

Part

III

# CHARTER SCHOOLS: ACHIEVEMENT, ACCOUNTABILITY, AND THE ROLE OF EXPERTISE



**L**AST YEAR'S BROWN CENTER REPORT INCLUDED AN ANALYSIS of charter school test scores from 1999 through 2001. Following on the heels of several state-specific studies, the study was the first to assess charter school achievement nationwide. Brown Center researchers computed z-scores for charter schools—indexing charter schools' test scores relative to the mean and standard deviation of test scores within each state—and then examined the z-scores nationally. This strategy, although possessing its own limitations, gets around the problem that states use different achievement tests and report scores in different metrics.<sup>24</sup>

The study combined data over three years to form a composite achievement score for each school. A three-year composite smooths out some of the year to year fluctuations in test scores. The study discovered that charters score  $-.24$  z-scores or approximately one-fourth standard deviation below regular public schools with similar demographic profiles.

As was cautioned last year, examining test score levels is not conclusive in evaluating the effectiveness of charter schooling. Many parents pull their children out of regular public schools and send them to charter schools because of unhappiness with how much their children are learning. Researchers call this a “selection effect.”

When low achievers select charter schools, the effect depresses charter school test scores irrespective of the quality of education charters are providing. Charter schools may also experience a positive selection effect by attracting parents who are extraordinarily concerned about their children's success at school and are highly motivated to intervene on their children's behalf. Selection effects limit the ability of analysts to make causal inferences from charter schools' test scores. That said, an analysis of scores does give a reasonable estimate of how well students in charter schools—or any other type of school—are functioning academically at a given point in time. In discussing charter schools and academic

achievement, test score levels are a starting point, not the final word.<sup>25</sup>

This year's report offers a follow up study with several new elements. (Last year's sample will be referred to as the 1999 cohort and this year's as the 2000 cohort.) The 2000 cohort consists of all charter schools that were open in 2000 and have three years of test data—through 2002—in state databases. The sample size grew from 376 schools in the 1999 cohort to 569 schools in the 2000 cohort. Last year's analysis focused on test score levels, with math and reading scores combined for each year. This year's study includes an analysis of both levels and test score changes from 2000 to 2002. The latter will be referred to as "gains" or "gain scores" even though losses may occur. Gain scores indicate whether students in a particular year are scoring higher or lower than students at the same school in a previous year.

Both levels and gains play important roles in accountability systems. The federal government's No Child Left Behind Act requires states to use a school's achievement level from a starting year (or "baseline") and calculate the annual gains needed for 100% of students to reach academic proficiency by 2014. This statistic becomes the standard by which schools demonstrate Adequate Yearly Progress (AYP), the key accountability measure in the act. Adequate progress is not the same for all schools. Schools with low baseline scores have more improvement to make to get to 100% proficiency and as a consequence have higher AYP targets; those with higher baseline scores do not have to improve as much and have lower AYP targets. Schools failing to meet their AYP targets face sanctions.

The main lesson from last year's study of charter schools was that, compared to

regular public schools, charter schools have more ground to make up and as a consequence are more likely to be subjected to sanctions in accountability systems. States issue annual lists of failing schools facing possible sanctions. Below, we examine how often charters appear on the 2003 lists.

This year's study concludes by scrutinizing two forms of expertise found in charter schools. Conversion charters—schools that have converted from regular public schools to charter status—constitute about one-third of the charter schools in California. The test scores of conversion charters in California are analyzed. When a regular public school converts to a charter school, the expertise of teachers and administrators who stay at the school carries over. Conversion schools are fundamentally different from charters that start from scratch.<sup>26</sup>

A second form of expertise can be found in educational management organizations (EMOs). A 2003 study by the Education Policy Studies Laboratory at Arizona State University identified 47 companies managing 417 schools in 24 states. Chancellor Beacon Academies, Edison Schools, The Leona Group, and National Heritage Academies are among the most prominent EMOs.<sup>27</sup> These firms usually operate for profit. They either contract to manage charter schools or hold charters outright, with authority over hiring and firing personnel, developing curricula, and providing instruction. Proponents of EMOs claim that they inject new blood into the educational system by bringing entrepreneurs onto school campuses who may otherwise not be involved with public education. The study compares test scores of EMO-managed charter schools to scores of other charters and regular public schools.

### Conversion charters

Schools that have converted from regular public schools to charter schools.

### EMO (educational management organization)

A firm dedicated to operating schools or districts, usually on a for-profit basis.

A caveat. The study is not meant to serve as an evaluation of charter schools. The most reliable way to do that is through a randomized field trial. The fact that seats in over-subscribed charter schools are granted by lottery allows for the creation of randomly selected treatment and control groups, thereby making it less likely that selection effects are tainting achievement outcomes. Randomized field trials are extremely expensive to conduct, however, and as of the summer of 2003, one has not yet been conducted with charter schools.

### *Charter School Achievement*

The study focuses on ten states with significant numbers of charter schools. Technical details can be found in the 2002 Brown Center Report. Here are the basics. The ten states administer several different tests to measure student achievement, so analyzing raw test scores is only possible within a single state. To examine the performance of schools across states, scores must be expressed in the same metric. Brown Center researchers converted raw scores to z-scores for the 569 charter schools and 25,614 regular public schools in the ten states.

The z-score of a school reveals the school's performance relative to the state average—negative scores indicating how far below average in standard deviation units, positive scores, how far above average. By definition, in any particular year, the average z-score for all schools in a state is 0.00. After adjusting the z-scores for poverty and racial composition, we found the average z-score for the 569 charters in the study. The average score of  $-.31$  in 2002 means that charter schools score significantly lower than regular public schools in their own states with comparable demographic characteristics.

In terms of percentile ranks, a z-score of  $-.31$  is equal to the 38th percentile.

Percentiles range from 1 to 99, with 50 being the median score, the point at which half rank above and half rank below. The 50th percentile is also the average score. A score at the 38th percentile indicates that about 62% of schools with similar demographic characteristics have higher test scores than the average charter school.<sup>28</sup>

Table 3-1 also reveals that charter schools made steady improvements in scores each year, from  $-.53$  in 2000, to  $-.40$  in 2001, to  $-.31$  in 2002. The positive gains registered by the 2000 cohort of charter schools are a significant change from last year's study. Gains registered from 1999 to 2001 for the 1999 cohort were insignificant from zero ( $+.02$ ). Charters' test scores rose, but by the same amount as regular public schools. Test scores for the 2000 cohort of charters, on the other hand, are rising sharply and the  $+.22$  z-score gain exceeds the gains made by all public schools (which also is 0.00 by definition).

What is different about the two cohorts? The new charters that opened in 2000 did not experience the negative "two year effect" described in last year's study. In the 1999 cohort, test scores were depressed for the first two years that new charters were open. In the current study, the 126 charter schools that opened for the first time in 2000 gained  $.18$  z-scores by 2002.

### *Charters and Accountability*

How are charter schools faring under state accountability systems? Table 3-2 displays the proportion of charters on state lists of failing schools, based on lists that were available on state websites in August, 2003. Charters are over-represented. The table displays data for the ten states in the study. Of 569 charters, 140 schools (24.6%) were failing. Among all public schools in the same ten states, 21.3% were failing. This is

*Conversions are more likely to be located in urban areas than other charters or regular public schools and more likely to serve black students and students in poverty.*

**Charter School Achievement**  
(scores expressed as adjusted z-scores, N=569)

**Table**  
**3-1**

	2000	2001	2002	2000-2002 Z-score Gain
Z-score	-0.53* (0.05)	-0.40* (0.05)	-0.31* (0.05)	+0.22* (0.04)

\*  $p < .05$ , two-tailed test of z-score = 0

NOTE: Z-scores adjusted for poverty and racial composition. Standard error in parentheses.

**Number of Failing Charter Schools**  
(August 2003)

**Table**  
**3-2**

State	Charter Schools			All Public Schools		
	Schools in Study	Number Failing	Percent Failing	Schools in State	Number Failing	Percent Failing
Arizona	71	8	11.2%	1,489	346	23.2%
California	132	69	52.2%	8,238	3,715	45.1%
Colorado	51	1	2.0%	1,516	86	5.7%
Florida	59	0	0.0%	2,616	10	0.3%
Massachusetts	26	9	34.6%	1,858	209	11.2%
Michigan	111	13	11.7%	3,512	121	3.4%
Minnesota	21	7	33.3%	1,969	265	13.4%
Pennsylvania	32	25	78.1%	3,172	1,279	40.3%
Texas	48	6	12.5%	6,894	1,000	14.5%
Wisconsin	18	2	11.1%	2,065	72	3.5%
<b>Total</b>	<b>569</b>	<b>140</b>	<b>24.6%</b>	<b>33,329</b>	<b>7,103</b>	<b>21.3%</b>

NOTE: Each state has its own criteria, based on individual state tests, for determining whether or not a school is failing.

Source: Data compiled from respective state department of education websites.

the second year in a row that we have found charters over-represented on state failure lists. The comparable figures in 2002 were 18.6% for charters and 12.3% for all public schools, so the over-representation is shrinking.<sup>29</sup> A cautionary word. States may change policies regarding how failing schools are identified, and a single state can strongly influence the national average. Pennsylvania ratcheted up its standards in 2003. In the cohort of charter schools

studied last year, none from Pennsylvania were failing. This year, 25 out of 32 charters appear on the state's failing schools list. The statewide failure rate for all public schools in Pennsylvania increased from 8.4% to 40.3%.

As noted above, failure in accountability systems is predicated on two aspects of test scores—level and gain. For the 1999 cohort, findings were negative in terms of levels and neutral in terms of gains. So it is not surprising that a larger share of charters than regular public schools were found on lists of failing schools. The 2000 cohort fares a little better. The news is again negative in terms of levels, but the significant gains that charters have made on achievement tests have kept many of them off failing schools lists.

**California Conversions**

California has the largest proportion of conversion charter schools of any state in the nation. After the state's 1992 charter law was enacted, most of the schools chartered in the first few years were conversions. Since then start-ups have dominated as new, independent schools were launched by parents, teachers, concerned citizens, and entrepreneurs. Conversions constituted about one-third of the state's charters operating in 2000.<sup>30</sup> Schools may petition local school boards for permission to convert to charter status. If the petition is denied, schools may appeal to the local county board of education. Unlike several states, California prohibits private schools from becoming charters. Conversions are freed from district regulations beyond those that are negotiated with districts during the conversion process and stipulated in the charters. Some charter schools contract with former districts to provide food services, transportation, or administrative services.<sup>31</sup>

Table 3-3 displays characteristics of the conversions. They are much larger than other charters. With a median enrollment of 633 students, conversions resemble California's traditional public schools in size. Conversions are more likely to be located in urban areas than other charters or regular public schools and more likely to serve black students and students in poverty. Although conversions are only about one-third of charters in California, they constitute exactly one-half of the current study's 2002 cohort of charters. Conversions are more likely to show up in this sample because they tend to be older, larger charters and therefore more likely to have met the requirements for the study (i.e., have three consecutive years of test data).

Table 3-4 exhibits the z-scores of the different types of schools, adjusted for racial composition and poverty. Conversions' test scores are higher than those of other charters and regular public schools. In 2002, conversions scored .20 z-scores above the average school in California with similar demographic characteristics. This is equal to about the 58th percentile. Start-up charters scored significantly below average (-.40), at approximately the 34th percentile. Charters as a whole scored -.10, which is statistically indistinguishable from 0.00, the average for California's regular public schools. The change in scores from 2000 to 2002 is essentially the same for conversions, start-ups, and regular public schools.

This raises an important drawback of using z-scores to track changes in test scores. Z-scores are relative scores. They tell us how one competitor is doing in a race—outdistancing the others or falling far behind—but they do not reveal whether the participants as a group are running or walking. In other words, by themselves z-scores

*Granting charter status to existing schools, in other words, has probably functioned more as a reward for demonstrating success than as a turn-around or intervention strategy for low performance.*

cannot tell us whether test scores are going up, down, or sideways. In Table 3-4, they only tell us that—whatever the direction—the scores of conversion charters, start-up charters, and regular public schools have changed approximately the same amount. None of the three types of schools stand out as having improved or declined more than the others.

David Rogosa of Stanford University has written extensively on achievement in California schools. Rogosa cautions that making comparisons based on residuals from regression equations, as the z-scores presented here do to control for demographic characteristics, may produce misleading results—especially when applied to changes in test scores. He points out that researchers often imply that they are answering the question, “How much would the school have changed if all schools had started out equal? rather than the answerable question, how much did the school improve?”<sup>32</sup> As useful as regression analysis may be, it cannot answer questions about imagined conditions. And packing several variables into regression equations in order to isolate the effects that are of primary interest may increase the chances of getting the story wrong.

As a check on the preceding analysis, we examined the national percentile rankings (NPRs) of conversion charters on the Stanford Achievement Test (SAT-9) from 2000-2002 and the gains schools registered

**Characteristics of California Conversion Charter Schools  
(2002)**

**Table  
3-3**

	<b>Conversion Charters (N=66)</b>	<b>Start-up Charters (N=66)</b>	<b>California Regular Public Schools (N=6,623)</b>
<b>Enrollment (median)</b>	<b>633</b>	<b>234</b>	<b>669</b>
<b>Poverty</b>	<b>58%</b>	<b>42%</b>	<b>49%</b>
<b>White</b>	<b>33%</b>	<b>57%</b>	<b>38%</b>
<b>Black</b>	<b>19%</b>	<b>13%</b>	<b>8%</b>
<b>Hispanic</b>	<b>41%</b>	<b>23%</b>	<b>41%</b>
<b>Asian</b>	<b>6%</b>	<b>4%</b>	<b>11%</b>
<b>Urban</b>	<b>55%</b>	<b>40%</b>	<b>34%</b>
<b>Suburban</b>	<b>36%</b>	<b>38%</b>	<b>55%</b>
<b>Rural</b>	<b>8%</b>	<b>22%</b>	<b>12%</b>

NOTE: Mean enrollments: Conversion = 746, Start-up = 487, CA Regular Public School = 837

**California Charter School Achievement  
(scores expressed as adjusted z-scores)**

**Table  
3-4**

	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2000-2002 Z-score Gain</b>
<b>Regular Public Schools (N=6,623)</b>	<b>0.00 (.01)</b>	<b>0.00 (.01)</b>	<b>0.00 (.01)</b>	<b>0.00 (.01)</b>
<b>All Charters (N=132)</b>	<b>-0.08 (.07)</b>	<b>-0.07 (.07)</b>	<b>-0.10 (.08)</b>	<b>-0.02 (.06)</b>
<b>Conversion Charters (N=66)</b>	<b>0.24* (.08)</b>	<b>0.24* (.07)</b>	<b>0.20* (.08)</b>	<b>-0.04 (.07)</b>
<b>Start-up Charters (N=66)</b>	<b>-0.39* (.11)</b>	<b>-0.39* (.12)</b>	<b>-0.40* (.12)</b>	<b>-0.01 (.08)</b>

\*  $p < .05$ , two-tailed test of z-score = 0

NOTE: Conversion charter scores are statistically significantly different ( $p < .05$ ) from start-up charter scores in all years. Z-scores adjusted for poverty and racial competition. Standard error in parentheses.

**California Charter School Achievement  
(scores expressed as unadjusted national percentile ranks)**

**Table  
3-5**

	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2000-2002 NPR Gain</b>
<b>Regular Public Schools (N=6,623)</b>	<b>49.2 (0.2)</b>	<b>51.2 (0.2)</b>	<b>52.7 (0.2)</b>	<b>+3.5 (0.1)</b>
<b>All Charters (N=132)</b>	<b>46.5 (1.7)</b>	<b>48.9 (1.7)</b>	<b>50.1 (1.7)</b>	<b>+3.6 (0.9)</b>
<b>Conversion Charters (N=66)</b>	<b>46.3 (2.5)</b>	<b>48.6 (2.5)</b>	<b>50.2 (2.4)</b>	<b>+3.9 (1.3)</b>
<b>Start-up Charters (N=66)</b>	<b>46.7 (2.3)</b>	<b>49.1 (2.3)</b>	<b>50.0 (2.3)</b>	<b>+3.3 (1.3)</b>

NOTE: SAT-9 scores used to measure achievement. Standard error in parentheses.

in NPRs during the same period. Table 3-5 presents the data. In 2002, charters scored at about the 50th percentile. Regular public schools scored slightly higher, at the 52.7 percentile. From 2000 to 2002, the different types of schools all gained 3 to 4 percentile points.

These results clarify the findings presented above. Let's sum them up. From 2000 to 2002, test scores of charter schools in California were lower than those of regular public schools. During the same period, scores rose by about the same amount in California's charter and regular public schools—3 to 4 percentile points on the SAT-9. Among the charters, conversions and start-ups scored at about the same level, and their scores increased about the same amount from 2000 to 2002. Any analysis that controls for demographic characteristics will find conversions scoring significantly higher than both start-ups and regular public schools. This is because conversions serve large numbers of students with socioeconomic characteristics that are correlated with low test scores. Gain scores look about the same for conversions and start-ups when demographic controls are employed with the data.<sup>33</sup>

Many conversion charters are producing average test scores with populations of children historically associated with low test scores. These schools may be doing something that is worth identifying and disseminating to others. The phenomenon may also be related to how conventional public schools convert to charter status. Local school boards grant charters in California. They are probably reluctant to approve charter petitions coming from a district school unless the petitioners have a solid track record. Granting charter status to existing schools, in other words, has probably functioned more as a reward for

demonstrating success than as a turnaround or intervention strategy for low performance. This is important for researchers to note. The selection factors that plague the evaluation of charter school achievement may play out differently with conversions, especially if a school has institutional prestige that precedes its charter status.

### *Educational Management Organizations (EMOs)*

EMOs operate 90 charter schools in the study's sample of ten states (see Table 3-6). Michigan dominates the EMO landscape, with 62 of the 90 schools located there. Like California's conversions, the EMO schools are larger than the average charter. Compared to both other charters and regular public schools, they serve a larger proportion of black children and children in poverty and are more likely to be located in urban communities. They are less likely to serve Hispanic students, which is due to relatively few EMOs operating in states such as California, Florida, and Texas with large Hispanic populations.

Charters run by EMOs typically target low-achieving students. Table 3-7 reveals that EMOs scored significantly below non-EMO charters and further yet below regular public schools, with controls in place to compare schools with similar demographic characteristics. The EMO charters' z-score in 2000 (-1.00) was equal to about the 16th percentile. In contrast to conversion charters, EMO-operated charters apparently are not brought in to manage schools in recognition of schools' success, but to intervene in the case of school failure.

EMOs are controversial. Many people are hostile to the notion of firms profiting financially from public schools. When

charter authorizers consider approving an EMO-operated charter, it often generates intense political opposition. The test score data suggest that in situations where student achievement is extremely low, the political opposition to EMOs may be weakened.<sup>34</sup>

EMO-operated charters registered solid gains in test scores from 2000 to 2002 (see last column, Table 3-7), significantly out-gaining non-EMO charter schools with similar demographic profiles. In 2002, the test scores of the 90 EMO charters in the study had moved up to approximately the 28th percentile (z-score of -.58). To run a check on the analysis using raw test scores, we analyzed the scores of EMO-operated charters in Michigan on the Michigan Educational Assessment Program (MEAP). The z-score and raw score treatments yielded essentially the same results. EMO-operated charters score significantly lower than regular public schools and non-EMO charters but registered greater test score gains from 2000 to 2002.

### *Summary and Conclusion*

This section of the report analyzed test score data of charter schools. As was found last year in the first segment of the study, test scores in charter schools lag behind the scores of regular public schools. Charter schools in this year's study—contrary to the charters in last year's—registered significant gains in test scores from 2000 to 2002. On the lists of failing schools that states compiled in both 2002 and 2003, charter schools are over-represented.

Two forms of expertise were examined by analyzing achievement data from conversion charters in California and EMO-operated charters in several states. In 2002, the conversion charters scored at approximately the 50th percentile on reading and

*Future research should focus on identifying the broadest range of policies and practices that are capable of creating achievement successes out of achievement failures.*

**Characteristics of EMO Charter Schools  
(2002)**

**Table  
3-6**

	<b>EMO (N=90)</b>	<b>Non-EMO (N=479)</b>	<b>Regular Public School (N=25,614)</b>
<b>Enrollment (median)</b>	<b>498</b>	<b>248</b>	<b>546</b>
<b>Poverty</b>	<b>53%</b>	<b>47%</b>	<b>42%</b>
<b>White</b>	<b>43%</b>	<b>51%</b>	<b>57%</b>
<b>Black</b>	<b>41%</b>	<b>25%</b>	<b>12%</b>
<b>Hispanic</b>	<b>14%</b>	<b>19%</b>	<b>25%</b>
<b>Asian</b>	<b>1%</b>	<b>3%</b>	<b>5%</b>
<b>Urban</b>	<b>45%</b>	<b>52%</b>	<b>30%</b>
<b>Suburban</b>	<b>41%</b>	<b>33%</b>	<b>40%</b>
<b>Rural</b>	<b>15%</b>	<b>15%</b>	<b>29%</b>

NOTE: Mean enrollments are: EMO = 507, Non-EMO = 369, Regular Public School = 664

**EMO Charter Achievement  
(scores expressed as adjusted z-scores)**

**Table  
3-7**

	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2000-2002 Z-score Gain</b>
<b>Regular Public Schools (N=25,614)</b>	<b>0.01 (.01)</b>	<b>0.01 (.01)</b>	<b>0.01 (.01)</b>	<b>0.00 (.01)</b>
<b>All Charters (N=569)</b>	<b>-0.53* (.05)</b>	<b>-0.40* (.05)</b>	<b>-0.31* (.05)</b>	<b>+0.22* (.04)</b>
<b>EMO Charter (N=90)</b>	<b>-1.00* (.10)</b>	<b>-0.69* (.09)</b>	<b>-0.58* (.08)</b>	<b>+0.41* (.08)</b>
<b>Non-EMO Charter (N=479)</b>	<b>-0.44* (.06)</b>	<b>-0.35* (.06)</b>	<b>-0.26* (.05)</b>	<b>+0.18* (.05)</b>

\*  $p < .05$ , two-tailed test of z-score = 0

NOTE: Z-scores adjusted for poverty and racial composition. Standard error in parentheses.

math tests. From 2000 to 2002, they made gains comparable to those of start-up charters and regular public schools. Conversions produced average test scores despite a demographic profile that is usually correlated with low scores.

A recent study by Bruce Fuller at the University of California, Berkeley found that charter schools have fewer fully certified teachers than regular public schools.<sup>35</sup> Conversion charters are an exception, with their teachers comparable to those of regular public schools in experience and certification. Can the conversions' solid test scores be attributed to teachers' expertise?

Perhaps, but not necessarily. The test scores of non-conversion charters are improving just as much. And, as noted above, neither Fuller's nor this study can control for selection effects—in terms of which schools were allowed to convert or the students who chose to attend conversions and start-ups. Much more research is needed comparing the performance of conversion and start-up charters.

The test scores of charters operated by educational management organizations were also examined. Compared to regular public schools and to other charters serving students with similar socioeconomic characteristics, EMO-operated charters have much lower test scores. This is almost certainly because companies have been chartered to run already low-performing schools or to create new schools serving low-performing students. Gains made from 2000 to 2002 have been significantly larger than those of both non-EMO charters and regular public schools. Again, causality cannot be determined conclusively. However, importing management expertise from the private sector should be explored further as an option for improving low-achieving schools. The results presented here are quite positive for EMOs. The findings raise doubts about a strain of thought in the charter school movement: that anyone can successfully start and operate a school if he or she merely possesses abundant energy and a love of children. In the extreme, this form of romanticized amateurism dismisses the importance of educational expertise. That appears unwise. Future research should focus on identifying the broadest range of policies and practices that are capable of creating achievement successes out of achievement failures.

# ENDNOTES

- 1 Approximating one year's growth on NAEP is explained in the 2000 *Brown Center Report on American Education*, p. 7.
- 2 Richard L. Allington, "Does State and Federal Reading Policymaking Matter?" in *The Great Curriculum Debate: How Should We Teach Reading and Math?* edited by Tom Loveless, (Brookings Institution Press, 2001), pp. 268-298.
- 3 Linda Dager Wilson and Rolf K. Blank, *Improving Mathematics Education Using Results from NAEP and TIMSS*, (Council of Chief State School Officers, 1999).
- 4 National Commission on the High School Senior Year, *The Lost Opportunity of Senior Year: Finding a Better Way*, (National Commission on the High School Senior Year, 2001).
- 5 The counts were stable across years.
- 6 School funding data reported in "Public Elementary and Secondary Students, Schools, Pupil/Teacher Ratios, and Finances, by Type of Locale: 1998 and 1999" on the National Center for Education Statistics "Navigating Resources for Rural Schools" website (<http://nces.ed.gov/surveys/ruraled>). Cost of living figures from Mark Nord, "Does It Cost Less to Live in Rural Areas? Evidence from New Data on Food Security and Hunger," *Rural Sociology*, vol. 65, no. 1 (March, 2000), pp. 104-125.
- 7 The Rural School and Community Trust, *Why Rural Matters 2003*, (The Rural School and Community Trust, 2003).
- 8 "Navigating Resources for Rural Schools," National Center for Education Statistics website: <http://nces.ed.gov/surveys/ruraled>
- 9 Dana Markow and Marc Scheer, *The MetLife Survey of The American Teacher 2002: Student Life: School, Home, and Community*, (MetLife, Inc., 2002); Lowell Rose and Alec Gallup, "The 34th Annual Phi Delta Kappa/Gallup Poll Of the Public's Attitudes Toward the Public Schools," *Phi Delta Kappan* supplement (September, 2002).
- 10 Richard Ingersoll, "Teacher Turnover and Teacher Shortages: An Organizational Analysis," *American Educational Research Journal*, vol. 38 no. 3 (Fall, 2001), pp. 499-534; also see U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 2001*, (NCES 2002-130, U.S. Government Printing Office, 2002), Table 75.
- 11 Mihaly Csikszentmihalyi and Barbara Schneider, *Becoming Adult: How Teenagers Prepare for the World of Work*, (Basic Books, 2001). Also see U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 2001*, (NCES 2002-130, U.S. Government Printing Office, 2002), Table 186.
- 12 CNN.com, "Alaskan Schools Mired in Rustic Conditions," May 14, 2003.
- 13 Harris Cooper, *The Battle Over Homework: Common Ground for Administrators, Teachers and Parents*, (Corwin Press, 2001).
- 14 Sandra L. Hofferth and John F. Sandberg, "Changes in American Children's Use of Time, 1981-1997," *Children at the Millennium: Where Have We Come From, Where Are We Going?* edited by S. Hofferth and T. Owens, (Elsevier Science Ltd., 2001), pp. 193-229.
- 15 The website for CBS Evening News lists a story for December 10, 2002, "Study Says Kids' Homework Load Bigger," which includes the following, "Since 1981, homework has stayed about the same for high school students—but for 6- to 9-year olds, it's tripled." The report does not list a source. The Michigan study did not include high school students, but the CBS report's reference to 1981 and ages 6 to 9, reasonably close to the ages 6 to 8 category in the study, indicates it probably was the source. The website for CNNfyi.com includes an AP story, July 25, 2001, "Homework Hours Tripled Since 1980," stating the following, "One University of Michigan study suggests that young children are seeing up to three times as much homework as children did 20 years ago."
- 16 Sandra L. Hofferth and John F. Sandberg, "Changes in American Children's Use of Time, 1981-1997," *Children at the Millennium: Where Have We Come From, Where Are We Going?* edited by S. Hofferth and T. Owens, (Elsevier Science Ltd., 2001), pp. 218, 226.
- 17 NAEP Reading 1999 Long-term trend summary data. Other NAEP surveys ask for a daily estimate using different response categories. The results lead to essentially the same conclusions reached here.
- 18 Maryellen Harmon, Teresa A. Smith, Michael O. Martin, Dana L. Kelly, Albert E. Beaton, Ina V.S. Mullis, Eugenio J. Gonzalez, and Graham Orpwood, *Performance Assessment in IEA's Third International Mathematics and Science Study*, (The International Study Center at Boston College, 1997).
- 19 Linda Sax, Jennifer Lindholm, Alexander Astin, William Kirn, and Kathryn Mahoney, *The American Freshman: National Norms for Fall 2002*, (Higher Education Research Institute, UCLA, 2002).
- 20 Public Agenda Foundation, *Questionnaire and Full Survey Results, National Poll of Parents of Public School Students*, (Public Agenda Foundation, 2000).
- 21 Diane Ravitch, *Left Back: A Century of Failed School Reforms*, (Simon & Schuster, 2000), p. 90.
- 22 Brian Gill and S.L. Schlossman, "A Sin Against Childhood: Progressive Education and the Crusade to Abolish Homework, 1897-1941," *American Journal of Education*, vol. 105, no. 1 (November, 1996), pp. 27-66; Gill and Schlossman, "Parents and the Politics of Homework: Some Historical Perspectives," *Teachers College Record*, vol. 105, no. 5 (June, 2003), pp. 846-871.
- 23 CNN.com "Restrictions on Homework Put New Jersey School District in Spotlight," October 23, 2000.
- 24 Some limitations: z-scores do not tell whether test scores are rising or falling statewide; and they may imply that one standard deviation in one state is equal to one SD in another.
- 25 Gains provide a better control if the basis on which selection occurs remains stable from the start and end point of the time period for which the gain is calculated.
- 26 For the challenges facing start from scratch charters, see Tom Loveless and Claudia Jasin, "Starting from Scratch: Organizational and Political Obstacles Facing Charter Schools," *Education Administration Quarterly*, vol. 34, no. 1 (February, 1998), pp. 9-30.
- 27 Alex Molnar, Glen Wilson, and Daniel Allen, *Profiles of For-Profit Education Management Companies: Fifth Annual Report 2002-2003*, (Education Policy Studies Laboratory, Arizona State University, 2003)
- 28 Last year's calculations were weighted by enrollment to give larger schools more influence than smaller schools. For the sake of simplicity, we did not weight the means reported this year. Two reasons: (1) The three-year composite already smoothes out fluctuations that are endemic to small schools' test scores. (2) When we ran the analyses using weights, the results were not significantly different from the outcomes reported here.
- 29 Failing lists for 2002 are analyzed in Tom Loveless "Charter School Accountability and Achievement," in *Leave No Child Behind: The Politics and Practice of School Accountability*, edited by Paul Peterson and Martin West, (Brookings Institution Press, forthcoming).
- 30 Priscilla Wohlstetter, Noelle C. Griffin, and Derrick Chau "Charter Schools in California," in *The Charter School Landscape*, edited by Sandra Vergari, (University of Pittsburgh Press, 2002), pp. 32-53.
- 31 Web information on California conversions is available at: <http://www.cde.ca.gov/charter/about.html>
- 32 David Rogosa, "Student Progress in California Charter Schools, 1999-2002," (California Department of Education, 2003).
- 33 Rogosa finds, and our data confirm, that gain scores have a modestly positive association with indicators of poverty. This is enormously intriguing, and we hope to explore it in greater depth in the future. See Rogosa, 2003, for his discussion.
- 34 For an example of strong public backlash against EMO-operated schools, note the case of Edison Schools' withdrawal from San Francisco in Julian Guthrie, "S.F. Schools Vote to End Edison Compact," *San Francisco Chronicle*, June 29, 2001.
- 35 See the working paper by Bruce Fuller, Marytza Gawlik, Emlen Kuboyama Gonzales, Sandra Park, and Gordon Gibbings, "Charter Schools and Inequality: National Disparities in Funding, Teacher Quality, and Student Support," (Policy Analysis for California Education, 2003).