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Arizona Public and Private Schools: A Statistical Analysis

by Andrew J. Coulson, Director, Cato Institute Center for Educational Freedom

EXECUTIVE SUMMARY

Arizona's private schools are substantially less expensive to operate than their state-run counterparts, are better physically maintained, employ far more teachers per pupil, and place little emphasis on the academic histories of their applicants. Those are some of the conclusions that can be drawn from the *2005 Goldwater Institute Survey of Arizona Private Schools*. This report examines the survey data and compares them to known characteristics of public schools at both the state and national levels. It then attempts to explain the pervasive differences between the two sectors.

Based on our survey data, we estimate that the real on-time graduation rate for our sample schools is roughly 84 percent and that the overwhelming majority of those graduates are admitted to college. Private estimates of the Arizona public school real on-time graduation rate vary between 68 and 70 percent.

When teachers' nine-month salaries are annualized to make them comparable to the 12-month salaries of most other fields, we find that Arizona non-government school teachers earn an average 12-month-equivalent salary of \$36,456 in 2004, which is approximately \$2,200 less than the average salary of media reporters and correspondents, for example. The 12-month-equivalent salary of the state's public school teachers was around \$60,000 in 2004, which was more than the average salary of a nuclear technician, epidemiologist, or nurse.

Another striking difference between the sectors is the far greater emphasis private schools place on teaching versus non-teaching staff. If the public sector were to match private schools' emphasis on teaching, it would have to hire 25,000 new teachers and let go more than 21,000 non-teaching employees.

This report is divided into four parts: a summary of the survey's findings, an analysis of those results, a conclusion and interpretation section that attempts to explain them, and an analysis of the representative nature of our survey sample.

Arizona Public and Private Schools: A Statistical Analysis

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Introduction: 2005 Goldwater Institute Arizona Private School Survey

This report gathers basic information about Arizona private schools. Private schools often evoke images of exclusionary, well-heeled institutions; however, this survey reveals such schools to be hardly characteristic of private schools in Arizona. Parental choice in education is one of the major K-12 reform initiatives in Arizona. Analysis concerning the universe of private schools from which parents can choose substantially illuminates the present debate.

In November 2005, the Goldwater Institute surveyed 325 private schools, of which 146 responded. The Goldwater Institute conducted a similar survey in 2004. This section aggregates survey findings into five categories: student body, condition of facilities, tuition and spending, admissions policies, and staffing. Each section compares the results for respondent schools with those of public schools at the state and/or national level, whenever possible. In this study, we use the term “private school” to mean schools controlled by an individual or agency other than a governmental entity, which is usually supported primarily by other-than-public funds and the operation of whose program rests with someone other than publicly elected or appointed officials.¹

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Student Body Information

Enrollment and Grade Retention

The average 2004-2005 enrollment of the 147 private schools reporting pupil numbers was 187, slightly below the 2003-2004 average of 193. The median 2004-2005 enrollment was 112, indicating that most Arizona private schools are considerably smaller than the overall average, which is skewed upward by a small number of disproportionately large schools. There are 14 private schools with more than 500 pupils, three of which enroll more than 1,000 pupils.

Based on Arizona Department of Education data, the average 2004-2005 public school enrollment (including charter schools) was 557 students.² Only eight respondent private schools had enrollments equal to or greater than that figure, meaning that the average public school was larger than 94.5 percent of the state’s private schools. The median public school, enrolling 456 students, was more than four times the size of the median private school. More than one out of every eight Arizona public schools enrolls more than 1,000 students, compared with only one out of every 50 private schools.

The average rate at which students in respondent schools (N=130) were held back and repeated a grade, known as the retention rate, was 0.6 percent. We calculated this rate by dividing the

number of students repeating a grade in 2004-2005 by the total enrollment in 2003-2004. For comparison, average reported U.S. public school retention rates have varied between 0.9 and 1.29 percent.³ As explained below, given the extremely high level of college acceptance of Arizona private school graduates, it does not appear that their low retention rate is due to “social promotion.”⁴

School-Based Financial Aid and State Tax Credits

Nearly two-thirds (64.6 percent) of respondent schools (N=147) provide financial assistance to at least some of their students. On average, 13.3 percent of students in Arizona private schools receive school-based financial assistance, and the average amount of that assistance is \$969.

In addition to school-provided financial assistance, 22.5 percent of all students in respondent schools (N=144) received private scholarships under the Arizona Tuition Tax Credit program. The average scholarship was \$1,590, which is more than one-third the average private school tuition. Of the 75 schools that do not have waiting lists of students seeking tuition tax credit scholarships, 88 percent said that they would enroll more scholarship students if the program were expanded. All four of the for-profit private schools that did not report having tuition tax credit scholarship waiting lists said that they would be willing to accept more scholarship students.

Graduation Rates

We computed the standard on-time graduation rate, also known as the simple grade 9 graduation rate, by dividing the number of graduates in 2003-2004 (976) by the number of 9th graders in 2000-2001 (1,080), yielding a value of 90.4 percent. The number of private schools reporting both necessary figures was 26, which represents 81 percent of the diploma-granting respondent schools.

A simple grade 9 graduation rate can be skewed if the number of students who transfer into the cohort of interest between the 10th and 12th grades is substantially different from the number who transfer out. For this and other reasons, more sophisticated methods of calculating the on-time graduation rate have arisen. One of the most popular is the Greene rate, developed by political scientist and education researcher Jay P. Greene.⁵ We cannot compute the Greene rate for our sample, however, because its calculation relies upon the 8th grade enrollment in year $i-4$ (where i is the year of graduation), and that figure is not available for our sample.

Fortunately, our survey asked specifically about student transfers, so we can compute our own adjusted graduation rate to take into account the net balance of transfers into and out of our subject schools. We calculate the transfer-adjusted graduation (TAG) rate as follows:

$$\text{TAG rate} = \frac{\text{Graduates}_{2003-2004} - \text{Transfers}_{2003-2004}}{\text{Enrollment}_{2000-2001}}$$

In addition to school-provided financial assistance, 22.5 percent of all students in respondent schools (N=144) received private scholarships under the Arizona Tuition Tax Credit program.

$$\frac{(\text{Transfers}_{\text{in}} - \text{Transfers}_{\text{out}}) / 3}{\text{Ninth_Graders}_{2000-2001}}$$

where $\text{Transfers}_{\text{in}}$ is the total number of students transferring into the 10th through 12th grades between 2001-2002 and 2003-2004, and $\text{Transfers}_{\text{out}}$ is the number transferring out of the same grades in the same years. Note that this formula assumes that transferring students are randomly distributed across the stated grades and years; if they are not, the TAG rate will be biased. The TAG rate of our respondents reporting all necessary data was 83.7 percent (N=19). Note that this subsample constitutes 59 percent of diploma-granting respondents, which is lower than the share of respondents for which we were able to calculate the simple 9th grade graduation rate. This injects the possibility that our TAG rate computation may be somewhat biased if our smaller subsample is less representative of all private Arizona high schools.

We can compare our simple and adjusted private school graduation rates with two respected private estimates of Arizona public schools' graduation rate: the Greene estimate and the Urban Institute's Cumulative Promotion Index (CPI) estimate. According to the latest Greene results, Arizona's 2002 graduation rate was 70 percent, just below the national average, which placed the state 33rd in the nation.⁶ The most recent CPI (for 2001) also placed Arizona in 33rd nationally with a graduation rate of 68.3 percent.⁷ These estimates are considerably lower than

both the simple and adjusted graduation rates of the state's private schools computed above, although, of course, potential differences in student and family characteristics may account for some of that gap.⁸

College Acceptance Rates

Our survey asked two questions regarding the college acceptance of their 2003-2004 graduates: For how many students do you know the college acceptance status, and among those students, how many were accepted to college? Twenty-seven schools, or 84 percent of our diploma-granting respondents, answered both questions. Of the 939 graduates for whom college acceptance status was known (87 percent of the total), 927 were accepted to college, which yields a college acceptance rate of 98.7 percent.

The corresponding figure for Arizona public school graduates is not readily available, but the nationwide figure appears to be substantially lower. According to a 2003 report by the U.S. Census Bureau, only 57.4 percent of 25- to 29-year-old Americans have at least some college education—that is, they either received a degree or attended for a time but left without a degree.⁹ Even if every Arizona private school student for whom data are missing was in fact not admitted to college, and even if a fair percentage of those who were accepted never attend, the private sector's college-acceptance-rate advantage would remain very large. Again, however, differences in student and family characteristics may account for some of this gap.

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Condition of Facilities

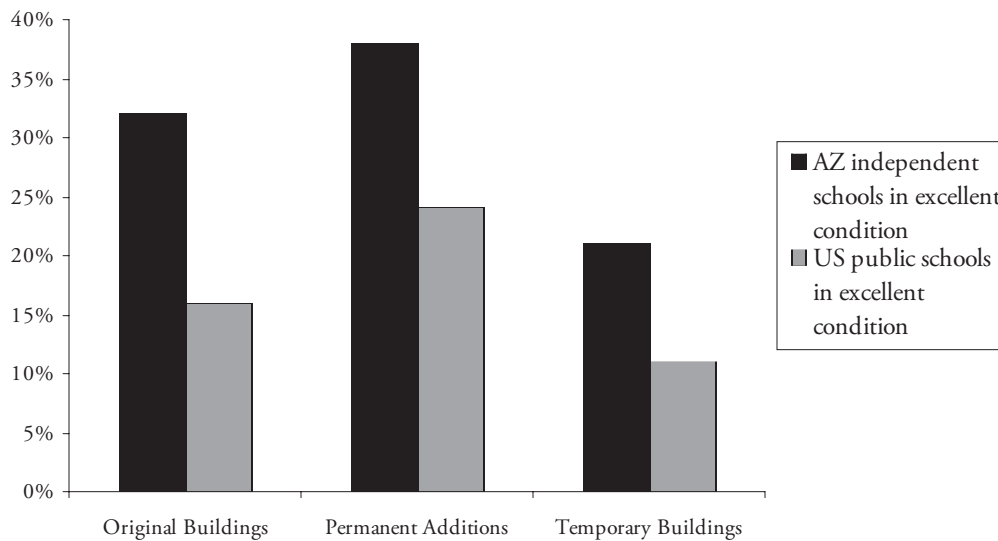
The physical condition of the nation’s public schools has repeatedly been in the news over the past decade, particularly since the release of a U.S. Department of Education survey of public school facilities in 2000 that described serious, widespread, and expensive maintenance issues.¹⁰ To assess the relative condition of Arizona private schools, our survey duplicated the core questions of the federal study. We provide an excerpt of some of those questions in the appendix.

According to the 2000 federal

survey, 24 percent of public schools had at least one type of building in “less than adequate” condition.¹¹ Among the 97 percent of our respondents (N=143) who provided the necessary answers, only 6.3 percent had at least one building type in “less than adequate” condition. The nation’s public schools are thus nearly four times as likely as Arizona private schools to have inadequate physical conditions. Figure 1 shows the percentages of schools of each type reported as being in excellent condition, for both Arizona private schools and the nation’s public schools as a whole.

The nation’s public schools are nearly four times as likely as Arizona private schools to have inadequate physical conditions.

Figure 1: Share of Buildings in Excellent Condition, by Building Type and Sector



Sources: 2005 Goldwater Institute Survey of Arizona Private Schools; U.S. Department of Education, National Center for Education Statistics, *Condition of America’s Public School Facilities: 1999*, Washington, D.C., NCES 2000-032, June 2000.

Notes: “Permanent additions” include attached and/or detached structures to original buildings. “Temporary buildings” include such structures as portables and demountables.

With respect to specific building systems, half of all public schools reported at least one building system in inadequate condition, compared with 16.8 percent of Arizona private schools.

In evaluating the significance of these differences in building maintenance, it is important to take into account the relative budgets of the two sectors.¹² We explore that consideration in the following section.

Tuition and Spending

How much tuition does the typical Arizona private school charge? How much does it spend, in total, per pupil? The first question was explicitly asked on our survey, and the second can be answered using school-wide enrollment and total spending figures reported by respondents.

The average tuition at all schools reporting tuition figures for day students (N = 141) was \$4,398.¹³ This figure hides considerable variation in tuition from one school to the next, with the standard deviation being \$3,696. Weighting the average tuition by enrollment, we find that it rises \$50 to \$4,448, whereas the median tuition figure is only \$3,500. The majority of private schools are thus less expensive than the overall average tuition suggests. Moreover, according to a private analysis of fiscal 2003 Arizona Department of Education financial data conducted jointly by the Goldwater Institute and the Friedman Foundation, the state's public schools are more than twice as

expensive, receiving between \$8,500 and \$9,000 per pupil.¹⁴

Before turning to the total spending calculations, we should define some key terms. "Total spending" is the sum of all school expenditures in a given year, including debt service, construction, and other capital costs. It should be distinguished from "current spending," which excludes the aforementioned costs. Construction and some other capital expenditures are cyclical, meaning that they vary substantially from year to year based on whether or not schools are in the process of building or repairing buildings or acquiring other major assets. Nevertheless, it is still possible to get a meaningful average total expenditure figure for a single year when we aggregate data for many schools, since capital investment cycles are not synchronized. That is, not all schools need to expand, repair, or replace their buildings at the same time. Therefore, by smoothing out the peaks and valleys of capital investment, our average total expenditure per pupil figure gives a reasonable idea of what it costs to run a private school in Arizona.

Based on the 89 day-schools reporting both enrollment and total spending figures, we can compute the average total per-pupil expenditure: \$5,071. The average tuition charged by this subset of respondents is only \$4,022, which is 91.4 percent of the sample average tuition calculated above.¹⁵ This means that the subset of respondents who reported spending figures probably spend less, on average,

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than the larger subsample that reported tuitions. If we assume a linear relationship between tuition and spending, then our average expenditure figure would also be 91.4 percent of the average expenditures of our larger tuition-reporting sample. Multiplying \$5,071 by the reciprocal of 91.4 percent yields an adjusted estimated per-pupil total expenditure figure of \$5,545. This figure should be more representative of survey respondents as a whole and of the entire universe of Arizona private schools.¹⁶

For the 89-school subsample, tuition on average covers 79.3 percent of total costs. Interestingly, this is 15 percentage points higher than the share of spending that private school administrators typically *believed* to be covered by tuition.¹⁷ Our calculation, based on actual enrollment, tuition, and total spending figures, is necessarily more accurate than the administrators' reported estimates, but the disparity is nonetheless worth mentioning.

Of the 144 schools reporting whether or not they received funding from an outside organization, 71, or 49.3 percent, indicated that they did receive such funding. Of those 71 schools, 49 reported both the total amount of third-party funding they received and their enrollment figures, allowing us to determine that their average amount of third-party funding per pupil was \$389. It is not possible to compute the average amount of third-party funding across all private schools, because some of the schools reporting

that they received third-party funding did not indicate the amount.

As noted in the data analysis section, survey respondents are somewhat more likely than non-respondents to be religiously affiliated. If religiosity and per-pupil spending are correlated, this may skew the spending and tuition figures reported above. To investigate that possibility, per-pupil spending was regressed on a pair of dummy variables: school religiosity and school focus on disabled children.¹⁸ The latter variable was a control included to ensure that our results would not be skewed if schools exclusively serving the disabled, which are generally more expensive to operate, were unevenly distributed among religious and non-religious schools. We show the results of that regression in Table 1.

As can be seen from the regression results, the effect of religiosity on school spending is not statistically significant (its p-value is 0.5, which is far higher than is accepted by even the most generous measures of significance). As expected, schools focusing on disabled students spend significantly more per pupil.

Admissions Policies

Our survey asked schools to identify which of 13 criteria they considered in their admissions process and also to rank those criteria. The resultant rankings, sorted by the average importance respondents gave to each criterion, appear in Figure 2. Note that two

Table 1. Regression of Total Per-pupil Spending on School Religiosity and School Focus on Disabled Children

Regression Statistics						
	Multiple R	0.644415779				
	R-square	0.415271696				
	Adjusted R-square	0.401673363				
	Standard error	3556.149287				
	Observations	89				
Analysis of Variance						
	df	SS	MS	F	Sig. F	
Regression	2	772389986	386194993	30.53842749	9.52855E-11	
Residual	86	1087573006	12646197.75			
Total	88	1859962992				
	Coeffs	Std. Err.	t-Stat	P-Value	Lower 95%	Upper 95%
Intercept	\$5,398.48	1,026.57187	5.25874969	1.04556E-06	3,357.73	7,439.24
Focused on disabled	\$27,205.60	3,701.35752	7.35016841	1.06978E-10	19,847.55	34,563.66
Religious	\$741.58	1,104.64797	0.6713287	0.503810389	2,937.55	1,454.39

Source: Author’s calculations based on 2005 Goldwater Institute Survey of Arizona Private Schools.

The only admissions criteria applied by a majority of schools are measures of student and parent desire to attend the school and students’ and parents’ willingness to abide by its code of conduct.

schools reported having no admissions criteria.

among the top five admissions criteria considered.

Of the 138 schools that listed their admissions criteria, only 74 included one of the three academically selective criteria (“school grades,” “admissions test,” and “standardized test scores”). In other words, 47.5 percent—nearly half—of respondent private schools do not consider any measure of student academic achievement in the admissions process.

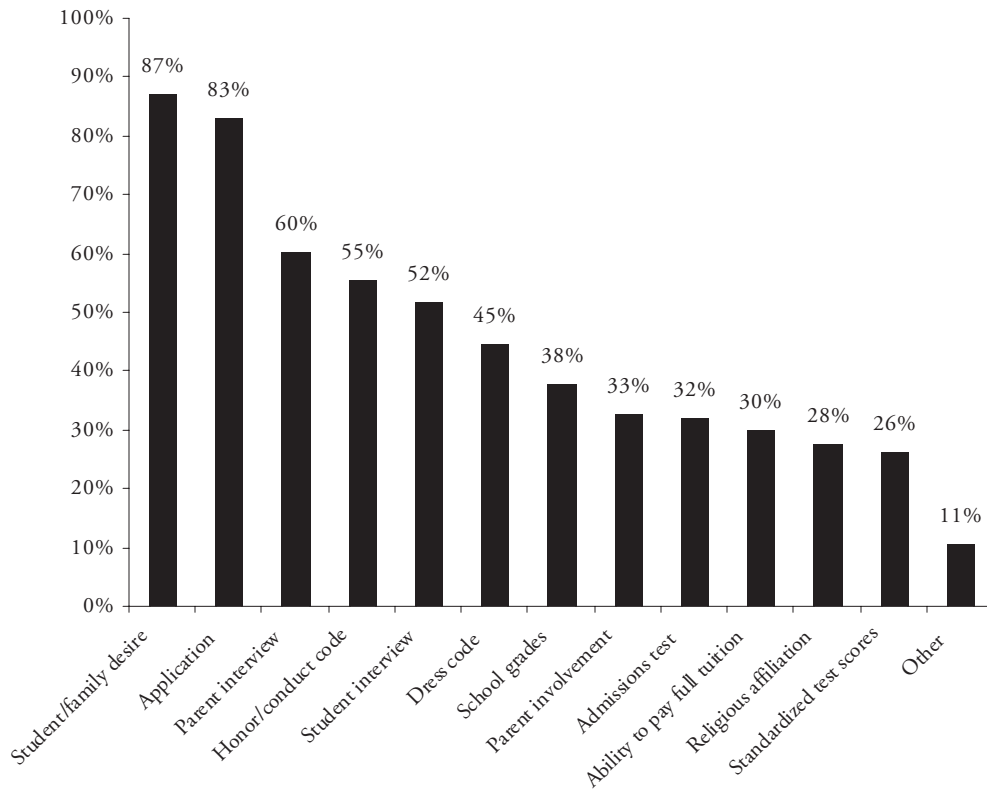
The only admissions criteria applied by a majority of schools are measures of student and parent desire to attend the school and students’ and parents’ willingness to abide by its code of conduct. The same five criteria that are most often applied by private schools are also the five most important based on answers to the ranking question, although the order is slightly different, as shown in Figure 3.

Of the schools that do apply at least one academically selective admissions criterion, the average rank of their academically selective criteria is 5.4 out of an average of 10.9 separate criteria. So, even among academically selective private schools, historical measures of student achievement are not typically

Staffing

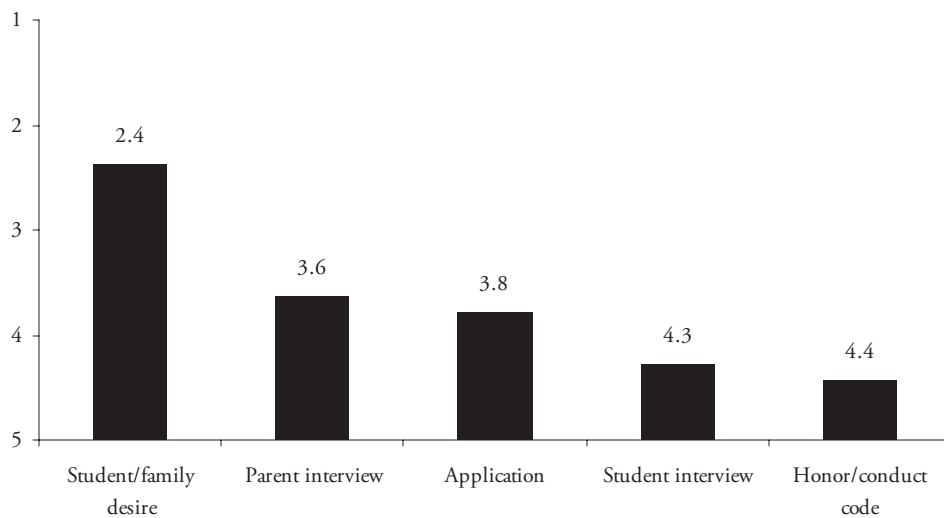
We asked the schools to indicate the percentages of their total administrative and teaching staffs. On average, administrators comprised 17.4 percent of the private school workforce, and

Figure 2: Percentage of Schools that Apply Specified Admissions Criteria



Source: 2005 Goldwater Institute Survey of Arizona Private Schools

Figure 3: Top Five Admissions Criteria, by Average Rank



Source: 2005 Goldwater Institute Survey of Arizona Private Schools

teachers 78.4 percent. Note that these figures add up to only 95.8 percent, indicating that some respondents may have permanent staff they did not place in either category, such as caretakers, librarians, or counselors.

For the 147 schools reporting enrollment figures, teacher counts, and the fraction of a full-time workload each teacher carried (from “less than quarter-time” to full-time), we can compute a full-time equivalent (FTE) teacher count of 2,009. The total enrollment of these schools was 26,143. The average pupil-to-FTE-teacher ratio for our respondents is thus 13.0. The pupil-to-on-site-FTE-staff ratio for schools reporting all the necessary data (N=137) is 9.7.¹⁹ FTE teachers comprised 72.0 percent of total *on-site* FTE staff, and the number of pupils per non-teaching on-site FTE staff member was 34.7.

More than three-quarters (76 percent) of respondent private schools (N=146) said that they had no off-site administrative staff. Of the 24 percent that do belong to an off-site administrative unit, such as a Catholic diocese, problems with the data make it impossible to accurately determine the total off-site staff count.²⁰ Given the small percentage of schools with any off-site staff, and the generally small staff numbers reported for off-site administrative units for schools that did report them (usually two to five people), it seems likely that the total staff count of private schools in Arizona does not differ markedly from the total on-site staff count.

Based on the most recent Arizona public school figures from the U.S. National Center for Education Statistics (NCES), we can compute that there were 9.8 pupils per on-site FTE staff member, 19.9 pupils per FTE teacher, and 19.4 pupils per on-site non-teaching FTE staff member in the fall of 2002.²¹ Arizona private schools thus provide substantially more teachers per pupil than do the state’s public schools, while requiring barely half as many non-teaching staff per pupil. Teachers make up 72 percent of on-site staff in the private sector, but slightly less than half (49.4 percent) of on-site staff in the public sector. In the latter regard, teachers as a share of on-site public school staff, Arizona places 46th out of the 50 states and the District of Columbia.²² Arizona thus has an unusually large share of non-teaching public school employees in schools.

The average salary paid by respondent schools (N=132) was \$25,850, while the median and standard deviation were \$27,750 and \$9,680, respectively. The average salary of Arizona public school teachers in 2002-2003 was \$40,894, or \$42,939 in inflation-adjusted 2004 dollars. In other words, public school teachers are paid two-thirds more (an extra \$17,089), on average, than the going market rate in the private sector. That difference remains essentially unchanged even if we drop from consideration the two Arizona private schools staffed by volunteers. Doing so only raises the average salary of respondent private schools to \$26,248, a negligible increase.

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Although this average private school teachers' salary may seem low, it should be recalled that teachers are typically paid for a nine-month school year of roughly 180 days,²³ which is considerably shorter than the 12-month, roughly 250-day work year common in most other fields.²⁴ Annualizing Arizona private school teachers' average salary (excluding the volunteer-run schools) yields a 12-month equivalent of \$36,456, which is within about \$2,200 of the 2004 income of, for example, media reporters and correspondents (\$38,650), according to the U.S. Bureau of Labor Statistics.²⁵

For comparison, using the inflation-adjusted figure of \$42,939, the annualized 12-month-equivalent salary of Arizona public school teachers is \$59,637. Data from the U.S. Bureau of Labor Statistics reveal that such a salary, for example, would be more than the average salaries of nuclear technicians (\$58,830), epidemiologists (\$58,060), accountants and auditors (\$56,880), broadcast news analysts (\$56,740), detectives and criminal investigators (\$56,500), and registered nurses (\$54,210).

Findings: Some Surprising Truths about Private Schools

Arizona private schools differ markedly both from their public-sector counterparts and from some common public perceptions of them. Our survey results point, in particular, to better

management of physical facilities, lower expenditure per pupil, and greater emphasis on teaching; in addition, private schools have far less academic selectivity than is often imagined. We discuss these findings in the following sections.

Management of Physical Facilities

One of the most interesting conclusions that can be drawn from our survey data is that Arizona private-school facilities are substantially better managed than those of the nation's public schools. Arizona private schools are in much better shape than the nation's public schools, although they typically operate at a substantially lower cost per pupil. Regrettably, comparable Arizona-specific data for the condition of public-school facilities are unavailable.

The significance of this finding is broader than it may seem at first. Researchers have long found that private schools tend to outperform state-run schools academically, but have argued over the extent to which these differences might be directly or indirectly attributable to student factors, including household wealth and level of parental education. It has not always been clear whether the superior achievement of the private education sector has been due to better management or to more advantaged students.

Several researchers have addressed that question by performing random-

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assignment, control-group experiments. These studies compare students who applied for and received private school tuition vouchers with other students who applied for but were randomly denied vouchers because the voucher programs in question were limited in size and there were fewer vouchers than applicants. Although randomized control group experiments are the gold standard of social-science research and even though these studies have consistently shown academic benefits for some or all voucher-receiving private school students, a fair number of skeptics remain.²⁶

The virtue of comparing the condition of schools' physical facilities is that any differences are less likely to be attributable to divergent student characteristics. Differences in the quality of building maintenance across schools are likely to result from management or budget factors, not from variations in their student bodies. The only possible exception would be for building features that could be damaged by vandalism. But is student vandalism actually responsible for the generally inferior state of repair of public schools? That question can be answered empirically. If students are indeed responsible, then the building features most susceptible to vandalism would be in decidedly worse repair than the building features generally unaffected by vandalism.

With reference to the specific building features for which we have data, interior and exterior finishes and trim, windows, and doors would be

expected to be in worse shape than roofs; framing, floors, and foundations; heating, ventilation, and air conditioning; electric power; electrical lighting; and life safety features.²⁷ However, that is not the case. Dividing building features into these two separate categories (call them "student-susceptible" and "student-non-susceptible") and computing the average for each category of the share of schools reporting that their component features are in "less than adequate" condition, we find that an average of 20.5 percent of public schools' student-susceptible features are in less-than-adequate condition, while an average of 20.7 percent of student-non-susceptible features are in that same condition.

Clearly, therefore, students are not to blame for the inferior state of repair of public-school buildings. As shown below, since our survey reveals that Arizona private schools spend substantially *less* per pupil than the nation's public schools, inferior public-school management is the most likely explanation for the difference in building repair.

On this point, it is worth citing at length the 2000 U.S. Department of Education survey of public school facilities. According to that report, a decisive cause of the deterioration of public school buildings was public school districts'

decisions to defer maintenance and repair expenditures from year to year. However, maintenance can

only be deferred for a short period of time before school facilities begin to deteriorate in noticeable ways. Without regular maintenance, equipment begins to break down, indoor air problems multiply, and buildings fall into greater disrepair (Hansen 1992). The lack of regular maintenance can also result in a host of health and safety problems, including exposure to carbon monoxide and risk of physical injuries. Additionally, deferred maintenance increases the cost of maintaining school facilities; it speeds up the deterioration of buildings and the need to replace equipment.

In other words, the nation's public schools have had a penchant for postponing the ounce of prevention until the pound of cure becomes unavoidable.

Cost and Efficiency

Although sometimes imagined to be the expensive province of society's elites, private schools operate at substantially lower cost per pupil, on average, than public schools. Nationally representative data already hinted at that reality back in the mid-1990s, when private school tuitions were averaging about half the public sector's spending per pupil. But that was a decade ago, and many observers correctly noted that private school tuition does not typically cover all expenses, which makes the comparison somewhat unfair to public schools.

Our survey data allow us to evenhandedly assess this issue in an up-to-date manner. Recall that we estimated the average 2004-2005 per-pupil spending of Arizona private schools at \$5,545. That is more than \$2,000 below the U.S. Department of Education's inflation-adjusted 2001-2002 Arizona public-school per-pupil expenditure figure of \$7,644.²⁹ The difference is greatest, however, when compared with the inflation-adjusted 2001-2002 national public school total spending average of \$9,744.³⁰ Since real public-school spending tends to increase steadily over time, all of these figures likely understate the actual 2004-2005 cost advantage of private schools.

Why are private schools so much less expensive to operate than public schools? The biggest single explanation appears to be that public schools pay teacher salaries far above the prevailing market rate. Of course, it is quite possible that if all teachers' salaries were determined by the marketplace, the average private school teachers' salary would rise. This would happen, for instance, if there were a limit to the number of teachers willing to work for the current market rates.

Another dramatic difference between the public and private sectors is their *allocation* of resources between teaching and non-teaching activities. In Arizona's private schools, teachers make up 72 percent of all on-site employees. In the average Arizona public school, there are more nonteaching employees than teachers—and that is not even

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counting off-site district office staff.³¹ The magnitude of this difference, when carried to a statewide level, is staggering. To match the private sector’s emphasis on teachers over non-teaching staff, Arizona public schools would have to hire roughly 25,000 more teachers and dismiss 21,210 non-teaching employees.

Admissions Policies

A fairly common perception of private schools, and certainly one promulgated by critics of school-choice programs, is that they are elitist institutions that turn away students who are not academic high-achievers. Our survey results reveal this view to be incorrect. About half of all Arizona private schools do not consider *any* measure of student academic achievement in their admissions process. Even among schools that do consider the academic proficiency of their applicants, the importance they place on this characteristic is not great. On average, when asked to rank the importance of their admissions criteria, private schools do not place academic selectivity among the top five answers.

The most common measures by which admissions decisions are made boil down to this: students and their parents express a desire to join the school’s community and to abide by its code of behavior. This should come as no surprise, given the incentive structure of the private education marketplace. private schools have no guaranteed source of income. To survive and thrive they must constantly attract new

students and retain the students they already have, at least through to graduation. Private schools must therefore balance the fiscal imperative to recruit as many new pupils as possible with the need to maintain an environment and quality of service that will induce its existing students to keep coming back. They achieve this balance by attempting to ensure that their applicants are likely to be happy in their school and are willing to comport themselves in a manner that will not disturb the educational experience of existing students. In most cases, this process does not emphasize the applicants’ preexisting levels of academic achievement.

Survey Sample Analysis and Bias Assessment

This study was based on a census form mailed to all known or suspected Arizona private schools. Every school (or suspected school) identified (N=651) was sent a copy of the Goldwater survey, and a protocol was followed to maximize the response rate. For the purposes of this study, the universe of Arizona private schools was defined as every school on the original mailing list less those that fell into any of the following categories: out of scope (survey was returned with “bad address” or “school closed”), duplicates of other schools in the list, or “ineligible.” Schools were deemed eligible if they satisfied all of the following conditions:

About half of all Arizona private schools do not consider any measure of student academic achievement in their admissions process. Even among schools that do consider the academic proficiency of their applicants, the importance they place on this characteristic is not great.

- Served two or more consecutive pre-K-12 grades or comparable ungraded levels.
- Employed at least one teacher.
- Offered classroom instruction.
- Operated in a private facility that was not a home primarily used as a family residence.
- Received their primary support from private funding.

This protocol returned a universe of 325 schools, which is comparable to the populations identified by other sources such as the NCES 2003-2004 Private School Universe Survey (327 schools) and the current findings of the private firm Quality Education Data (336).³² Of that universe of 325 schools, 146 responded to some or all of the survey questions, for an overall survey response rate of 46.2 percent. Individual item response rates were usually somewhat lower, and are provided throughout this report.

While this response rate is higher than was achieved in a survey performed by the Goldwater Institute for 2004, it nonetheless leaves open the possibility of bias, because survey respondents differ in important aspects from the universe of Arizona private schools as a whole. Fortunately, we can assess the extent of such bias by comparing our survey respondents with a larger subset of the universe or with the entire universe. Specifically:

- We know the geographic location of every school in the universe.
- We can infer which schools in the universe are religiously affiliated and which are not, based on their names.
- We have 2003-2004 data from the NCES Private School Universe Survey for more than 60 percent of our nonrespondents, and that can be compared with our respondents' reported 2003-2004 enrollment and current range of grades offered (grade ranges are likely to have changed only modestly in the one year that separates the NCES and Goldwater surveys).

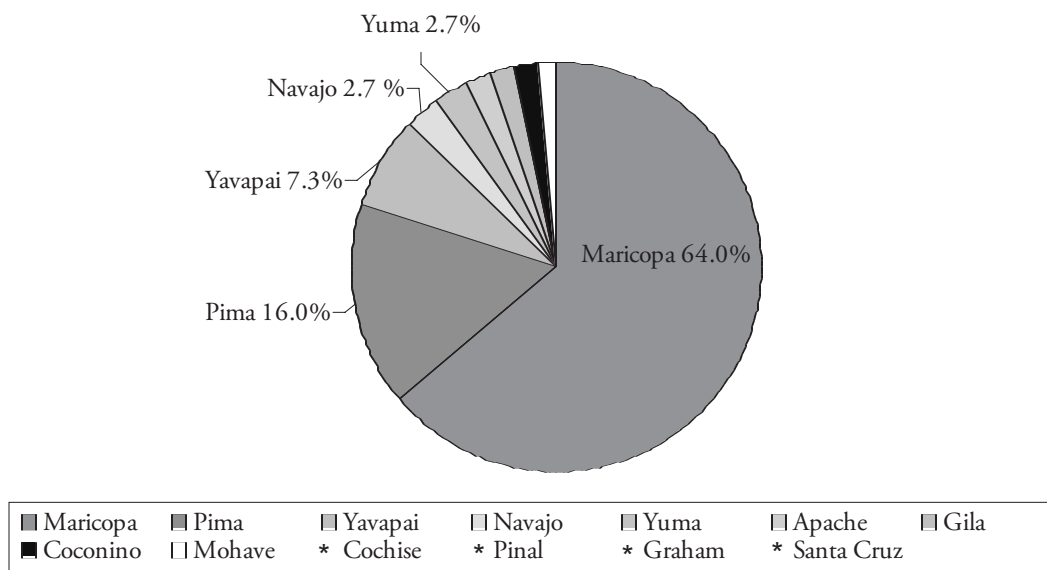
Geography

Figures 4 and 5 illustrate the county-by-county breakdown of respondent schools and of the universe of schools, respectively. The difference in geographical composition between respondents and the universe as a whole is modest. For any given county, the difference in its percentage representation never differs more than 4.6 points between the two data sets. Maricopa, Pima, and Yavapai counties together make up 87.1 percent of schools in the Arizona universe and 87.3 percent of respondents.

Religiosity

To check for bias in the breakdown of secular versus religious schools, we developed a list of 53 text strings that, if present in a school's name, typically imply a religious mission or affiliation.

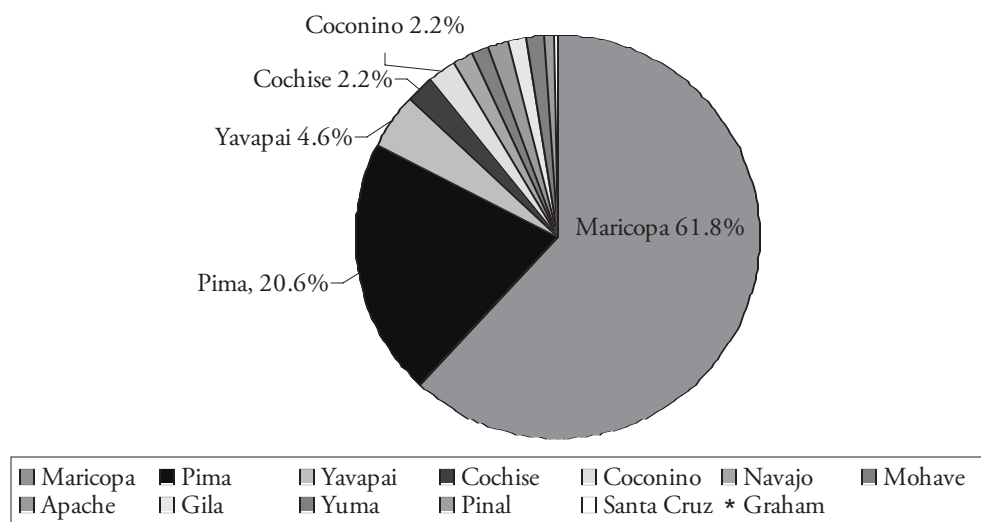
Figure 4: Geographic Composition of Survey Respondents, by County



Source: 2005 Goldwater Institute Survey of Arizona Private Schools.

Notes: No private schools from Cochise, Gila, Gila, Pinal, or Coconino counties responded to the survey. GrahamCountry did not have private schools meeting the eligibility criteria for the survey.

Figure 5: Geographic Composition of Arizona Private School Universe, by County



Source: 2005 Goldwater Institute Survey of Arizona Private Schools.

Note: Graham Country did not have private schools meeting the eligibility criteria for the survey.

That list, which includes deliberate misspellings to catch common typographical errors in data entry, appears in Table 2.

Note that the underscore represents a blank space. This list could be readily expanded with other entries and additional alternate spellings, but proves to be adequate for the task at hand. To test its accuracy, the actual religious status reported by respondents can be compared with the religious status of their schools imputed from our list of indicator strings. This comparison reveals that our name-based imputation method correctly predicted the secular or religious character of 145 out of the 148 schools whose religious status is known, either because they completed this question on the survey or because their religious affiliation was obtained from their website. The strength of that correlation can be calculated using the statistic “phi”, which measures correlations between dummy (i.e., “binary” or “dichotomous”) variables. It is computed as $\phi = \text{cov}_{xy} / (s_x s_y)$. That is, the covariance of the two variables

divided by the product of their standard deviations, which in our case has the value 0.94, suggests a very strong correlation between our religiosity predictor and self-reported religiosity.

So, applying our name-based religiosity predictor, we find the expected share of religious schools in our sample to be 78.0 percent, and the expected share in the universe to be 67.7 percent. This roughly 10 percentage point difference should be kept in mind as the survey responses are considered, to the extent that religiosity is found to be correlated with school characteristics of interest.

Enrollment

We do not have enrollment data on the entire universe of Arizona private schools, but we do have figures for 60 percent of the non-respondents to our survey from the NCES 2003-2004 Private School Universe Survey. Together with our respondents, we thus have enrollment data for 77.5 percent of the universe, which should allow us to gain a very good idea of the extent of

Table 2: Religiosity Indicators

christ	Church_	holy	trinity	our_lady	our_mother
jewish	Resurrection	christian	catholic	adventist	Sda
lutheran	st_	st_	hebrew_	Islamic	bethany
calvary	Evangelical	faith	baptist	Mission	Yeshiva
chapel	Temple	bible	angel	immaculate	God
queen_of_peace	Savior	saviour	sacred	ss_	ville_de_marie
resurrection	Prince_of_peace	noah	lamb	Gospel	sacrament
blessed	Grace	providence	saint	israel	Apostle
beth_el	cross_	notre_dame	xavier	Shepherd	

bias between our respondents and the universe as a whole.

The average 2003-2004 enrollment of our respondents was 193, and the average 2003-2004 enrollment for our 77.5 percent combined NCES + respondent sample is 190, for a difference of less than 2 percent. Our respondents thus appear to be representative of the universe of private schools as a whole with regard to enrollment.

Grade Range

For grade range, we have 2004-2005 data for 144 respondents to our survey and 2003-2004 data for 95 non-respondents from the NCES data set, for a combined 73.5 percent of schools in the Arizona universe. It seems unlikely that there would have been more than a modest change in the grade range offered by schools from one year to the next, so we co-mingle these data in our effort to look for any bias that might be present.

Table 3 presents the breakdown of

school grade ranges both for our respondents and the combined NCES + respondent sample. We have data for the highest grade offered and therefore separate schools into the following four categories: kindergarten (highest grade is kindergarten or prekindergarten), elementary school (highest grade is 6), middle/junior high school (highest grade is 9), and high school (highest grade is 12).

As can be seen in Table 3, the difference in grade range composition between the two samples never differs by more than 3.5 percentage points. Respondents are slightly more likely than the combined sample schools to fall at the extremes of high school and kindergarten, while the combined sample schools are slightly more likely to fall in the middle/junior high school range. The net effect of these small differences should result in only negligible bias between our respondents and the universe, particularly in the case of school spending. That is because spending is generally the highest at the high school level and the lowest at the kindergarten level, so the slight

Table 3: Distribution of Schools, by Grade Range

Range	Combined Sample (%)	Respondents (%)
Kindergarten	23.8	25.0
Elementary school	17.2	17.4
Middle/junior high school	38.9	35.4
High school	20.1	22.2

Sources: 2005 Goldwater Institute Survey of Arizona Private Schools; U.S. Department of Education, National Center for Education Statistics.

overrepresentation of these two ranges among our respondents should result in little net impact on average spending or tuition (the small differences at each end at least partially cancel each other out).

Therefore, there is no evidence of major bias between our sample of respondents and the Arizona private school universe on any of the measures we have available. The area of greatest deviation is religiosity, and readers should keep this 10 percentage point difference in mind as the survey results are examined, particularly with regard to school characteristics that are shown to be (or suspected of being) correlated with religiosity.

Arizona Private Schools: The Role of Market Incentives

Arizona's private schools appear to do a better job than the public sector of delivering the educational experiences the public seeks. They offer smaller, more intimate school settings; take better care of their facilities; employ vastly more teachers per pupil; and do all of this at substantially lower cost. The question is, why?

One plausible explanation is found in the divergent incentive structures of competitive education markets versus those not found in public-school monopolies. The discipline instilled by parental choice, competition, and the necessity of charging tuition force private school managers to be more

responsive to the needs of families. Few parents would voluntarily pay tuition to a rundown private school, and as a result, private schools are generally in good repair. Fewer than 7 percent report having any of their buildings in "less than adequate" condition. In the state sector, which spends thousands of dollars more per pupil, nearly four times as many schools are in such poor shape.

According to the 2000 U.S. Department of Education survey of public school facilities, a principal reason for the inferior condition of public-school buildings is that public-sector administrators often forego routine maintenance. Such neglect causes minor problems to develop into more serious ones and ultimately necessitates expensive remediation or replacement that would not otherwise have been required.

But *why* do they do so? Once again, the answer can likely be found in the different incentives of market versus monopoly schooling. In the private sector, a manager who repeatedly failed to perform regular maintenance would ultimately have to pay for more expensive repairs or replacement out of his limited, overwhelmingly tuition-funded budget. To do so, he would have to either cut costs, possibly by cutting the scope or quality of his services, or raise tuition. Either move would reduce his school's competitiveness, potentially causing him to lose students. This, in turn, would put his school and his own personal livelihood in jeopardy.

Arizona's private schools offer smaller, more intimate school settings; take better care of their facilities; employ vastly more teachers per pupil; and do all of this at substantially lower cost.

Why are private schools able to offer an educational experience that more closely meets the public's demands with hardly any government mandates at all? The reason is that the high-stakes accountability of the competitive marketplace renders government directives largely unnecessary. If families are not satisfied with a private school, they leave.

Now consider the situation in the public sector. Public schools and districts are not generally allowed to go bankrupt. In fact, it is more likely that school districts would use budgetary deficits to justify *increased* government appropriations. Given that reality, it is entirely rational for public-school administrators to dip into their maintenance budgets to cover other expenses. Furthermore, public-sector administrators know that most families will not abandon the “free” tax-funded school sector even if public school buildings show signs of neglect from time to time. Even so, administrators’ salaries are not directly tied to enrollment. Public school administrators are thus not faced with the same incentives that encourage their private-sector counterparts to stay on top of regular maintenance. Both public- and private-sector managers behave rationally, but the sectors’ different incentive structures encourage very different behavior.

The same result can also be seen in such areas as school size and the allocation of human resources. Parents generally prefer small schools to larger ones, and Arizona private schools are, on average, one-third the size of their government-run counterparts. Parents are willing to pay for instruction, not bureaucracy, so private schools have more than twice as many teachers as they do non-teaching staff. Arizona public schools, by contrast, have more non-teaching employees than teachers. These differences, once again, are consistent with the fact that market

forces shape the behavior of private school managers, while bureaucratic incentives shape the behavior of public-sector administrators.

Another key point of divergence between public- and private-sector schooling is their dramatically different regulatory burdens. In Arizona, as in most states, private schools are comparatively free from regulations on the content of their curricula; the manner in which they select, compensate, and discharge teachers; and the maintenance of their facilities. The same cannot be said of public schools. A 2004 study found that New York State administrators must heed 60 different sources of local, state, and federal laws and regulations. They must follow an 83-step process to dismiss an unsatisfactory teacher (which can cost upward of \$100,000), a 38-step process to fill a teaching vacancy, and jump through 99 hoops to replace a heating system.³³ California has an 11-volume, 9,000-page education code. Title 15, the education section of Arizona’s Revised Statutes, has more than 800 separate sections, with many sections extending to multiple pages.³⁴

All of this regulation is an attempt to make schools responsible to the public. Certainly, the public has every right to expect that schools should be accountable to them. Yet why are private schools able to offer an educational experience that more closely meets the public’s demands with hardly any government mandates at all? The reason is that the high-stakes accountability of

the competitive marketplace renders government directives largely unnecessary. If families are not satisfied with a private school, they leave. Private school managers realize this and so do everything in their power to create an educational experience that will meet their clients' needs. The private sectors' diversity means that most families have a range of options from which to choose.

In fact, schooling is an illustrative example of a service conducive to market exchange. It takes place over a long period of time, allowing consumers to continually assess and reassess the quality of their current service provider; and while it is not trivial to teach children effectively, it is relatively easy to determine whether children are learning. Heart patients may not be able to judge their recent bypass surgery was well executed, but if their children still cannot read fluently by the 2nd or 3rd grade, they can readily tell that something is amiss and take corrective action.

Properly understood, the legal and regulatory system that constrains public-school administrators is a well intentioned but ultimately counter-productive attempt to simulate market accountability. The "free" status of public schooling makes it financially inexpedient for dissatisfied parents to pull their children out and send them to private schools, so an attempt has been made to hold public schools accountable by the only other means available: regulation. However, this attempt, as

our survey findings and other research attests, has largely been in vain.

Fortunately, there is an obvious solution. Instead of trying to simulate market accountability, public schools need to simply expand access to the actual education marketplace. Even more fortunately, Arizona is already a national leader in this regard, thanks to charter schools, scholarship tax credit programs, and new voucher programs for children with disabilities and in foster care. By enlarging these existing programs, and creating new ones, Arizona could put responsive, personalized, efficient, high-quality schools within reach of all its citizens. Doing so not only would serve the private needs of individual families but also would advance our shared social goals. In fact, the private-education sector's record of promoting tolerance and civic values has been as good as or better than that of our state-run schools.³⁵

Conclusion

A significant difference between Arizona's public and private education sectors is that Arizona private schools are substantially less expensive to operate than their public counterparts. Average tuition weighted by enrollment is \$4,448, while median tuition is only \$3,500. Thus, the majority of Arizona private schools are less expensive than the overall average tuition suggests. Moreover, a Goldwater Institute/

Friedman Foundation analysis of fiscal year 2003 data from the Arizona Department of Education found that public schools receive between \$8,500 to \$9,000 per pupil, or more than twice the private school tuition amount.

A fairly common perception of private schools is that they turn away students who are not academic high achievers. Survey results, however, show about half of all Arizona private schools do not consider *any* measure of student academic achievement in their admissions process. Schools that did consider academic ability did not rank it among the top five most important admissions criteria. The most common admissions standards are student and parent desire to join the school's community and students' and parents' agreement to abide by the school's code of behavior.

Despite the fact that Arizona private schools do not emphasize academic selectivity in their admissions policies, our survey data indicate that the real on-time graduation rate for Arizona private schools is roughly 84 percent, and their college acceptance rate is 98.7 percent, which is significantly higher than the rates data indicate for government schools.

Arizona private schools spend \$5,545 per pupil, more than \$2,000 less than the average Arizona public school expenditure of \$7,644. Yet public schools are nearly four times as likely as Arizona's private schools to be in poor physical condition.

Another striking difference between

Arizona's public and private education sectors is the far greater emphasis private schools place on teaching versus non-teaching staff. Arizona private school tuition is less than half the per-pupil public school revenue on average. Yet private schools provide substantially more teachers per pupil than do the state's public schools, while requiring barely half as many non-teaching staff per pupil.

When teachers' nine-month salaries are annualized to make them comparable with the 12-month salaries of most other fields, we find that Arizona private school teachers made an average 12-month-equivalent salary of \$36,456 in 2004. The 12-month-equivalent salary of Arizona public school teachers is around \$60,000.

On average, 13.3 percent of students enrolled at an Arizona private school receive school-based financial aid. Another 22.5 percent of Arizona private school students receive tuition tax credit scholarships under the Arizona Tuition Tax Credit program. Enlarging that program and creating additional programs could give more Arizona students more responsive, personalized, efficient, high-quality schools.

The results of the *2005 Goldwater Institute Survey of Arizona Private Schools* show how opening the education system to free market forces encourages better-quality education at a lower cost. Implementing additional school choice reforms would provide opportunities for students to attend high-quality schools and encourage much-needed efficiencies in the public-school system.

APPENDIX: Condition of Arizona Private School Facilities

11. a) Refer to the rating scale shown below, and circle one number for each category of building or building feature. If your school/organization does not have any permanent additions or any temporary buildings on site, circle “0” for that type of building. Do not circle any NA responses; all schools/organizations have original buildings and the listed building features. Overall condition includes both physical condition and the ability of the buildings to meet the functional requirements of instructional programs.

Excellent: new or easily restorable to “like new” condition; only minimal routine maintenance required.

Good: only routine maintenance or minor repair required.

Adequate: some preventative maintenance and/or corrective repair required.

Fair: fails to meet code and functional requirement in some cases; failure(s) are inconvenient; extensive corrective maintenance and repair required.

Poor: consistent substandard performance; failure(s) are disruptive and costly; fails most code and functional requirements; requires constant attention, renovation, or replacement. Major corrective repair or overhaul required.

Replace: Non-operational or significantly substandard performance. Replacement required.

Building type/feature	Does not Have	Excellent	Good	Adequate	Fair	Poor	Replace
Part 1:							
Circle one number per line							
Type of Onsite Buildings							
a. Original buildings	NA	1	2	3	4	5	6
b. Attached and/or detached permanent additions to original buildings	0	1	2	3	4	5	6
c. Temporary buildings (e.g., portables, demountables)	0	1	2	3	4	5	6
Part 2:							
Features of Onsite Buildings							
d. Roofs	NA	1	2	3	4	5	6
e. Framing, floors, foundations	NA	1	2	3	4	5	6
f. Exterior walls, finishes, windows, doors	NA	1	2	3	4	5	6
g. Interior finishes, trim	NA	1	2	3	4	5	6
h. Plumbing	NA	1	2	3	4	5	6
i. Heating, ventilation, air conditioning	NA	1	2	3	4	5	6
j. Electric/power	NA	1	2	3	4	5	6
k. Electrical lighting	NA	1	2	3	4	5	6
l. Life safety features (e.g., sprinklers, fire alarms)	NA	1	2	3	4	5	6

Sources: 2005 Goldwater Institute Survey of Arizona Private Schools; U.S. Department of Education, National Center for Education Statistics, *Condition of America's Public School Facilities: 1999*, Washington, D.C.: NCES 2000-032, June 2000.

NOTES

1. Terms such as “non-public,” “private,” and “independent” are commonly used interchangeably, sometimes resulting in confusion. The term “independent school,” for example, has been used to describe both private schools generally and private schools without a religious affiliation.
2. Arizona public school enrollment statistics computed by the author from the official data: Arizona Department of Education, “Arizona October 1st Enrollment Figures, 2004-2005,” <http://www.ade.az.gov/researchpolicy/AZENroll/2004-2005>.
3. The number of students repeating a grade is taken from schools of known enrollment. Reported public school retention rates are normally given as the percentage of students who were ever retained between kindergarten and the 12th grade, and those figures range from 11.1 to 16.8 percent. These figures were divided by 13 grades (i.e., K 12) to arrive at the annualized figures given in this report. See John Merrow, “Get Rid of Retention *and* Social Promotion,” *Education Week*, March 31, 2004, <http://www.pbs.org/merrow/news/edweek3.html>, and National Center for Education Statistics, “Dropout Rates in the United States, 1995—Grade Retention,” U.S. Department of Education, Institute of Education Sciences, undated, <http://nces.ed.gov/pubspubs/dp95/97473-5.asp>.
4. Social promotion is the passing along of students from one grade to the next even if they have not grasped the previous year’s material.
5. Jay P. Greene, “High School Graduation Rates in the United States,” The Manhattan Institute, Civic Report, November 2001 (revised April 2002).
6. Jay P. Greene and Marcus A. Winters, “Public High School Graduation and College-Readiness Rates: 1991-2002,” The Manhattan Institute, Education Working Paper No. 8, February 2005, <http://www.gatesfoundation.org/nr/downloads/ed/researchevaluation/GradRatesManhattanInstitute.pdf>
7. Christopher B. Swanson, “Who Graduates? Who Doesn’t? A Statistical Portrait of Public High School Graduation, Class of 2001,” The Urban Institute Education Policy Center, working paper, 2003.
8. Student and family characteristics such as parental level of education, family income, and so on, that are known to be correlated with educational achievement and attainment but for which we were not able to control in this study.
9. U.S. Census Bureau, “Educational Attainment in the United States: 2003,” *Current Population Reports*, 20-550, June 2004, <http://www.census.gov/prod/2004pubs/p20-550.pdf>.
10. U.S. Department of Education, National Center for Education Statistics,

Condition of America's Public School Facilities: 1999, Washington, D.C., NCES 2000-032, June 2000.

11. U.S. Department of Education (2000), p. 14, table 4.
12. U.S. Department of Education (2000), p. 14, table 4.
13. Boarding schools that did not provide their day-school tuition rates were excluded from the calculation to ensure that we were measuring the fees charged for the same set of services for all private schools (i.e., day-schooling services), and to ensure that our results can be compared with public school spending figures, which of course do not cover boarding services.
14. Susan Aud and Vicki Murray, "A Guide to Understanding State Funding of Arizona Public School Students," Goldwater Institute Policy Report no. 200, January 19, 2005, <http://www.goldwaterinstitute.org/article.php/525.html>.
15. We excluded boarding schools from the total expenditure per pupil calculation because their expenditures include the cost of room and board for students, which makes their services incomparable to those of other private schools or public schools.
16. The previous Goldwater Institute private school survey study only reported information about tuition, but did not estimate expenditures.
17. Administrators were asked to estimate this figure as one of our survey questions. A disproportionate number of their responses, given as percentages, ended in 0, suggesting that the administrators were indeed estimating the figure rather than computing it from the raw spending, enrollment, and tuition data.
18. The "school focus on disabled children" was set to 1 if more than 80 percent of the school's student population suffered from a specific disability, and otherwise was set to zero.
19. This was calculated as: $\text{Staff}(\text{Total}) - \text{Staff}(\text{Teachers}) + \text{Staff}(\text{FTE Teachers})$, conditional on the presence of all necessary data.
20. Schools that were members of the same administrative unit did not always agree on the off-site staff count for that administrative unit. Off-site administrative units were often out-of-state organizations with responsibilities extending to more than one state and to areas outside K 12 education, making it impossible to correctly apportion their reported staff counts. Finally, two administrative units were cited without corresponding staff counts. Because of these difficulties with the data, we do not provide a per-pupil ratio for off-site staff.
21. Computed from data in U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 2004*, Washington, D.C., 2005, Table 38, "Enrollment in

Public Elementary and Secondary Schools, by Level, Grade, and State or Jurisdiction: Fall 2002,” http://nces.ed.gov/programs/digest/d04/tables/dt04_038.asp; and Table 80, “Staff Employed in Public School Systems, by Type of Assignment and State or Jurisdiction: Fall 2002,” http://nces.ed.gov/programs/digest/d04/tables/dt04_080.asp.

22. Computed from data in table 80 of U.S. Department of Education, National Center for Education Statistics (2005), Table 80.

23. U.S. Department of Education, National Center for Education Statistics, *Private School Universe Survey, 2001-2002*, Table 15, “Average Length of School Year and Average Length of School Day, by Selected Characteristics: United States, 2001-02,” http://nces.ed.gov/surveys/pss/tables/table_15.asp.

24. This is computed by multiplying 52 weeks by five days, yielding 260 days, and subtracting two weeks (10 days) of paid vacation.

25. Bureau of Labor Statistics, Occupational Employment Statistics, Table 1, “National Employment and Wage Data from the Occupational Employment Statistics Survey by Occupation, May 2004,” <http://www.bls.gov/oes/2004/may/table1.pdf>.

26. Paul E. Peterson, William G. Howell, Patrick J. Wolf, and David E. Campbell, “School Vouchers: Results

from Randomized Experiments,” paper prepared for the Conference on School Choice, sponsored by the National Bureau of Economic Research, Florida Keys, Florida, February 2001, <http://www.nber.org/~confer/2001/hoxby01/peterson.pdf>.

27. Plumbing is placed in neither category, because some plumbing features (e.g., fixtures) are susceptible to student vandalism, while others (e.g., “rough-in”) are not. We do not have the data to break these out.

28. U.S. Department of Education (2000), pp. 3-4.

29. According to the NCES, Arizona reported total K-12 public school spending of \$6,606,795,000 in 2001-2002 and enrolled 922,180 students, yielding a 2001-2002 per-pupil total spending figure of \$7,164. Adjusting for inflation using the National Aeronautics and Space Administration’s CPI inflation calculator, we arrive at a 2004 dollars figure of \$7,644. For enrollment, see U.S. Department of Education (2005), Table 37, “Enrollment in Public Elementary and Secondary Schools, by State or Jurisdiction: Fall 1990 to Fall 2005,” http://nces.ed.gov/programs/digest/d04/tables/dt04_037.asp; for expenditures, see U.S. Department of Education (2005), Table 159, “Total Expenditures for Public Elementary and Secondary Education, by Function and State or Jurisdiction: 2001-02,” http://nces.ed.gov/programs/digest/d04/tables/dt04_159.asp; and for the CPI calculator, see “Consumer Price Index

(CPI) Inflation Calculator,” webpage, <http://www1.jsc.nasa.gov/bu2/inflateCPI.html>.

30. The NCES reports nationwide 2001 2002 K 12 spending of \$435,364,404,000 and enrollment of 47,671,877, for a per-pupil figure of \$9,133. Adjusted for inflation, that yields a 2004 dollars figure of \$9,744. For enrollment, see U.S. Department of Education (2005), Table 37; for expenditures, see U.S. Department of Education (2005), Table 159; and for the CPI calculator, see “Consumer Price Index (CPI) Inflation Calculator,” <http://www1.jsc.nasa.gov/bu2/inflateCPI.html>.

31. National Center for Education Statistics (2005), Table 80.

32. B. D. Causey, L. Bailey, and S. Kaufman, *Indirect State-Level Estimation for the Private School Survey*, Washington, D.C.: U.S. Department of Education, National Center for Education Statistics, NCES 1999-351, 1999.

33. Common Good, “Over Ruled: The Burden of Law on America’s Public Schools,” webpage, undated, <http://cgood.org/burden-of-law.html>.

34. Arizona Revised Statutes §§ 15-101 through 15-2301.

35. See, for example, David E. Campbell, “The Civic Side of School Reform: How Do School Vouchers Affect Civic Education?” draft,

University of Notre Dame, 2002, http://americandemocracy.nd.edu/working_papers/files/civic_side_of_school_reform.pdf; Richard G. Niemi and Chris Chapman, *The Civic Development of 9th Through 12th Grade Students in the United States: 1996*, U.S. Department of Education, National Center for Education Statistics, 1999-131, November 1998, <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=1999131>; and Paul T. Hill, “What Is Public About Public Education?” University of Washington and the Brookings Institution, November 2000, <http://www.brook.edu/gs/brown/PublicEd.pdf#search=%22%22What%20Is%20Public%20About%20Public%20Education%22%22>.

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