and still have the district be large enough so that they have the economies of scale.

9. Tom Horne, "Finances, quality and politics point to consolidation," *Arizona Republic*, December 29, 2002. Though Horne does not specify the precise size of the small, large, and very large districts to which he refers, according to the OAG, small districts have between 200 and 599 average daily membership (ADM); medium districts have between 600 and 4,999 ADM; and large districts have 5,000 or more ADM. See n. 13 below. The NCES adds a category for extra-large districts, which have an ADM of 15,000 or more. See *Digest of Education Statistics 2002*, Table 90. The OAG also refers to "super-large schools," which have more than 40,000 students. See *Dollars Spent in the Classroom*, Table 2, p. 9; cf. n. 30 below. Arizona has only two "super-large" districts (Mesa USD and Tucson USD).

10. John T. Wenders, "School District Consolidation is a Bad Idea: Large Districts Don't Serve Students." Internet Education Exchange, http://www.iedx.org/printer_friendly_1.asp?SectionGroupID=NEWS&ContentID=EN578, reprinted with permission of The

Thomas B. Fordham Foundation from *Education Gadfly*, vol. 3, no. 12, April 10, 2003.

11. Ibid. For more detailed information on Los Angeles Unified School District and Clark County School District, see http://www.lausd.k12.ca.us/lausd/office_s/Office_of_Communications/ and <http://ccsd.net/admin/images/update02.pdf>.

12. Marvin E. Dodson III and Thomas A. Garrett, *Inefficient Education Spending in Public School Districts: A Case for Consolidation*, The Federal Reserve Bank of St. Louis, Working Paper Series, 2002-010C, rev. April 2003, pp. 37-38, <http://research.stlouisfed.org/wp/2002/2002-010.pdf>; see also Wenders, "School District Consolidation is a Bad Idea;" Mary F. Hughes and James E. Metzger, *Restructuring: Cost Savings and Benefits, Arkansas Public School Districts*, February 2003, <http://rsdweb.k12.ar.us/pdf/Legislation/efficiency%20study.pdf>; Graham Garner, "Legislature considers school district mergers," *Idaho State Journal*, August 22, 2003, <http://www.journalnet.com/articles/2003/03/22/news/local/news07.txt>; Testimony on School District Consolidation Before House Committee on Education, by Mark Thallam, Kansas Association of School Boards, February 18, 2003, <http://www.kasb.org/districtconsolidationtesth.pdf>; and *Firstline Midwest*, The Midwestern Office of The Council of State Governments, vol. 8, no. 3, March 2001, http://www.csgmidwest.org/member_services/flmw/2001/0301.pdf.

13. *Factors Affecting, 2002*, Table 5, p. 17. Very small districts have less than 200 ADM, small districts have between 200 and 599 ADM, medium-sized districts have between 600 and 4,999 ADM; and large districts have 5,000 ADM or more. According to the OAG's March 2002 report, there are 233 regular school districts in Arizona. See Davenport, *Dollars Spent in the Classroom*, p. 3. For definitions of other kinds of school districts not examined by the OAG, see *Factors Affecting, 2002*, Appendix B, p. b-i. According to the NCES, as of the 2000-01 school year, there are 14,859 regular school districts in the United States. See *Digest for Education Statistics 2002*, Table 87. Arizona's 233 regular school districts constitute a mere 1.6 percent of the nationwide total, even though the state was second only to Nevada in terms of population growth from 1990 to 2000 (Arizona's population growth was 40 percent and Nevada's, 66.3 percent), according to the U.S. Census Bureau, Census 2000. On Arizona's enrollment growth, see p. 17 above and n. 104 below.
14. *Factors Affecting, 2002*, pp. 5 and 9.
15. Shultz, "A Case for Unification," p. 4; Tom Horne, "Finances, quality and politics point to consolidation," *Arizona Republic*, December 29, 2002.
16. When Goldwater Institute education analyst Murray cited this estimate to Superintendent Horne during her July 17, 2003, interview, he stated that around 40 districts or fewer would be optimal.
17. Ibid. See also *Factors Affecting, 2002*, p. 3. It is interesting to note that according to the OAG's 2002 findings, Arizona's administrative spending is on par with the national average, which has been roughly 11 percent of education expenditures since 1994, and administrative costs as a part of total educational expenditures in Arizona have actually decreased slightly from 11.3 percent as reported by the OAG in 2000 to 10.8 percent as it reported in 2002; cf. *Factors Affecting, 2000*, p. 3.
18. *Factors Affecting, 2002*, Figure 1, p. 2.
19. *Factors Affecting, 2002*, p. 1 ("What are administrative costs").
20. The OAG reached this conclusion even after exempting 50 of the smallest school districts with fewer than 200 students from its analysis. See *Factors Affecting, 2002*, p. 15, n. 2.
21. *Factors Affecting, 2002*, Figure 1, pp. 1 and 2.
22. Ibid.
23. Ibid., p. 5.
24. Ibid., p. 3, Figure 3. Salaries constitute nearly three-quarters of all types of administrative costs (71 percent). Benefits are a distant second at 13 percent, followed closely by purchased services at 11 percent, supplies at 3 percent, and other administrative costs at 2 percent.

25. Davenport, *Dollars Spent in the Classroom*, p. 11.
26. See *Factors Affecting, 2002*, p. 3 and Table 6. The 2001 ADMs were calculated by taking the total cost column amounts in Table 6 and dividing them by the per-pupil cost amounts.
27. In a current cost-benefit analysis of consolidation in Arkansas public school districts, for example, school district size is one of four separate efficiency categories (fiscal, academic achievement, and administrative), and was assigned five separate efficiency indicators: ADM per school, ADM per grade, pupil-teacher ratio, student-administrator ratio, and average daily attendance (ADA). See Hughes and Metzger, *Cost Savings and Benefits, Arkansas Public School Districts*, pp. 11-13, <http://rsdweb.k12.ar.us/pdf/Legislation/efficiency%20study.pdf>.
28. On consolidation decreasing the number of individual schools, see pp. 16.
29. *Factors Affecting, 2002*, Tables 1 and 2, pp. 6 and 10.
30. School district size is categorized by ADM. See n. 13. The NCES adds a further category for extra-large districts, which have an ADM of 15,000 or more. See *Digest of Education Statistics 2002*, Table 90. Elsewhere, the OAG refers to "super-large schools," which have more than 40,000 students. See Davenport, *Dollars Spent in the Classroom*, Table 2, p. 9.
31. *Factors Affecting, 2002*, Table 1, p. 6. The number of students for each district listed in Table 1 and subsequent tables is not provided in the OAG's 2002 report. The 2001 ADMs were calculated by taking the total cost column amounts in Table 6 and dividing them by the per-pupil cost amounts.
32. Mobile ESD, 15 students; and Phoenix UHSD, 21,115 students.
33. Roosevelt ESD, 10,856 students; and Phoenix UHSD, 21,115 students.
34. While nine districts were originally selected by the OAG as having particularly low administrative costs, one had a data error that artificially deflated its costs. It was therefore removed. See *Factors Affecting, 2002*, p. 9.
35. *Factors Affecting, 2002*, Table 2, p. 10.
36. The 2001 ADM was calculated by taking the total cost column amount in Table 6 and dividing it by the per-pupil cost amount.
37. Data errors were responsible for decreasing costs in two of the five low-cost districts, and a third district, Blue Elementary, is unique. Since that district has only two pupils, the county superintendent performs the district's administrative duties at no charge. See *Factors Affecting, 2002*, p. 11.
38. Unlike its previous analyses, the OAG did not include supply costs when

considering changing costs.

39. *Factors Affecting, 2002*, pp. 19-24.

40. Data from *Factors Affecting, 2002*, Table 6, pp. 19-24. For the purpose of comparison with the OAG's 2000 report, only the per-pupil amounts based on administrative costs for regular and special education programs from the Maintenance and Operation Fund were used. Arizona's 10 largest districts by ADM are: Mesa USD, 69,148; Tucson USD, 59,068; Paradise Valley USD, 33,616; Peoria USD, 32,569; Gilbert USD, 27,979; Deer Valley USD 26,124; Scottsdale USD, 26,082; Washington ESD, 23,507; Chandler USD, 20,729; and Phoenix UHSD, 21,115.

41. The 46 medium districts ranged in size from 1,044 students to 4,709 students. The 37 large districts ranged in size from 5,000 students to 74,808 students.

42. *Factors Affecting, 2002*, p. 11.

43. *Factors Affecting, 2000*, p. 10.

44. Alternative ways to reduce salaries and benefits costs would be to replace employees at lower salaries, or leave vacated administrative positions unfilled. See *Factors Affecting, 2000*, pp. 7, 9, and 10.

45. Peach Springs USD, 1,834 students, and Snowflake USD, 4,632 students.

46. *Factors Affecting, 2002*, pp. 7, 9,

and 12.

47. See *Factors Affecting, 2000*, Table 5, pp. 29-35. The 2000 report subdivides its ranking according to school size, but does provide per-pupil administrative costs figures. For comparison purposes, only the per-pupil administrative costs for regular and special education programs from the Maintenance and Operation Fund were used from the 2002 report. These figures are used exclusively in the 2000 per-pupil administrative costs.

48. Matthew Andrews, William Duncombe, and John Yinger, "Revisiting economies of size in American education," p. 19, <http://www-cpr.maxwell.syr.edu/efap/publications/revisiting%20economies.pdf>. Also available in *Economics of Education Review*, vol. 21, no. 3 (March 2002): 245-262.

49. Shultz, "A Case for Unification," p. 4.

50. William Duncombe and John Yinger, "Does School District Consolidation Cut Costs?" *Center for Policy Research*, Working Paper no. 33, January 2001, pp. 8 and 31, <http://www-cpr.maxwell.syr.edu/cprwps/wps33abs.htm>.

51. See Tom Horne, "Finances, quality and politics point to consolidation," *Arizona Republic*, December 29, 2002. Using the previous \$4,700 per pupil expenditure figure, Horne explains that administrative costs per pupil in small districts are \$1,297, compared with

\$517 for large districts and \$368 for extra-large districts. See also Andrews, Duncombe, and Yinger, "Revisiting economies of size in American education," p. 2 (emphasis added).

52. Bela Gold, "On Size, Scale, and Returns: A Survey," *Journal of Economic Literature*, vol. 19, no. 1 (March 1981): 5.

53. Herbert Kiesling, "Measuring a local government service: A study of school districts in New York State," *The Review of Economics and Statistics*, vol. 49, no. 2 (August 1967): 366.

54. James W. Guthrie, "Organizational scale and school success," *Educational Evaluation and Policy Analysis*, vol. 1, no. 1 (1979): 17-27.

55. William F. Fox, "Reviewing economies of size in education," *Journal of Education Finance* 6 (Winter 1981): 290.

56. On size not influencing spending patterns, see Row L. Johns, Kern Alexander, and K. Forbis Jordan, *Financing Education: Fiscal and Legal Alternatives* (Columbus, Ohio: Charles E. Merrill Publishing Company, 1972), pp. 170 ff. On no optimum size, see D. L. Webb, "Fiscal implications of school district reorganization," *Journal of Education Finance* 4 (1979): 342-357. Other empirical research questioning the linear relationship between school district size and efficiency include: Brian Rowan, "Organizational structure and the institutional environment: The case

of public schools," *Administrative Science Quarterly* 27 (1982): 259-279; P. Coleman and L. LaRoque, "The small school district in British Columbia: The myths, the reality, and the policy implications," *Alberta Journal of Educational Research*, vol. 32, no. 4 (1986): 323-335; Barney M. Berlin and Robert C. Cienkus, "Size: The ultimate educational issue?" *Education and Urban Society*, vol. 21, no. 2 (1989): 228-231; R. O. Slater, "Education scale," *Education and Urban Society*, vol. 21, no. 2 (1989): 207-217; Florence R. Webb, "A District of a Certain Size, An Exploration of the Debate on School District Size," *Education and Urban Society*, vol. 21, no. 2 (1989): 125-139; Davant T. Williams, "The Dimensions of Education: Recent Research on School Size," Strom Thurmond Institute of Government and Public Affairs, Clemson University, Working Paper Series (December 1990); Al Ramirez, "Size, Cost, and Quality of School Districts: A Question of Context," in *Sourcebook on School and District Size*, Center for School Change and North Central Regional Educational Laboratory (1992): 73-93; and Paul Nachtigall, "Remapping the Terrain: School Size, Cost, and Quality," in *Sourcebook on School and District Size*, Center for School Change and North Central Regional Educational Laboratory (1992): 53-71.

57. Carolyn Mullins, "School district consolidation: odds are 2 to 1 it'll get you," *American School Board Journal*, vol. 160, no. 11 (1973): 26.

58. Michael Grant, interview of Horne, *Horizon*, January 22, 2003; cf. Wenders, “School District Consolidation is a Bad Idea.”
59. William G. Ouchi et al., *The Organization of Primary and Secondary School Systems*, The Anderson School of Management, UCLA, July 2002, p. 2.
60. Mike Antonucci, “Mission Creep: How Large School Districts Lose Sight of the Objective - Student Learning,” Alexis de Tocqueville Institute Issue Brief no. 176, November 17, 1999, pp. 2-3.
61. Kent McGuire, “School size: The continuing controversy,” *Education and Urban Society* 21 (February 1989): 164-174.
62. David Strang, “The Administrative Transformation of American education: School district consolidation, 1938-80,” *Administrative Science Quarterly* 32 (1987): 352.
63. F. W. Terrien and D. L. Mills, “The effect of changing size upon the internal structure of organizations,” *American Sociological Review*, vol. 20, no. 1 (1955): 13.
64. Raymond E. Callahan, *Education and the Cult of Efficiency: A Study in the Social Forces that Have Shaped the Administration of the Public Schools* (Chicago: University of Chicago Press, 1962), p. 246. For an even more expansive history of school and district consolidation throughout the 19th and 20th centuries, see David B. Tyack, *The One Best System: A History of American Urban Education* (Cambridge: Harvard University Press, 1974).
65. Ouchi et al., *Organization of Primary and Secondary School Systems*, p. 2. Ouchi and his team apply the principles of organizational analysis, typically reserved for corporations, to school districts, not classrooms, as previous organizational researchers and sociologists have done. As Ouchi puts it: The central idea that we pursue is that decision-making that is decentralized within a large organizational system has consistently proven to outperform competing organizational forms that are either very centralized or entirely without any central coordination. This ‘bounded rationality’ idea, which is by now old and familiar to organization theorists (e.g. Simon, 1945; Arrow, 1974) is not standard among students of education, who instead rely on alternate theories of decentralization. Our study intends to lay the apparatus of organizational analysis on the issues that surround the functioning of very large educational organizations (p. 11).
66. Wenders, “School District Consolidation is a Bad Idea.”
67. *Digest of Education Statistics 2002*, pp. 41-42 (quotation from p. 41). See also Table 87. From the 1938-39 school year to the 2000-2001 school year, the number of regular school districts nationwide shrank from 119,001 to 14,859, an 87.5 percent decline. Yet the number of school districts declined

almost twice as fast as enrollment was increasing, making individual schools larger. See Table 3. Total enrollment in public elementary and secondary schools for this same period, however, increased overall by 46.2 percent, from roughly 25,434,000 to 47,223,000. All public elementary and secondary enrollment grew rapidly from 25,434,000 in the 1939-40 school year, peaking in the fall of 1970 at 45,894,000. Enrollment then declined overall by 14.4 percent overall from 1971 to 1985, from 46,071,000 to 39,422,000. For this same period, the number of regular public schools districts declined steadily by 12.5 percent, from 17,995 to roughly 15,747 by the 1984-85 school year. See Table 87. Yet from the fall of 1986 to the fall of 2000, public elementary and secondary enrollment began to increase steadily by 15.8 percent, from 39,753,000 to 47,223,000. See Table 3. Meanwhile, the number of regular public schools districts continued to decline steadily during this same period at a rate of 5.4 percent, from 15,713 to 14,859.

68. David Boaz and R. Morris Barrett, "What Would a School Voucher Buy? The Real Cost of Private Schools," Cato Institute, Briefing Paper no. 25, March 26, 1996, p. 4.

69. According to the NCES, the presence of alternative schools, which tend to be small, mitigated the impact of fewer public schools and growing enrollment. *Digest of Education Statistics 2002*, p. 42. See also Table 95. From school years 1990-91 to 2000-01, total

enrollment size for elementary schools rose by 5.9 percent overall from 449 to 477. The trend toward increased elementary enrollment size reversed beginning in the 1997-98 school year, from a high of 478. During the same time period, total enrollment size for regular secondary schools rose steadily by 14 percent, from 684 to 795. Meanwhile, total enrollment size for combined elementary and secondary schools has steadily declined by 34.4 percent since the 1993-94 school year, from 418 to 274.

70. Ibid. Calculations based on Table 65 figures.

71. Ibid., Table 64.

72. Ibid.

73. Ibid., Table 67.

74. Ibid., Table 64.

75. On the impact of this phenomenon in Colorado, see Charles Bidwell and John Kasarda, "School district organization and student achievement," *American Sociological Review* 40 (1975): 69-70.

76. *Digest of Education Statistics 2002*, Table 83.

77. Ibid. Excluding the District of Columbia, (46.2 percent), Arizona, Alaska, and Louisiana rank tenth with 49.3 percent each. Ninth to first place for worst teacher-as-a-percentage-of-school-staff percentages are as follows:

Georgia, 49.2 percent; Wyoming, 48.6 percent; Mississippi, 47.9 percent; Florida, 47.8 percent; Vermont, 47.3 percent; New Mexico, 46.8 percent; Indiana, 46.7 percent; Michigan, 46.1; and Kentucky, 44.1 percent. The ten best states, from first to tenth place are as follows: Rhode Island, 60 percent; Hawaii, 59.5 percent; Delaware, 59.2 percent; Nevada, 59.6 percent; Wisconsin, 57.1 percent; Idaho, 56.2 percent; California, 55.3 percent; Massachusetts, 55.1 percent; Oklahoma, 55.0 percent; and Virginia, 54.8 percent. It is interesting to note that many states with the country's worst teacher-as-a-percentage-of-school-staff percentages are considering consolidating districts. These include Vermont, 47.3 percent; Arkansas, 51.6 percent; South Dakota, 53.0 percent; and Kansas, 51.0 percent. States with some of the best teacher-as-a-percentage-of-school-staff percentages are considering breaking districts up, including California, 55.3 percent; and Nevada, 59.6 percent.

78. *Ibid.*, Table 74. This figure is up slightly from 70.8 percent during the 1993-94 school year.

79. Matthew J. Brouillette, "The Case for Choice in Schooling: Restoring Parental Control of Education," A Mackinac Center Report, February 2000, p 13. On November 5, 2001, Mackinac Center's Director of Education Policy Brouillette delivered expert testimony based on his research to the Oklahoma House of Representative's Revenue and Taxation Committee on the issue of increasing

school choice in that state.

80. Graham Garner, "Legislature considers school district mergers," *Idaho State Journal*, August 22, 2003, <http://www.journalnet.com/articles/2003/03/22/news/local/news07.txt>.

81. Roger G. Barker and Paul V. Gump, *Big School, Small School. High School Size and Student Behavior* (Palo Alto, Calif: Stanford University Press, 1964). Cited in Jonathan P. Sher and Rachel B. Tompkins, "Economy, Efficiency, and Equality: The Myths of Rural School and District Consolidation," in *Education in Rural America: A Reassessment of Conventional Wisdom*, ed. Jonathan P. Sher (Boulder, Colo: Westview Press, 1977), p. 68.

82. Emil J. Haller and David H. Monk, "New reforms, old reforms, and the consolidation of small rural schools," *Educational Administration Quarterly*, vol. 4, no. 4 (1988): 476.

83. Paul Nachtigall, "Remapping the Terrain: School Size, Cost, and Quality," in *Sourcebook on School and District Size*, Center for School Change and North Central Regional Educational Laboratory, pp. 53-71.

84. NCES Common Core of Data (CCD) public school data for 2001-02 school year.

85. *Ibid.* The remaining schools with 800 or more students are as follows: 5 are in small towns (1.42 percent); 32 are in or near mid-sized towns (9.12

- percent); and 20 are in rural areas (5.7 percent).
86. Sher and Tompkins, *Education in Rural America*, p. 51.
87. *Digest of Education Statistics 2002*, Table 22. Authors' calculations exclude the grades given by private school parents, who typically grade their local public schools and the nation's public schools lower.
88. *Ibid.*, Tables 3 and 87. During this period, the number of regular public school districts declined by 11.1 percent, from 16,730 to 14,881. The total number of schools with reported grade spans declined by 5.9 percent, from 88,655 to 83,431. Meanwhile, total public elementary and secondary enrollment declined by only 2.3 percent, from 45,073,000 to 44,111,000.
89. *Ibid.*, Table 23.
90. Ouchi et al., *Organization of Primary and Secondary School Systems*, p. 61.
91. Kathleen Cotton, *School Size, School Climate, and Student Performance*, Northwest Regional Education Laboratory, School Improvement Research Series (SIRS), Close-Up no. 20, May 1996.
92. *Ibid.*, pp. 5-6. Achievement measures include school grades, test scores, honor roll membership, subject-area achievement, and higher-order thinking skills.
93. *Ibid.*, p. 6.
94. Ouchi et al., *Organization of Primary and Secondary School Systems*, p. 59. Quoting the findings of Jason Snipes, Fred Doolittle, and Corinne Herlihy, *Foundations for Success: Case Studies of How Urban School Systems Improve Student Achievement*, Washington, D.C., Council on Great City Schools, September 2002.
95. *Ibid.*, pp. 62-64. The previous research of Herbert J. Walberg and William J. Fowler on New Jersey school districts substantiate Ouchi's findings on minority achievement. Taking into account the relationship of test scores, district socioeconomic status (SES), per-pupil expenditures, and district size, Walberg and Fowler concluded that generally smaller districts produce higher achievement scores. See "Expenditures and size efficiencies of public school districts," *Educational Researcher* 16 (1987): 5-15. Robert J. Jewell observes that minority public schools nationwide are concentrated in states having large school districts with large schools. Yet students in states with smaller school districts and smaller schools have higher SAT and ACT scores and higher graduation rates. See "School and school district size relationships: Costs, results, minorities, and private school enrollments," *Education and Urban Society* 21 (1989): 151.
96. Cotton, *School Size*, p. 6; cf. p 15.
97. Andrew T. LeFevre and Rea S.

Hederman, Jr., *Report Card on American Education: A State-By-State Analysis, 1976-2001*, ALEC, October 2002. cf. *Digest of Education Statistics 2002*, Table 87. The period covered by ALEC, 1976 to 2001, is unique because during this period the trend of fewer school districts and fewer schools breaks for the first time since 1869. The number of elementary and secondary schools decreased steadily from roughly 116,312 in the 1869-70 school year to 83,165 in 1988-89. In 1989-90, this decline reversed for the first time, with the number of schools growing from 83,425 schools in 1989-90 to 93,273 in 2000-01. It was not until the 1996-97 school year that the number of school districts actually increased for the first time since 1969, but this increase has been slight and inconsistent.

98. LeFevre and Hederman, *Report Card on American Education*, p. 94; cf. Figures 3.4 through 3.9.

99. LeFevre and Hederman, *Report Card on American Education*, p. 95. For the effect of more students per school on SAT, NAEP, and ACT scores, see Figures 3.4, 3.5, and 3.6 respectively, p. 105. For the percentage changes in SAT scores and schools per district and students per school from 1981 to 2001, see Figures 3.22 and 3.23 respectively, p. 11.

100. *Ibid.*, p. 94; cf. p. 106.

101. *Ibid.*, p. 94.

102. *Ibid.*, Table 3.4.

103. *Ibid.*, Table 4.2

104. *Ibid.* Nevada's enrollment from 1979 to 2000 grew by more than 120 percent.

105. From 1999 to 2001, the OAG found that administrative costs as a part of total educational expenditures in Arizona actually decreased, from 11.3 percent to 10.8 percent. Arizona's administrative spending is therefore lower than the national average. Yet in a separate report the OAG found that in 2002, only 58.2 percent of the state's education dollars reached the classroom, 3.5 percent below the national average. (This percentage is up by .5 percent from fiscal year 2000.) Thus, Arizona is simultaneously ahead of most states in terms of administrative efficiency, yet lags behind when it comes to dollars spent in the classroom. See *Dollars Spent in the Classroom*, February 2003, p. 1, <http://www.auditor.gen.state.az.us/DSA/PDF/AZ%20Public%20School%20Districts%20Dollars%20Spent%20in%20the%20Classroom%202002%20Highlight.pdf>.

106. *Digest of Education Statistics 2002*, p. 41. The NCES refers explicitly to secondary school size, which is growing faster than elementary school size: "The rising number of alternative schools, which tend to be small, have mitigated the increase in the average size of secondary schools." See also n. 69 above.

107. Clive R. Belfield and Henry M. Levin, *The Effects of Competition on Educational Outcomes*, National Center

for the Study of Privatization in Education, Teachers College, Columbia University, March 2002, p. 35. Belfield and Levin are cautious, however, with regard to policy reform. While they note competition also raises teacher salaries, lowers pupil/teacher ratios, and increases student wages, the authors note that modest improvements in competition many require substantial reform. They do not, however, consider the possibility of public charter schools as vehicles for competition. See pp. 36-37 and 39.

108. Jay P. Greene, *The Education Freedom Index*, Manhattan Institute, Civic Report no. 14, September 2000.

109. Ibid. In 1988, Minnesota became the first state to pass an inter-district choice, or open enrollment, law. Twelve additional states passed similar legislation thereafter, including Arizona, which established its open enrollment law in 1994. State law defines open enrollment as “a policy adopted and implemented by a school district governing board to allow resident transfer pupils to enroll in any school within the school district, to allow resident pupils to enroll in any school located within other school districts in this state and to allow nonresident pupils to enroll in any school within the district.” See Arizona Revised Statutes (A.R.S.) § 15-816. Every school district in Arizona is required to have an open enrollment policy allowing students to request enrollment at any school in the state, regardless of location and free of charge. Each local school district develops its own policy, and the districts

determine when schools may begin to accept applications for open enrollment and when schools that reach student capacity must limit new applications for enrollment. Every school district is required to accept all resident students, followed by all non-resident students who wish to attend, provided there is student capacity within the school. While each school district’s open enrollment policy must be on file with the Arizona Department of Education, as Greene notes, reliable and consistent data on intra-district choice are simply not available at the state level. See p. 10. See also Education Commission of the States, “State Notes: Open Enrollment,” August 2001, Table 2. Relying on the existence of inter-district choice programs as reported by *Education Week* in its annual *Quality Counts* survey, Greene lists 18 states having full inter-district choice: Arizona, Arkansas, Colorado, Connecticut, Delaware, Idaho, Iowa, Minnesota, Nebraska, New Mexico, North Dakota, Ohio, Oregon, South Dakota, Tennessee, Utah, Washington, and Wisconsin. See Table 9, p. 10.

110. Greene, *The Education Freedom Index*, p. 8.

111. Caroline Hoxby, “Does Competition among Public Schools Benefit Students and Taxpayers?” *The American Economic Review*, vol. 90, no. 5 (December 2000): 1237. Hoxby refers to inter-district choice as “Tiebout choice,” which is named after Charles M. Tiebout, who, in 1956, first described the traditional choice process

in the United States as one in which households making residential choices determine the quality of and expenditures on local public goods. See p. 1209 and n. 1.

112. *Ibid.*, p. 1232.

113. *Ibid.*, pp. 1234-1235.

114. Statistical analysis summarized by Clive Belfield and Henry Levin in *The Effects of Competition on Educational Outcomes: A Review of U.S. Evidence*, National Center for the Study of Privatization in Education, Teachers College, Columbia University, March 2002, p. 25, n. 14.

115. Hoxby, “Does Competition among Public Schools Benefit Students and Taxpayers?”, p. 1209.

116. Chester Finn, “Leaving many Children Behind: Some Local School Districts Make Federal Promise of School Choice Illusory,” *Texas Education Review*, Spring/Summer 2002, <http://www.educationreview.homestead.com/2002FinnLeavingChildrenBehind.html>.

117. The following chart is based on data from the Arizona State Board for Charter Schools (through 2001-2002) and from the Center for Education Reform (2002-2003).

Year	Number of charter schools	Percentage change
1995-1996	70	-
1996-1997	146	108.57
1997-1998	184	26.03
1998-1999	256	39.13
1999-2000	338	32.03
2000-2001	354	4.73
2001-2002	423	19.49
2002-2003	464	9.69

Total change between 1995-1996 and 2002-2003 is 663 percent.

118. The Center for Education Reform, “Answers to Frequently Asked Questions about Charter Schools,” http://edreform.com/school_reform_faq/charter_schools.htm.

119. Jay P. Greene, Greg Foster, and Marcus A. Winters, *Apples to Apples: An Evaluation of Charter Schools Serving General Student Populations*, Manhattan Institute, Education Working Paper No.1, July 2003, p. 1.

120. Carolyn Hoxby, *School Choice and School Productivity (or Could School Choice be a Tide That Lifts All Boats?)*, National Bureau of Economic Research (NBER), Working Paper no. 8873, April 2002, p. 47.

121. *Ibid.*

122. *Ibid.*, p. 48.

123. Ibid. While these results are encouraging, Hoxby urges restraint since “the typical Phoenix area school that is now competing with charter schools will take ten years to catch up with top performing Phoenix area schools,” p. 48.
124. Nelson Smith, *The New Central Office: How Charter Districts Serve Schools and the Public Interest*, part of, *The Nuts and Bolts of Charter Districts, Education Commission of the State Series*, May 2003, p. 1: “A charter district is a system of schools - a portfolio of autonomous public schools that operate on charters or contracts. Its schools must observe the same federal laws as other public schools, but as they do so, the system supports rather than surrounds them. . . . Authority is not vested in a central office and then granted down to school sites; instead, schools themselves are incorporated, their powers enumerated in law. The scope of central oversight and enforcement is limited by both statute and contract.”
125. Ibid., p. 1.
126. Paul Koelher et al., *Creating Excellence for All Students: Transforming Education in Los Angeles* (WestEd, 2003), p. 27.
127. Ibid., p. 17.
128. Ouchi et al., *Organization of Primary and Secondary School Systems*, p. 66. Ouchi et al. cite Richard L Daft’s “Bureaucratic Versus Nonbureaucratic Structures and the Process on Innovation and Change,” in *Research in the Sociology of Organizations*, ed. Samuel B. Bacharach (Greenwich, Conn: JAI Press, 1982), pp. 129-169.
129. Ouchi et al., *Organization of Primary and Secondary School Systems*, p. 66.
130. Nelson Smith, *Catching the Wave: Lessons from California’s Charter Schools*, Progressive Policy Institute, Policy Report, July 9, 2003, pp. 13-15.
131. Smith, *New Central Office*, p. 14, see also pp. 14-15. It is important to acknowledge transition costs. Traditional public schools, or “sending districts,” cannot immediately reduce or absorb overhead costs once students transfer. Smith notes that some states may want to temporarily subsidize a dual system. For example, as of 1999, Illinois provides districts “Temporary Impact Aid,” which incrementally decreases per-pupil funding for three years after a student transfers to a charter school. See p. 14.
132. Data provided by Margaret Roush Meier, executive director, Arizona Charter Schools Association, on October 22, 2003, in a one-page charter school fact sheet. These figures are based

Table 2: All Reported Funding

	School Districts		Charter Schools	
	Total	Per Pupil	Total	Per Pupil
Average Daily Membership (ADM) pupils	816,690	-	52,998	-
Maintenance and Operations	4,141,721,720	5,071	0	0
Unrestricted Capital Outlay	129,340,038	158	0	0
Soft Capital	192,303,086	235	0	0
School Facilities	490,866,174	601	0	0
Adjacent Ways	21,088,051	26	0	0
Debt Service	769,406,159	942	0	0
Other	664,545,272	814	0	0
Charter School - General Funding	(21,963,980)	(27)	294,888,600	5,564
Charter School - Federal Projects	(2,504,482)	(3)	34,982,100	660
Charter School - State Projects	(854,587)	(1)	3,271,100	62
Total	6,383,947,451	7,817*	333,141,800	6,286

*Authors' total is \$7,816.

on Table 2, "All Reported Funding," in the fact sheet. All data from the Arizona Department of Education, *Superintendent's Annual Report for Fiscal Year 2001-2002*. School district data is from p. I-249 and charter school data from p. II-242.

133. Lewis C. Solmon, "Findings From the 2002 Survey Of Parents With Children In Arizona Charter Schools: How Parents Grade Their Charter Schools," prepared for the Arizona State Board for Charter Schools, March 10, 2003, p. 2, http://www.asbcs.state.az.us/asbcs/pdf/PSS/ParentSatisfactionSurvey_2001.pdf.

134. Greene, et al., *Apples to Apples*, p. 1.

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