

Does the presence  
of charters  
spur public schools  
to improve?

# *Friendly* Competition

**M**ost research on charter schools, and the most intense public debate over their desirability, has focused on the impact of these new schools on the students who attend them. But charter proponents also hope that the threat of students' leaving will spur traditional schools to higher levels of achievement. In the long run, such system-wide improvements, if positive, could even outweigh any negative effects on the individual students they enroll.

Can competition from a new kind of public school, right around the block or down the road in many cases, inspire traditional schools to improve? We address this question here by examining the link between the establishment of charter schools in North Carolina and average student proficiency rates at the traditional public schools most affected by the new source of competition.

Our use of proficiency rates, an aggregate measure of school performance, distinguishes our work from other recent studies that examine the performance gains made by individual students. However, aggregate school performance is the focus of state accountability systems, is reported in the

media, and presumably is used by parents, along with their own observations of their child's progress, to evaluate the quality of their child's school. Schools intent on retaining students can be expected to concentrate their efforts on this indicator.

Ironically, there could be a disjunction between that aggregate and the average performance of individuals at the school, for a variety of reasons. Schools affected by competition could encourage low-performing students not to take the test, could focus their efforts exclusively on students at the cusp of proficiency, or could use any number of strategies to achieve the appearance of improved performance without ensuring that students were actually learning more.

Our results indicate that traditional public schools in North Carolina responded to even the limited competition provided by charter schools by improving their average proficiency rates. However, a comparison of our results with those of other studies that examine the learning gains made by individual students suggests the need for caution in interpreting our results as unambiguously positive.



BY GEORGE M. HOLMES, JEFF DESIMONE, AND NICHOLAS G. RUPP

## The Friendliest of Rivalries

In three short years, from the 1996–97 school year to that of 1999–2000, the final year of our analysis, the number of charter schools in operation in North Carolina rose from zero to 74. By 2004–05, the number had grown to 99; state law currently caps the total number of charter schools at 100. Because the effects of competition on the performance of traditional public schools can be identified best during periods in which the amount of competition is changing, these years offer a convenient way to test the effects of expanded school choice.

Of course, school choice was not altogether absent in North Carolina even before 1997–98. It was largely limited to choosing to live in a particular district, enrolling a child in a private school, or educating the child at home, all of which require a substantial investment of resources, fiscal or otherwise. Roughly 70 percent of districts also offered parents some degree of choice among public schools or the option of applying to a magnet school. Our results should therefore be interpreted as the effect of the introduction of additional competition from charter schools.

As in most states, students in North Carolina can leave a traditional public school and enroll in a charter, at will and for no monetary cost. Charter schools may not discriminate among students by ability, socioeconomic status, or eligibility for special education. Even so, there are reasons to suspect that the amount of additional competition provided by charter schools is relatively modest. Despite the rapid growth in the number of charter schools in the state, the 12,000 students enrolled in charters in 1999–2000 represented just 1 percent of North Carolina's 1.25 million public-school students. Moreover, before granting a charter, sponsors must consider local impact statements prepared by the district in which the school will be located. Perhaps for this reason, many charter schools in North Carolina target at-risk students and presumably do not pose a competitive threat to traditional public schools. Finally, research conducted by Robert Bifulco and Helen Ladd ("Results from the Tar Heel State: Charter Schools and Student Achievement," *research*, Fall 2005) indicates that North Carolina charter schools during this period may have been less effective in improving student achievement than were traditional public schools, at least for students who attended both charter and traditional public schools between grades 4 and 8. Although it is not clear that parents would have an accurate perception of charter

schools' effectiveness, particularly in the early years of the state's program, all these factors, taken together, indicate that North Carolina provides an unusually stiff test of the theory that charter schools will spur improvement among traditional public schools.

## Measuring Performance and Competition

The North Carolina Department of Public Instruction began testing students at the end of each school year in 1996–97 as part of its ABCs of Public Education program. These tests are taken statewide by all students in grades 3 through 8 in math and reading, and in grades 4 and 7 in writing. We take as our indicator of each school's performance its performance composite for grades 3 through 8, which the state computes as the percentage of tests taken in all three subjects that meet the state's proficiency standard. Since the performance composite is widely reported by the media, schools have strong incentives to improve their rating.

The influence of a nearby charter school on traditional public schools in the area depends, in part, on the credibility of students' threats to switch to the charter. Those threats become more credible as the distance between the schools decreases. Since charter schools charge no tuition, travel costs are the major component of the price of attending one, especially in North Carolina, where charter schools are not required to provide transportation.

We therefore base our measures of the extent of charter competition facing each traditional public school on the

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school's distance from the nearest charter school. We first map the latitude and longitude of traditional public schools and charter schools throughout the state, identify the charter school closest to each traditional public school, and compute the aerial distance between the two. Then we develop separate

indicators for each school of whether there is a charter school within 5 kilometers, 10 kilometers, 15 kilometers, 20 kilometers, and 25 kilometers.

We exclude from the analysis schools, mostly in rural areas, with addresses we were unable to map and schools with missing test performance measures for any year during our study period, which spans 1996–97 to 1999–2000. These exclusions represented about 7 percent of the total. We also drop schools located in three North Carolina Outer Banks counties with substantial water boundaries because straight-line distance is a poor proxy for actual travel time to and from these localities. The analysis includes all of the remaining 1,307 traditional public schools in the state.

The average performance composite among traditional public schools increased from 67 percent in 1996–97 to 75 percent in 1999–2000 as the number of charter schools in the state increased from 0 to more than 70. Meanwhile, after the first charter schools opened in 1997–98, the average distance from a school to the closest charter school fell by about one-third, from 19.2 miles to 12.6 miles in 1999–2000. Is there a connection between these improvements in test-performance scores and growing competition from charter schools?

### Results

To answer this question we examine whether the annual changes in performance made by traditional public schools during this period were more positive in schools with charter schools nearby than in schools not facing charter school competition. In these comparisons, we take into account changes in the characteristics of the student body including the percentage of students who are Hispanic, the percent African American, and the percent eligible for the federal free lunch program, as well as changes in the school's student-teacher ratio. We also use information on the school's performance composite two years before the year to correct for measurement error in the school's previous-year performance. Finally, we perform separate comparisons using each of our distance-based indicators of charter-school competition.

These comparisons provide consistent evidence that charter-school competition raises the performance composite of traditional public schools. The effect is statistically significant for four of the seven measures of charter-school competition and falls just short of significance for the other three. In each case, the results indicate that, all else being equal (including the school's score on the performance composite the previous

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year), the presence of charter-school competition increases traditional school performance by about 1 percent. This represents more than one-half of the average achievement gain of 1.7 percent made by public schools statewide between 1998–99 and 1999–2000 and is, from a policy perspective, nontrivial.

How nontrivial? One indication comes from the information in our results about the gains in performance made by schools where the student-faculty ratio decreased over this same period. In 2002 the North Carolina governor's office proposed a \$26 million increase in the state budget to reduce average class size by roughly 1.8 students. Although the relationship between changes in the student-teacher ratio and changes in school performance is not statistically significant, the size of the relationship suggests that the governor's plan would increase scores by roughly 0.36 percentage points. However, our data indicate that opening a charter school would increase public-school test scores by one full point (1.0). Expanding the number of charter schools therefore seems like a promising,

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and far more cost-effective, alternative to lowering class size. Since state funding follows the student, an increase in the charter-school system requires no increase in spending.

One possible alternative explanation for the improvements observed in traditional public schools when a charter school opened nearby is the migration of lower-performing students from the traditional public school to the charter school. However, simple tests we conducted, based on changes in the average previous-year test scores of students in schools affected and unaffected by charter-school competition, suggest that, if anything, the *opposite* phenomenon occurred: students switching from traditional public to charter schools appear to have been *above-average* performers compared with the other students in their school. The fact that traditional public schools experienced net gains in performance, despite a slight decrease in average student quality, suggests

that our estimates of the effects of charter-school competition may understate the true effect of charters on traditional public schools.

### A Word about Other Studies

The findings presented here differ from those of two previous studies that examine the same hypothesis for North Carolina charter schools. The research by Robert Bifulco and Helen Ladd fails to find an effect of charter schools on the effectiveness of traditional public schools, while a similar analysis by one of us conducted in 2003 reported improvements for students in traditional public schools smaller than the ones estimated here. There are several possible explanations for these differences.

Most important, each of the other studies uses student-level data, which we did not have access to when conducting this research. How could schools improve their performance composite scores without a change in the average gains in achievement made by their students? As discussed above, one possibility is that schools affected by competition would target students who score just below the proficiency cutoff. Roughly 3 percent of students in any given year fail by only one point. If a principal were, for example, to entice one-third of such students to gain a single point, the performance composite would increase by a full percentage point, but the average student-level gain would be tiny and could even be offset by losses made by students safely above or below the proficiency cutoff. Our other research indicates that students in schools affected by competition at or near the proficiency cutoff did in fact make the largest gains.

In short, our results reveal substantial improvements in traditional public-school performance due to the introduction and growth of charter-school choice. Read alongside the results of studies based on student-level data, they suggest that even a little bit of competition from charter schools can force schools to appear to be improving, but that policymakers need to take care to ensure that translates into real gains for the average student.

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