Paper 4: Abstract Title Page

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Title: Charter School Authorizers and Student Achievement

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Abstract Body

Limit 4 pages single-spaced.

Background / Context:
Description of prior research and its intellectual context.

Nearly two decades after the establishment of the first charter schools, debate continues over whether, on average, they are more or less effective than conventional public schools in raising the achievement of the students they serve (see, e.g., Abdulkadiroglu, et al, 2009; Zimmer et al., 2009; CREDO, 2009; Hoxby, Murarka, and Kang, 2009; Betts and Tang, 2008; Gleason, Clark, Tuttle, and Dwoyer, 2010). Differences in the results of different studies could be attributable to varying methods for estimating impacts (see the debate between CREDO, 2009 and Hoxby, 2009); to differences in outcomes measured; to differences in charter laws and policies across states producing real differences in average effectiveness of charter schools (Zimmer et al., 2009; CREDO, 2009); or to a combination of these factors. Despite this ongoing debate, however, one area of clear consensus has emerged: variation in the performance of individual charter schools is wide, with some performing admirably and others struggling.

The debate over the average effectiveness of charter schools is not likely to be settled anytime soon, but in the meantime, the variation in the performance of individual charter schools can be used by researchers to inform the improvement of policies governing charter schools. Policymakers need not wait for a definitive bottom-line evaluation of average effectiveness before modifying charter laws and regulations in an effort to increase the number of effective charter schools and reduce the number of ineffective charter schools. Indeed, this is the explicit goal of the Obama administration’s charter-school initiatives.

Purpose / Objective / Research Question / Focus of Study:
Description of the focus of the research.

Our aim in this paper is to examine one policy lever that may affect the performance of charter schools: the authorizing organizations vested with the power to allow charter schools to open and the responsibility for oversight of the schools. The types of organizations permitted to serve as authorizers vary depending on state law; they may include a state education department, local school districts, state universities, or other organizations. We evaluate the relationship between types of authorizers and charter-school effectiveness, as measured by trends in the achievement of individual students. Previously, Carlson, Lavery, and Witte (2009) examined charter authorizers in Minnesota, finding no variation in performance across authorizers. However, their analysis utilized school-level data, which makes it more difficult to tease out differential effects across authorizers. Our analysis uses longitudinal student-level data, which allows us to better control for student selection in assessing the performance of charter schools. Subsequent sections describe in greater detail the role of authorizers as well as our data, research approach, results, and conclusions.

Setting:
Description of the research location.
Our analysis is conducted in Ohio, which is among the states that has the widest array of authorizers.

**Population / Participants / Subjects:**
*Description of the participants in the study: who, how many, key features, or characteristics.*

We examine statewide student-level data of students in grades 3 through 8 from the 2004-05 through 2007-08 school years.

**Intervention / Program / Practice:**
*Description of the intervention, program, or practice, including details of administration and duration.*

Our analysis does not examine a particular intervention, but rather estimates the relationship between attendance at schools with different authorizers and student achievement.

**Research Design:**
*Description of the research design (e.g., qualitative case study, quasi-experimental design, secondary analysis, analytic essay, randomized field trial).*

Assessing the causal impact of authorizer types would require addressing selection issues at the student and at the school level. Our research design uses several methods (described below) to address the selection of students into charter schools. We do not, however, have any way to directly address school-level selection, i.e., to account for the fact that different authorizer types may attract different kinds of charter schools, some of which might be more effective than others for reasons unrelated to the authorizer’s efforts. To the extent that our design succeeds in addressing student-level selection, it allows inferences about the relationship between authorizer type and charter-school effectiveness. It cannot, however, determine whether any such relationship is the result of differences in authorizer effectiveness versus differences in the kinds of schools that seek out different authorizers.

Nonetheless, examining the relationship between authorizer type and charter-school effectiveness is of greater interest than examining the relationship between authorizer type and raw levels of student achievement. We therefore employ several methods to address the selection of students into charter schools, with the aim of producing estimates of charter-school effects on student achievement which can subsequently be related to authorizer type.

**Data Collection and Analysis:**
*Description of the methods for collecting and analyzing data.*

To address our research question, we collected statewide longitudinally linked student-level data from Ohio’s Department of Education from school years 2004-05 through 2007-08 in elementary and middle grades. The type of authorizer for each school was collected with the help of the Fordham Foundation using the Ohio Department of Education’s Annual Reports and Ohio Education Directory System Redesign.

To conduct our analysis, we use three approaches in combination to minimize selection issues. First, we constrain the comparison groups to consist entirely of other students in charter schools.
We conduct separate analyses for each authorizer type, in each of which the comparison students are drawn from charter schools authorized by any of the other authorizer types. In consequence, we need not make the strong assumption that choosers are similar to non-choosers; our treatment groups and comparison groups consist entirely of student who chose to attend a charter school.

Second, among the population of charter students potentially available as comparison students, we use a matching approach popularized by Rubin (1977) and Rosenbaum and Rubin (1983) to develop a counterfactual. While matching procedures can take many forms, we use a propensity match using observable characteristics including prior test scores to identify the specific students to be used for comparison purposes. A similar approach (without a prior restriction to a charter population) was used in a recent report on charter middle schools affiliated with the Knowledge is Power Program (KIPP) (Tuttle et al., 2010). Creation of a carefully matched comparison group has been shown in some circumstances to produce impact estimates that replicate the findings of randomized experiments (Cook, Shadish, and Wong, 2008). More specifically, recent research has suggested that a matching strategy can replicate randomized design results when examining school choice programs (Bifulco, 2010).

Third, we conduct an ordinary least squares (OLS) regression to control statistically for any remaining differences between the treatment group and the matched comparison group and to improve precision.

If selection on unobservable characteristics is in fact comparable in charter schools across authorizer types (conditional on our matches and OLS adjustments), then an analysis of student outcomes using a matched comparison group and additional controls for remaining observable characteristics should produce an unbiased estimate of the effect of the charter schools associated with each authorizer type. However, because we cannot be assured that there are not unobserved differences between the population of students attending schools authorized by the various chartering authorities, we conducted a falsification test.

The falsification test examines whether charter authorizer type is associated with differential gains for students in the years before they enter the charter schools. If we detect spurious “effects” of charter type prior to entering the charter school, the success of our strategy in dealing with selection bias at the student level would be undermined. In fact, across reading and math outcomes for all four authorizer types, we find no cases in which the falsification test detects significant spurious “impacts” for students in the year prior to entering the charter school. This provides some reason for confidence that our method of estimating the effects of charter schools affiliated with different authorizer types is not substantially biased by unobserved selection.

Finally, as a sensitivity analyses, we also employ a student fixed effect approach using the full sample of K-8 charter schools and TPSs across Ohio. Although others have noted limitations of this approach (Hoxby and Murarka, 2006; Ballou, Teasley, and Zeidner, 2007), we include it because it has become common practice in nonexperimental charter studies. The results for the fixed-effect approach are largely consistent with the matching results, which provide a level of robustness of our primary results.
Findings / Results:

Description of the main findings with specific details.

Table 1 presents primary results using the matched comparison groups with the value-added regression. Estimated achievement effects of district-, ESC-, and state-authorized charter schools are statistically indistinguishable from those of other charter schools in both reading and math, based on the matched comparison analysis. In contrast, our analysis suggests that charter schools authorized by nonprofits are less effective at promoting student achievement, falling short by statistically significant margins in both math and reading.

(Insert Table 1 here)

Conclusions:

Description of conclusions, recommendations, and limitations based on findings.

As other research (Zimmer et al., 2009; CREDO, 2009; Hanushek et al, 2007) has shown, charter schools vary widely in academic performance. Authorizer type is only one factor among many that may contribute to the variation in performance among charter schools; it is surely not the most important factor. It is likely that high and low performers exist among the schools authorized by each type of authorizers. And the variation in school performance could be greater within each authorizer type than it is between different authorizer types. Nonetheless, in Ohio there is a clear association between schools’ authorizer types and their apparent effectiveness in raising the achievement of their students. Even if this difference is not large, it is perhaps more readily susceptible to policy intervention than many other factors determining school performance. Students attending Ohio charters that were originally authorized by nonprofit organizations have, on average, lower achievement gains (both in math and reading) that lag behind the gains of students in other charter schools. These results warrant further investigation to examine whether nonprofits have lax oversight and less ability to provide appropriate support, as others have suggested (Fordham, 2006, 2008).
Appendices

Appendix A. References
References are to be in APA version 6 format.


## Appendix B. Tables and Figures

*Not included in page count.*

### Table 1: Primary Results

<table>
<thead>
<tr>
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<th>District Analysis</th>
<th>ESC Analysis</th>
<th>Nonprofit Analysis</th>
<th>State Analysis</th>
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<td>0.00</td>
<td>(0.03)</td>
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* Indicates statistically significant effects at the 5 percent level.

Note: Robust standard errors are in parentheses.