CHARTER LAW AND CHARTER OUTCOMES

Re-Examining the Charter School Marketplace

Kenneth K. Wong
Brown University

Francis X. Shen
Harvard University

Prepared for the National Conference on Charter School Research
at Vanderbilt University on September 29, 2006

The author wish to acknowledge the research assistance of Caroline Watral on the Charter Legislation and Policy Database.

NATIONAL CENTER ON
School Choice

This working paper is supported by the National Center on School Choice, which is funded in part by the Department of Education's Institute of Education Sciences (R305A040043). For more information, please visit the National Center on School Choice's website at http://www.vanderbilt.edu/schoolchoice/.

Charter Law and Charter Outcomes:
Re-examining the charter school marketplace

Charter school laws are often characterized as enabling or constraining the creation and operation of charter schools. In making these characterizations, the impulse of researchers has been primarily to compare variation across, rather than within, states. Jay Greene (2000), for instance, created a state-level Education Freedom Index that compared states on the options they gave parents to choose their children's schools. Specifically in the context of charter schools, the Center for Education Reform has ranked states relative to each other by assigning grades and "weak" or "strong" law labels. In this paper, we build on these and other works that have sought to identify the elements of the state policy environment that facilitate or hinder charter schools.

This paper provides a new outlook on the charter school policy environment, however, by re-examining more closely the layers of legal provisions in states' charter laws. Consistent with the first wave of charter school literature which found charter school politics to be complicated and often working at cross-purposes, we provide evidence of a legislative and regulatory "layering" (Wong 1999). Since charter law involves administrative and legislative rule-making, we see the result of layering in terms of legislative provisions and interpretation working at cross purposes. The politics of layering is created by multiple institutions, each operating with its own political logics, political allies, and policy functions. The implication is that policy layering tends to undermine an "ideal marketplace" for charter schools. Thus, charter schools are the creation of competing political influence and multiple (or seemingly fragmented) institutional decisions.

The paper examines two key questions. First, what are the political and policy

conditions that facilitate a system that is more supportive of charter reform and growth? Second, what are the likely consequences of this political and legal variation on charter school and public school performance? Drawing on a newly created Charter Legislation and Policy database, we use a political science state politics framework to perform preliminary empirical analysis on both of these questions. Our results suggest that state level political and economic variables do not easily explain the formation of charter school policy.

These empirical results, along with our finding of significant internal variation in charter laws, suggests that a new paradigm may be in order for connecting charter school law to charter school outcomes. Rather than focusing solely on state-to-state variation, we propose a model which more explicitly focuses on the multiple layers within each individual state's charter code. We find that this model is consistent with a growing consensus that disaggregating charter performance may be the most appropriate method of evaluation. A better understanding of the legal framework behind the charter school market may help to explain why some charters excel, while others do not.

The paper is organized into four sections. We first review the existing literatures on charter law and charter outcomes. We find a need for a revised and updated charter law database. The second section of the paper describes our work in coding legislative provisions to fill this empirical need. We discuss both our broad strategy, as well as our first steps in coding provisions related to both the traditional and reform goals of teachers' unions.

The third section of this paper illustrates how this database can be employed in traditional state political empirical analysis. We perform two types of analysis: (1) using

state-level factors to explain the adoption of charter provisions, and then (2) connecting those provisions to outcomes in the charter market. Although this empirical investigation remains preliminary, we find that union bargaining rights in a state are significantly related to the provisions likely to be of material concern for teachers, but not to provisions less central to material benefits. In the fourth and final section of the paper, we synthesize our findings and propose a future research agenda for studying charter school laws and their influence on charter school creation and operation. We argue that evaluation of the charter school market should recognize the internal workings of state laws.

I. Literature on charter school laws and charter outcomes

In this section, we review three strands of charter school scholarship: (1) studies from the late 1990s describing the adoption of charter school laws, (2) current scholarship which is focused on assessing charter school outcomes, and (3) research that has recognized the political dynamics at play in the creation and maintenance of the charter school market.

Early scholarship on charter school laws

Re-examining the earlier charter law literature can help to shed light on the findings that are now emerging from empirical studies. In the first wave of charter school research, as states were still initially forming their charter laws, much attention was given to the political foundations of the legislation. Bryan Hassel's (1999) detailed study made

it clear that legislative compromise was central to the formation of charter school law.[1] From caps on the number of charter schools to limitations on who charters could contract with, Hassel found that the state political environment significantly affected the type of law passed by the legislature. Compromise in the statehouse led to charter laws that would sometimes work at cross-purposes.

Research conducted by Amy Stuart Wells in the 1990s confirmed this picture of charter school politics as confused and contested.[2] Wells, et. al. interviewed policymakers from the fifty states and found that, "given its dissimilar political roots, charter school reform has come to symbolize different things to different people, including the state policy makers who propose, pass, and implement the legislation."[3] Wells, et. al. challenged researchers to confront these political realities.

At the same time, a series of studies and reports in the late 1990s sought to map out the details of emerging charter school legislation. Much of this early research identified complexity and variation within charter legislation across the states.[4] Not only did charter laws vary across the states, but variation between permissive provisions and restrictive regulations was found within a single state's charter school law.[5] The National Study of Charter Schools, sponsored by the U.S. Department of Education, produced a series of reports over four years which identified both similarities and differences across

[1] Hassel, B. M. (1999). The Charter School Challenge: Avoiding the Pitfalls, Fulfilling the Promise. Washington, D.C.: Brookings Institution Press.
[2] Wells, Amy Stuart; Grutzik, Cynthia; Carnochan, Sibyll; Slayton, Julie; & Vasudeva, Ash. 1999. "Underlying Policy Assumptions Of Charter School Reform: The Multiple Meanings Of A Movement," *Teachers College Record*, Vol. 100, Issue 3.
[3] Wells, et. al., at 514.
[4] See, e.g. Molnar, 1996; Vanourek, 1997; U.S. General Accounting Office, 1995; U.S. Department of Education, 1998.
[5] See, e.g. Mauhs-Pugh, 1995.

state laws.[6] In particular, the Jennings, et. al. (1998) cross-state analysis of 33 charter school laws was a detailed study of individual charter provisions.[7]

Subsequent to this early work, several groups have maintained updated information about charter school legal provisions. The Education Commission of the States (ECS) provides an online charter school law resource, allowing users to compare charter school provisions across states.[8] The U.S. Charter Schools web site also provides state-by-state profiles of charter school laws.[9] In addition, recent studies have identified charter legal provisions relevant to specific policy questions. Wohlstetter, et. al. (2004), for instance, looked at provisions related to cross-sectoral alliances.[10]

Beyond efforts to simply catalog the various charter law provisions, independent studies have attempted to "grade" the charter school laws. After its founding in 1993, the Center for Education Reform (CER) began rankings of state charter school laws. CER grades each state's charter school laws, and then labels states with grades of A or B as "strong to medium strength" laws. States with grades of C-F are considered to have "weak laws".[11] To be sure, the CER is not the only group to employ a grading strategy.

---

[6] The Fourth Year Report is available online at: http://www.ed.gov/pubs/charter4thyear/index.html.

[7] Jennings, W., Premack, E., Adelmann, A., & Solomon, D. (1998). A comparison of charter school legislation: Thirty-three states and the District of Columbia incorporating legislative changes through October 1998. Washington, DC: U.S. Department of Education.

[8] The Education Commission of the States (ECS) is a non-partisan, non-profit organization. ECS "is supported financially by a combination of state fees and contracts, sponsorships, and grants from foundations, corporations and the federal government." See: http://www.ecs.org/ecsmain.asp?page=/html/statesTerritories/state_map.htm

[9] The site was originally funded by the U.S. Department of Education, but is now independent: "While the initial development of the US Charter Schools Web site involved input from numerous individuals in the charter school movement from across the country and the generous support of the US Department of Education, this site is currently supported by a consortium of organizations interested in providing accurate information and promising practices about and for charter schools." See: http://www.uscharterschools.org/pub/uscs_docs/sp/index.htm.

[10] Wohlstetter, P., Malloy, C. L., Smith, J. & Hentschke, G. (August 2004). Incentives for charter schools: Building school capacity through cross-sectoral alliances. Educational Administration Quarterly, 40(3), 321-365.

[11] As of July 2006, CER current categorizes the states in this way: Charter School States That Have Strong to Medium Strength Laws (Grades A-B): Arizona; California; Colorado; Delaware; Florida; Georgia;

Other studies have graded the laws using criteria different from the CER.[12] The American Federation of Teachers (AFT) produced a set of charter school grades, in which and Palmer and Gau (2003) graded charter school laws in terms of their provisions for authorization.[13]

These grading studies have drawn much attention, and the CER grades in particular frequently appear in charter school policy discussions. As noted by Scott and Barber (2002), "it is common to find the weak / strong framework used in news media reports and academic research without explication of its meaning."[14] Indeed, two recent pieces of scholarship are illustrative of the ways that the CER's scores continue to be employed by academics studying charter schools.

Stoddard and Corcoran (2006) use the CER's overall charter law score as a dependent variable in a Tobit regression analysis to see if support for charter schools is linked to poor public school performance or rising within-district population heterogeneity.[15] The CER score is one of several outcome variables that the authors employ. In introducing the measure, the authors describe in detail the construction of the measure, and its ten component parts. This is a standard use of the CER data: plug the CER score in as a proxy for "strength" of charter school legislation. Another use is more

---

Indiana; Massachusetts; Michigan; Minnesota; Missouri; New Jersey; New Mexico; New York; North Carolina; Ohio; Oklahoma; Oregon; Pennsylvania ; Washington, DC ; Wisconsin. Charter School States That Have Weak Laws (Grades C-F): Alaska ; Arkansas ; Connecticut; Hawaii; Idaho; Illinois; Iowa; Kansas; Louisiana; Maryland; Mississippi; Nevada; New Hampshire; Rhode Island; South Carolina; Tennessee; Texas; Utah; Virginia; Wyoming.

[12] See: Wohlstetter, P., Wenning, R., & Briggs, K. (1995). Charter schools in the United States: The question of autonomy. Educational Policy, 9(4), 331-358.

[13] American Federation of Teachers. 1996. *Charter School Laws: Do they Measure Up?* Louann Bierlein Palmer, Rebecca Gau. 2003. Charter School Authorizing: Are States Making the Grade? Thomas B. Fordham Institute.

[14] Scott & Barber (2002), p. 5.

[15] Stoddard, Christiana & Sean Corcoran. "The Political Economy of School Choice: Support for Charter Schools Across States and Districts." National Center for the Study of Privatization in Education. Report #113. http://www.ncspe.org/readrel.php?set=pub&cat=128.

informal, yet still influential. Kirst (2006) references to the CER data in his study of local and national politics that influence charter school policy.[16] Kirst includes the CER rankings in an Appendix to his study, and uses the data to suggest regional variations in the types of charter school laws.

Current scholarship focused on charter school outcomes

The old line of charter research on legislation has gradually given way to studies that focus on the outcomes of charter schools. This is important because it means that absent a redirection of research, the literature on charter school legislation is likely to be even more heavily influenced by legal summaries such as the Center for Education Reform's. To provide a sense of the state of current scholarship, we present in Appendix A several summary tables of recent charter school research. We believe that several trends in this literature make continued analysis of legal frameworks important.

First, a consensus seems to be building that evaluation of charter schools is not about, "Are charter schools working?" but rather, "What makes some charters work and other falter?" Buddin & Zimmer (2005) are echoing many when they conclude that, "it may be very difficult to develop universal conclusions about charter schools nationally as charter school performance varies from state-to-state, charter type to charter type, and even charter school to charter school."[17] Hassel's (2005) synthesis of findings supported this conclusion, and even pro-charter school advocate Chester Finn acknowledges that charter schools are "astoundingly diverse. Some are the highest-performing schools in

[16] Kirst, Michael W. 2006. *Politics of Charter Schools: Competing National Advocacy Coalitions Meet Local Politics*. Report. National Center for the Study of Privatization in Education, Report #119. Online: http://www.ncspe.org/readrel.php?set=pub&cat=137.

[17] Buddin, Richard, Ron Zimmer. "Student Achievement in Charter Schools: A Complex Picture." Journal of Policy Analysis and Management, Spring 2005, p. 351-371. p. 369

town. Others are total messes."[18] In trying to explain divergent results, charter school legislation may be an important factor to consider. This may be particularly true in explaining variation *within* states, along urban/rural, economic, or racial dimensions.

Charter school legislation is all the more important given that the evidence on charter school performance in terms of raising student achievement remains mixed. State legislatures still don't know what to make of all the research. This is evidenced in a 2005 brief in *State Legislatures*, entitled "No Answers to Charter School Questions."[19] In the February 2005 article, some recent works were reviewed, and policymakers were warned that, "with so many studies revealing different results, it may be too soon to compare charter schools to traditional ones. Since charter laws vary widely across the country, specific state studies that use new methodologies and the age old test of time may be the best hope for reliable data."[20] With questions of charters and student achievement still unanswered, analysis of charter school legislation may help to clarify answers.

Recognizing the political economy of the charter school market

Researchers with an eye to state politics have sought to introduce a new brand of charter law scholarship that goes beyond the CER's weak law / strong law approach. Witte, Shober, and Manna (2003) argued that although the CER framework was "useful to earlier research," it "provides a limited description and judgment of the values

[18] "Charter School Achievement: What We Know", Bryan C. Hassel, Charter School Leadership Council, 6/16/2005. Finn, Chester. "Judging Charter Schools," Hoover Institution. March 30, 2005.
[19] "No Answers to Charter School Questions," *State Legislatures*, Vol. 31, Issue 2, Feb. 2005, p. 8
[20] State Legislatures is a magazine that "informs legislators, staff, lobbyists and the interested public about state actions and innovations in public policy issues before they reach the mainstream." The magazine is "mailed to all state legislators, key legislative staff, members of Congress, governors, lobbyists, political scientists, librarians, universities and the interested public." See: http://www.ncsl.org/programs/pubs/slmag/SLoverview.htm (Accessed June 2005)

underlying these laws."[21] Witte, et. al. examine charter law provisions, and develop five dimensions to focus on: application and authorization, local oversight, fiscal support, employees, and accountability. The authors then use these dimensions of state legislation to explain the number of charter schools operating in the states. Witte, et. al. improve upon the CER methodology by more explicitly grounding their analysis in prior literature, and in performing statistical analysis to identify clustered provisions. In doing so, they find that state laws include some internal checks-and-balances: more flexibility in running charter schools is positively correlated with increased accountability requirements. The finding is important because it points out that charter laws are not homogenous; rather, the individual provisions interact with one another in complex ways.

Another line of research has sought to determine the political factors that determine the formation and makeup of charter school legislation. Using a state politics framework, Henig, et. al. 2002, Wong & Shen (2002, 2004), and Shen 2003 have all empirically investigated the link between charter law adoption and state political climate.[22] Wong and Shen (2002) used event history analysis to examine the factors that explain why certain states adopted charter school laws before others. Shen (2003) uses the same approach, but tries to avoid some methodological pitfalls by introducing Bayesian Model Averaging to the study. Henig, et. al. (2002) also examine state-level political dynamics, but place their focus on how charter school policies have changed

[21] John F. Witte, Arnold Shober, and Paul Manna. 2003. "Analyzing State Charter School Laws and Their Influence on the Formation of Charter Schools in the United States," Paper presented at the 2003 Annual Meeting of the American Political Science Association.

[22] Henig, J. R., Holyoke, T. T., Moser, M., Brown, H., Lacireno-Pauet, N. 2002. "The political dynamics of charter school policies." Paper presented at the 98th Annual Meeting of the American Political Science Association, Boston, MA. Wong, K. K. & Shen, F. X. (2002a). "Politics of State-led Reform in Education: Market Competition and Electoral Dynamics," with Kenneth K. Wong, in Educational Policy, 16 (1), March 2002. Shen, F. X. (2003). "Specification Uncertainty and Model Averaging in State Policy Innovation Research." Paper presented at the Third Annual Conference on State Politics and Policy, Tucscon, AZ.

over time. In light of the difficulty of explaining overall strength or adoption of entire charter school laws, Wong and Shen (2004) made an effort to look at the component provisions of charter school laws.[23] Taken together, the findings suggest that Republican party strength is positively associated with charter law "strength", but that there is also tremendous variation within charter legislation. Politics intersects charter school laws, but not uniformly across all provisions.

II. Creating an updated Charter Legislation and Policy Database

The legal provision analysis that abounded in the first wave of charter school research has tailed off since 2000. In order to provide researchers and policymakers with an accurate picture of current charter legislation, we have begun a project to code important charter provisions. In selecting the provisions to focus on, Jennings, et. al. (1998) serves as an excellent starting point. Jennings, et. al., in their careful analysis of legislation in the 33 states that had charter laws in 1998, categorized provisions into seven areas: charter development, school status, fiscal, students, staffing and labor relations, instruction, and accountability. We lay out four slightly broader categories to focus on:

1. Authorizing process, e.g. single or multiple venues of gaining authorization (such as University as authorizer); application procedures; caps on enrollment or number of schools

2. Personnel policy flexibility, e.g. constraints on labor negotiation

3. Operation

[23] "Political Economy of Charter School Funding Formulas: Exploring state-to-state variation in charter school funding formulas," with Kenneth K. Wong. (2004). 2004 Yearbook of the American Education Finance Association. Sage Publications.

4. Accountability, Standards, and Expectations, e.g. whether charters are subject to the same NCLB testing and reporting requirements or whether they are given more flexibility in terms of time frame and types of assessments

We are coding provisions in each of the forty states with charter laws, as well as the District of Columbia. At present, however, we report only findings related to personnel policy and teachers' unions. The process we outline next for coding legislation is the general approach we use for all categories of provisions. In each case we follow three principles. First, we perform cross-state analysis of legislation and build up from the micro-foundations of the law, its individual provisions. Second, we use methods of legal statutory interpretation to carefully evaluate statutory silence in charter laws. Third, we recognize the complexity of charter school legislation and its interplay with state and federal law. We now discuss each of these principles in turn.

Recognizing internal variation in charter school law

In contrast to the Center for Education Reform's approach, which attempts to distill charter school laws into single "grades", we choose to present a series of individual provisions which can then be grouped into the indices that are most relevant for answering a particular research question. The focus on individual provisions follows from the recognition that charter school laws are not homogenous, but instead are the outcome of multiple state institutions each attempting to influence the shape of the charter school law. As political compromise, we should not expect all provisions of charter laws to operate in the same direction.

To test the validity of this hypothesis, we examined the within-state variance of

the ten items that the Center for Education Reform (CER) aggregates into their overall score of charter law strength. Table 1 presents the results of this oneway Analysis of Variance. For each state with a charter school law, the CER offers a 0-5 ranking in ten categories: Number of Schools Allowed, Multiple Chartering Authorities, Eligible Charter Applicants, New starts allowed, School may be started without evidence of local support, Automatic waiver from state and district laws, Legal / operational autonomy, Guaranteed full per-pupil funding, Fiscal autonomy, and Exempt from Collective Bargaining agreement / district work rules. Analyzing the within-state variance amounts to asking: Are states generally strong/weak in all dimensions, or are they weak in some areas and strong in others? The answer, as seen in the large standard deviations relative to means for most states, is that there is much internal variation. Focusing too much on a single aggregate measure may overlook some of this important variation.

Our approach, focusing on individual provisions, is similar in approach to Witte, et. al. (2003) and Wong and Shen (2004). We had two goals. First, we wanted to clarify what the law was actually saying. As we discuss in Sections II.B and II.C., statutory silence and complexity can make the code quite dense. Second, we wanted to code individual provisions as objective, 0-1 dichotomous variables, suitable for use in empirical work.

Initial Focus on Personnel Policy

As a first step in our study, in this paper we focus on dimensions of charter school legislation that are likely to be subject to political bargaining due to the interests of teachers' unions. In the context of charter schools, both the American Federation of

Teachers (AFT) and the National Education Association (NEA) have made explicit statements about what they want to see in charter school laws. At their 2005 Representative Assembly, the NEA approved an updated version of their charter school resolution.[24] Included in that resolution was a statement of principles, including: (c) Local school boards should be the only entity that can grant or renew charter applications … (b) Charter schools must meet the same requirements as mainstream public schools with regard to licensure / certification and other requirements of teachers and education employees … (c) teachers and education support professionals should be considered public employees … (d) teachers and education support professionals should have the same constitutional and statutory rights as other public employees … (e) charter schools should be subject to the same public sector labor relations laws as mainstream public schools and charter school employees should have the same collective bargaining rights under law and local practice as their counterparts in mainstream public schools … (i) charter schools should meet the needs of at-risk students and those students requiring special education services … (j) employment in a charter school should be voluntary … and (k) charter schools should not disproportionately divert resources from mainstream public schools."

The AFT, in their 1996 report evaluating charter school laws, identified five essential criteria for charter school success: "charter schools must be based on high academic standards; Charter school students must take the same tests as other students in the same state and district; Charter school employees should be covered by collective bargaining; Charter schools should hire certified teachers; Charter schools should have

[24] National Education Association. 2005. "Democracy in Action," *NEA Today*, September 2005, pp. 45 – 51.

the approval of local districts; and, Charter schools should be required to make academic and financial information available to the public."[25]

Teachers unions can be understood to have both limited economic interests in protecting jobs and wages, as well as more broadly based policy interests in promoting high quality teaching and learning in public schools. These two strands of union interest have been labeled as "old" or "traditional" unionism versus "new" or "reform" unionism.[26] Reform unionism is generally more favorable to charter schools, but stresses the need for high quality teachers, accountability, and assessment. This sentiment can be seen in the unions' call for legal provisions that maintain high standards. On the other hand, the traditional union goals are to promote job security, high wages, and benefits.[27] Despite the rise of new unionism, traditional union economic interests still remain prevalent.[28] Terry Moe, skeptical of new unionism, contends that the primary goal of unions is to protect jobs, wages, and benefits.[29]

Most relevant to our study is the role that teachers unions play in the state level

---

[25] American Federation of Teachers. 1999. *Charter Schools Update*. AFT Educational Issues Policy Brief, Number 9, June 1999. Citing: American Federation of Teachers. 1996. Charter School Laws: Do They Measure Up?

[26] Urbanski, Adam. "Reform or Be Reformed." Hoover Institution, Fall 2001. Hardy, Lawrence. "Public interest vs. self-interest: Debating reform unionism," *American School Board Journal*; Jul2005, Vol. 192 Issue 7, p6-8. Unions Turn Cold Shoulder On Charters., By: Keller, Bess, Education Week, 02774232, 3/27/2002, Vol. 21, Issue 28.
Document Type: Article

[27] See, e.g. Unions and Public Schools: The Effect of Collective Bargaining on American Education; Eberts, Randall; Stone, Joe; 1984, Lexington, MA : Lexington Books. Teachers, Unions, and Wages in the 1970s: Unionism Now Pays; Baugh, William; Joe Stone Industrial and Labor Relations Review; 1982 Vol. 35 Issue 3, p368-376. Teacher Unions and the Cost of Public Education; Eberts, Randall W.; Joe A. Stone Economic Inquiry; 1986 Vol. 24 Issue 4, p631-644, 14p. Bargaining Laws Really Matter: Evidence from Ohio and Illinois; Saltzman, Gregory M. When Public Sector Workers Unionize; 1988, Chicago : University of Chicago Press. Edited by: Freeman, Richard B.; Ichniowski, Casey.

[28] Hess and West (2006) recent study shows that collective bargaining arrangements, a hallmark of traditional union activity, remain central to the unions' agenda. Frederick M. Hess, Martin R. West. 2006. A Better Bargain: Overhauling Teacher Collective Bargaining for the 21st Century. American Economic Institute.

[29] Moe, Terry M. & John Chubb. 1990. *Politics, Markets, and America's Schools.* Washington, D.C.: The Brookings Institution. Moe, Terry M. "A Union by Any Other Name," *Education Next*, Fall 2001.

political process.[30] Moe has argued that the unions' "massive memberships and awesome resources give them unrivaled power in the politics of education, allowing them to affect which policies are imposed on the schools by government—and to block reforms they don't like."[31] Whether or not they power is "unrivaled," it is widely acknowledged that unions have the potential for significant influence in the statehouse. As Hess and West (2006) point out, both major teachers' unions have made strategic donations to protect their economic interests.[32]

Because of their influence in state policymaking, as well as their interest in shaping charter school policy, teachers unions provide a useful starting point for analyzing charter legislation. In this study, we consider provisions linked to both "traditional" and "reform" unionism.

Under the *traditional unionism* umbrella, we place these provisions:

- Must the local district provide a leave of absence to teachers going to charter schools?
- If a charter teacher returns to the school district immediately after the leave of absence, are they guaranteed employment in the district?
- Does tenure remain secure if a teacher goes to a charter school and returns?
- Are all charter school teachers automatically covered by the district or state's retirement plan?
- Are all charter school teachers automatically covered by the district's health care

[30] Teachers unions have also been shown to have significant influence at the local level, primarily through school board elections. See, e.g., Moe, Terry M. 2005. "Teachers unions and school board elections, in Howell, W., ed. *Besieged: School Boards and the Future of Education Politics.* Brookings Institution Press. Pp. 254-287.
[31] Moe, Terry M. 2001. "Taking on the Unions," *Hoover Digest*, 2001, No. 1.
[32] Hess & West (2006), p. 36.

plan?

- Is the default arrangement for all charter schools to be subject to the district's pre-existing collective bargaining agreement?
- In order for a charter conversion to occur, must a majority of teachers approve?
- Can charters automatically hire/fire teachers without district oversight?

Related to *reform unionism* interests, we identify these provisions:

- Does the charter statute articulate a preference for charter schools to serve at-risk students?
- Must the charter school application go through the local school district (i.e. no alternative routes)?
- In order for a charter conversion to occur, must a majority of parents approve?
- Do at least some charter schools automatically have more relaxed certification requirements?

To be sure, the traditional/reform distinction is not a hard and fast one. We use the categorization here as an analytical tool to consider differences in the relative interest unions may have when bargaining or lobbying for these provisions in the state political process. All of these provisions, however, are likely to be shaped by political compromise, interest group contention, and legislative debates.

In addition to the individual provisions, we also summed up each set of provisions (traditional and reform) to create indices. When we ran correlations between these indices and the overall CER grade, we found an inverse relationship between the CER's grade and our index of traditional union goals. We found no significant relationship between

the CER's grade and the index of reform union goals. This basic correlation suggests, in keeping with the literature just reviewed, that the CER's interests lie opposed to those of the AFT and NEA.

It is also the case that there is much variation within states on these union dimensions. Consistent with our argument that overall characterization of charter laws as uniformly weak or strong, we find that there is little correlation between the individual provisions. All correlation coefficients are reported in Table 2. Of the 66 bi-variate relationships we examine, there are only 13 relationships that reach at least a $p<.1$ level of statistical significance.

We believe that the lack of many significant relationships suggests that unions focus their attention on certain clusters of provisions, not legislation in total. For instance, there are positive correlations between protection of health, retirement, and tenure. There is a also a positive correlation between requiring local school districts to approve charters, adherence to existing district collective bargaining agreements, and preventing charters from hiring/firing teachers without district oversight. These suggest that union strength in these areas may be able to push through these provisions in tandem. These clusters of influence, however, do not seem to extend to all the provisions. This finding on the unions' lack of complete influence suggests a more "targeted" political role for unions as contrasted with a more "universalistic" role as suggested by Terry Moe's research.

Operationalizing the Law

Whether the focus is on these personnel policies, or on a different set of

provisions, the first step for empirical analysis is to operationalize the substance of the legislation into variables suitable for inclusion in statistical models. This first step, determining what questions to ask and how to phrase them, is an important one that deserves careful consideration. A challenge to creating accurate 0-1 variables is that there is no allowance for middle ground. We did not want to make the value judgment inherent in scales and indexes. Consider our question about whether or not districts are required to provide teachers with a leave of absence. We phrased our question: *Must* the local school district provide a leave of absence to teachers going to charter schools? The word "must" meant that we coded as 0 those states where districts *may* offer a leave of absence, and those states where the issue was to be determined as part of the charter contract.

An alternative and more subjective approach would have been to formulate a "Leave of Absence Scale Score", in which we included a range of possibilities: must provide leave, likely to provide leave, not likely to provide leave, leave subject to bargaining, etc. While such a scale provides more flexibility than 0-1 formulations, we believe the virtue of our approach is in its objectivity. The way we word our questions, the only debate can be about statutory interpretation. There is no room for subjective debate about the actual measure. The same cannot be said of a scale approach. For instance, how would "must provide leave" be coded relative to the alternatives. Are they all one unit apart, e.g. 1-2-3, or is there a more incremental increase? Such subjective discussions are eliminated with our approach.

Another issue that arises is what to do when a state allows for multiple types of charter schools to be governed under different rules. Louisiana's charter legislation, for example, provides for five types of charter schools, which each have slightly different

regulations from one another. Even though each of the types has an application process and an appeals process, the procedures differ slightly from one another. Therefore, making generalizations across a single state regarding a type of process (e.g., appeals, admissions, etc.) may be misleading if not carefully worded.

To use an example from our coding, we ask: Is the *default* arrangement for *all* charter schools to be subject to the *district's* pre-existing collective bargaining agreement (CBA)? Several parts of this question should be noted. First, in this question we are looking at the district's collective bargaining agreement, not whether or not the charter school employees can organize themselves. Second, we look to see whether this is the default arrangement, i.e. if there is no other negotiation, would the district's agreement be binding on the charter school. Finally, to address the multiple-types of charter schools issue, we ask whether *all* charters are subject to the agreement. In Michigan, where only public school academies authorized by the school districts are subject to the CBA, we coded our question 0.[33] Again, we note that researchers could ask a variety of related questions by changing the details of the language. Changing the word "all" to "majority" or the word "district's pre-existing CBA" to "any CBA" would change the 0-1 designation in some of the states. We argue not for any particular formulation of these questions, but rather that questions be tailored to the researcher's specific goals and that the wording of those questions is carefully attended to.

Once the initial questions were formulated, we turned to the actual text of state legislation. We utilized the Lexis-Nexis database of state codes, but researchers can also

[33] MCLS § 380.503.Sec 503(5)(e) reads: "For a public school academy authorized by a school district, an agreement that employees of the public school academy will be covered by the collective bargaining agreements that apply to employees of the school district employed in similar classifications in schools that are not public school academies."

find every state's code provisions online. The Law Librarians' Society of Washington maintains an online Legislative Source Book that provides links to each state's code and pending legislation.[34] In practice, the first two steps – formulating questions and turning to the text – are not separate. We refined and revised our questions in light of the statutes we read. The statutes also challenged us to think of questions that we had not considered initially.

For each question, we identified the specific legal authority that addressed the question. In Table 3, we provide our coding for the twelve provisions. We also include the legal citation for the provision. The primary cost associated with our approach is that the coding process, and in particular finding the precise legal authority related to specific legal questions, is time consuming. We believe, however, that the benefits to this approach will outweigh the costs because the data can be utilized by other researchers who will not have to retrace every citation. Rather, these researchers will be able to locate immediately the parts of the school code most relevant to their work. We hope to have an electronic version of our coding online soon, including expansion of coding to many additional provisions.

Coding Details

Anyone who has coded laws knows that the process is tedious. But beyond tediousness, coding charter school legal provisions is especially complex because the law governing charter schools is not self-contained in state charter school statutes. State law, federal law, and administrative rules interact with the charter statute in ways that are

[34] See: http://www.llsdc.org/sourcebook/state-leg.htm

often difficult to determine.[35] Jennings, et. al. (1998) have conducted the most careful legislative analysis of this sort, consulting not only judicial and advisory opinions, but also state officials to clarify ambiguities in interpretation. It has been eight years since the Jennings, et. al. report, however, and others have not carried out the same type of detailed study.

Often charter school laws refer to other statutes, and it is only by reading these other laws that one can understand how the law operates on the schools. Sometimes the references are straightforward. In Nevada, for instance, the law says that: "…on or before July 15 of each year, the governing body of each charter school shall submit the information concerning the charter school that is required pursuant to subsection 2 of NRS 385.347 to the board of trustees of the school district in which the charter school is located …".[36] In order to understand this requirement, we have to look up Nev. Rev. Stat. 385.347. When we do, we find that it provides in great detail Nevada's program of accountability for school districts. In some states, relevant provisions are not as clearly referenced. In Wisconsin, for instance, the statute governing collective bargaining is not contained within the charter school statute itself.[37] One must also turn to a different statute to determine that charter school teachers are to be included in the definition of

[35] Williams, S. (1997). "State Formation of Charter Schools in Kansas," 6 Kan. J.L. & Pub. Pol'y, No. 3, 103. Robert J. Martin. 2005. Rigid Rules for Charter Schools: New Jersey as a Case Study. 36 Rutgers L. J. 439.

[36] Nev. Rev. Stat. Ann. § 386.605 (2004).

[37] Buried in the Wisconsin code on Municipal Employment is the provision that, "The commission shall place the professional employees who are assigned to perform any services at a charter school, as defined in s.115.001(1), in a separate collective bargaining unit from a unit that includes any other professional employees whenever at least 30% of those professional employees request an election to be held to determine that issue and a majority of the professional employees at the charter school who cast votes in the election decide to be represented in a separate collective bargaining unit." Wis. Stat. § 111.70.(9)d(2)(a). 111.70 (2005).

teacher or the Wisconsin Public Employee Trust Fund.[38]

Federal law also intersects charter school law in important ways. Some federal law is so pervasive that we often overlook it. All states, for example, must have their charter schools follow federal Constitutional regulations related to non-discrimination and workplace safety. In other cases, the relationship between federal and state law is more contested. In New Jersey, a local school district brought a case in federal court to challenge the New Jersey charter school law on the grounds that the state law on serving disabled students was preempted by the federal Individuals with Disabilities Education Act (IDEA).[39] The federal court, after analyzing both state and federal statutes, found in favor of the state on summary judgment. Heubert (1997) and Mead (2002) has explored more in depth charter schools' responsibilities related to children with disabilities.[40] For our purposes here, it is enough to note that coding statutes is likely to require consideration of the background federal principles guiding policy in areas such as children with disabilities.[41]

Interpreting Statutory Silence

The length and complexity of charter school legislation varies greatly across the states. The District of Columbia's charter school legislation, for instance, is 166 pages, while Iowa's is 15 pages. Why is there such difference in length? The reason is that state

[38] Wis. Stat. § 40.02.(55) (2005).
[39] 278 F. Supp. 2d 417 (2003).
[40] Jay P. Heubert, Schools Without Rules? Charter Schools, Federal Disability Law, and the Paradoxes of Deregulation, 32 Harv. C.R.-C.L. L. Rev. 301 (1997) Julie F. Mead. 2002. Determining Charter Schools' Responsibilities For Children With Disabilities: A Guide Through The Legal Labyrinth, Boston Public Interest Law Journal, Spring / Summer, 2002, 11 B.U. Pub. Int. L.J. 167.
[41] An additional area of future contention may be the interaction of federal teacher certification requirements and charter freedom from teacher certification requirements if NCLB's reauthorization introduces new requirements. Currently, NCLB defers to the charter teacher certification requirements set by state departments of education. Section 9101(23)(A)(i)

legislatures vary in the extent to which they explicitly formulate regulations for charters, versus the extent to which they remain silent. Statutory silence, which is the subject of a large literature in law, has not been addressed adequately by education policy analysts. Witte, et. al. (2003), for instance, drop variables because their coding finds that statues remain silent on the issue.[42]

The legal literature on statutory interpretation is too vast to summarize here, but in brief, courts will adopt an approach to statutory silence along these lines:

> "As one court has aptly put it, "not every silence is pregnant." (citation omitted) In some cases, Congress intends silence to rule out a particular statutory application, while in others Congress' silence signifies merely an expectation that nothing more need be said in order to effectuate the relevant legislative objective. An inference drawn from congressional silence certainly cannot be credited when it is contrary to all other textual and contextual evidence of congressional intent."[43]

The important point for social scientists to derive is that just because a state legislature doesn't say anything about a particular issue, it doesn't mean there isn't a law governing that issue. It means, instead, that the governing law must be determined by reading the rest of the statute and inferring intent. In some cases, courts will turn to the doctrine of *expressio unius est exclusio alterius* (the inclusion of one is the exclusion of others). Using an example from the provisions we study, the Minnesota code says that "A board may convert one or more of its existing schools to charter schools under this section if 60 percent of the full-time teachers at the school sign a petition seeking conversion."[44] The statute says nothing about whether the parents of the existing public school to be converted must also give their approval. Here, by requiring only 60% teacher

[42] Page 3.
[43] Costello (2005), citing Burns v. United States, 501 U.S. 129 at 136.
[44] Minn. Stat. § 123D.10, Subd.5.

approval, the Minnesota state legislature is indicating that majority parental approval is not required.

In the present study of twelve provisions, we found significant statutory silence. With twelve provisions for forty states and the District of Columbia, we had a total of 492 possible provisions to be covered by statute. Of these 492 possible instances, statutes were silent 163 times. This is a silence rate of 33%. In Table 3, we indicate with the *s-* prefix all those instances where statutes were silent. With so much statutory silence, it is important to develop methods to systematically fill in the blanks. We have previously introduced the basic approach that courts will use. When available, of course, judicial decisions and opinions from the state Attorney General, can serve to illuminate confusing law.[45]

In some cases, we can turn additionally to legislative history. In determining, for instance, whether Missouri charter school teachers should be given automatic leaves of absence, since the actual statute is silent, we could turn to its legislative history. As originally proposed, the bill read that, Senator Francis (Franc) Flotron, Jr.'s Senate Bill 0798 read, "A district shall grant a teacher's request for a leave of absence to teach at a charter school for up to the term of the charter contract and such leave shall be extended on request by the teacher. A teacher may continue to accrue retirement benefits by paying contributions as provided in the contract between the teacher and the school."[46] Based on this legislative history we read into the silence the intent that districts offer automatic leaves of absences.

[45] In both Georgia (1999 Op. Att'y Gen. No. U99-4) and Louisiana (La. Atty. Gen. Op. No. 1998-341), for instance, the Attorney General issued opinions on the status of charter school teachers in the state's retirement system.

[46] http://www.senate.mo.gov/96info/bills/SB798.htm

In the vast majority of cases, there is no additional legislative, administrative, or judicial guidance. In these cases, we apply the general approach of interpreting silence in light of the overall intent of the state legislature. A good illustrative example is the question of whether or not Iowa charter schools can hire and fire teachers without district approval. The relevant statute reads this way:

> Iowa Code § 256F.7. Employment and related matters: 1. A charter school shall employ or contract with necessary teachers and administrators, as defined in section 272.1, who hold a valid license with an endorsement for the type of service for which the teacher or administrator is employed. 2. The school board, in consultation with the advisory council, shall decide matters related to the operation of the school, including budgeting, curriculum, and operating procedures. 3. Employees of a charter school shall be considered employees of the school district.

Based on this statute, can a charter school terminate one of its teachers if the district opposed the move? On one hand, the charter school "shall employ or contract with necessary teachers and administrators." On the other hand, the *school board* "shall decide matters related to the operation of the school, including budgeting, curriculum, and operating procedures". These two provisions balanced one another. One might argue that the "necessary teachers" clause includes the right to hire/fire. But one might also argue that firing teachers comes under "operation" or "operating procedures". The third provision tips the balance. Since employees of the charter school "shall be considered employees of the school district" it is likely that a school district could exercise the power to prevent a charter school from terminating a teacher. While our legal interpretations are obviously not binding, they are based on careful reading of statutes in light of overall legislative intent. Further, by providing code citations, we make our methods public and allow other scholars to check our interpretations against their own close readings.

III. Empirical Assessment: Applying a traditional state politics framework

In this section we use the new Charter Legislation and Policy database to run preliminary empirical analysis on both of our guiding questions: What factors facilitate the creation of different types of charter laws? How, in turn, do those laws affect the charter school marketplace? To answer these questions, we adopt a state politics framework that attempts to model important political, economic, and demographic factors that are likely to influence state education policy.

Explanatory Variables

What factors are likely to explain the adoption of the labor-related charter school provisions? State politics research has traditionally sought to explain state legislative outcomes with state-level political, economic, and social factors. As discussed by Shen (2003), specifying the correct variables to include in explanatory models is notoriously difficult. With a small-N limiting the number of co-variants that can readily be included in regression analysis, the problem is even more acute for a cross-sectional study such as ours. Our approach here is to consider multiple measures of our key explanatory variable (union strength), and to ground our set of additional control variables in existing literature. Summary statistics for the independent variables are presented in Table 4.

Union Strength. Measuring teacher union strength in the states has been a persistent challenge for researchers. As summarized by Castelo (2005), early measures

have looked at the pervasiveness of collective bargaining agreements.[47] Steelman, Powell, and Carini (2000) introduced, in addition to the percentage of teachers in the state who are covered by a collective bargaining agreement, the percentage of school district employees who are represented by bargaining units.[48] The problem with these approach – looking first at collective bargaining agreements in order to make inferences about union strength – is that it doesn't examine the factors that led to the collective bargaining agreement in the first place. Hoxby (1996) has described the identification problem.[49] Hoxby develops several strategies (e.g. difference-in-difference analyses) to address the identification problem. In our study, where the aim is to explain the existence of particular provisions in state law, Hoxby's approaches are not readily available.

The measure we use in this study comes from the Public Sector Collective Bargaining Law Data Set, created by Valletta and Freeman (1988).[50] Measured over the period 1955-1985, the data set is an attempt to numerically code public sector union strength across the fifty states. Freeman and Valletta examine state laws in five primary areas: contract negotiation, union recognition, union security, impasse procedures, and strike policy.[51] The authors track public sector union strength for five groups: State

---

[47] Castelo, Sophia. 2005. Teachers Unions in Public Education: An Assessment of Their Effects on Student Performance and the Bureaucratization of Public Schools. Stanford University Public Policy Program. Online: http://www.stanford.edu/dept/publicpolicy/programs/Honors_Theses/Theses_2005/Castelo.pdf. Castelo notes that Eberts & Stone (1987) used the presence of collective bargaining to infer strong unionization. Eberts, Randall W. and Joe A. Stone. "Teacher Unions and the Productivity of Public Schools." Industrial and Labor Relations Review 40 (April 1987): 354-363.

[48] L. C. Steelman, B. Powell, and R. M. Carini, "Do Teacher Unions Hinder Educational Performance? Lessons Learned from State SAT and ACT Scores," Harvard Educational Review 70 (2000): 437-466.

[49] Hoxby, C. M. (1996). "How teachers' unions affect education production," Quarterly Journal of Economics. 671-718.

[50] R.G. Valletta and R.B. Freeman, "The NBER Public Sector Collective Bargaining Law Data Set." Appendix B in Richard B. Freeman and Casey Ichniowski, editors, When Public Employees Unionize Chicago: NBER and University of Chicago Press, 1988. The data set is publicly available at: http://www.nber.org/publaw/, and the details of the study and coding scheme are available in a Technical Appendix: http://www.nber.org/publaw/publaw.pdf.

[51] The authors develop 14 specific variables to capture these aspects of union strength.

employees, Local police, Local firefighters, Teachers (non-college), and Other local employees. In our study, we utilize the most recent year of data (1984) available across all states for the group of non-college teachers. We focus on the the measures most relevant to our study: the right to collective bargaining.[52] Collective bargaining rights are measured on a 0-6 scale, with higher numbers representing broader collective bargaining rights.[53]

Big City Influence. State education policy, especially policies surrounding school choice, have been influenced heavily by the interest of states' major urban school systems. Big city school districts face unique challenges that may make charter schools an attractive option. In Indianapolis, for instance, Mayor Bart Peterson has successfully been able to gain chartering authority. The 2001 Indiana charter school law gives Mayor Peterson the authority to charter schools within Indianapolis. Since enactment of the law, Mayor Peterson has chartered 13 charter schools and frequently voiced his support for increasing choice options. In nearby Chicago, Mayor Daley has also made charter schools a prominent part of his new Renaissance 2010 plan.

To serve as a proxy for big city influence, we include in our models a measure of the percentage of the state's public school students who are in school in the largest school district. We expect that the greater this ratio, the more likely it is a state will adopt a provision that promotes charter school growth. To construct the variable, we used the 2003 Common Core of Data district level files. We used the "LOCALE" variable to

[52] The other variables concern: whether the bargaining includes compensation bargaining, union recognition, agency shop, dues check off, union shop, right to work law, mediation availability, fact-finding availability, arbitration availability, scope of arbitration, type of arbitration, and strike policy.
[53] The variable is measured as: 0 = no provision; 1 = collective bargaining prohibited; 2 = employer authorized, but not required to bargain with union; 3 = right to present proposals; 4 = right to meet and confer; 5 = implied duty to bargain; 6 = explicit duty to bargain.

identify the area that districts were serving. With the exception of Hawaii, every state's largest district served either a large city (population greater than or equal to 250,000) or a mid-size city (population less than 250,000). In Hawaii, there is only one district statewide. As a proxy for the effect of the largest city (Honululu) on state education policy, we turned to census data and divided the number of children enrolled in public schools in 2000 who are from Honululu by the total number of children enrolled statewide.

Democratic Party Strength. The relationship between charter schools and political parties is often characterized as Democrats being more anti-charter than Republican counterparts. Empirical analysis has backed up this story.[54] The political story is a complicated one, however, as since the first charter school law was passed in Minnesota in 1992, support for charter schools has come from both Democrats and Republicans.[55] The New Democrat movement in the 1990s included many proponents of charter schools. [56] In his 1996 State of the Union Address, for instance, President Clinton said: "I challenge every state to give all parents the right to choose which public school their children attend, and let teachers form new schools with a charter they can keep only if they do a good job."[57]

Although the impact of Democratic party strength may be muted by these internal conflicts between traditional / New Democrat, it is still important to control for party

[54] Henig, et. al. (2002), Wong and Shen (2002).
[55] Pipho, C. (1993). Bipartisan charter schools. Phi Delta Kappan, 75(2), 10-11.
[56] Al From, director of the Democratic Leadership Council, was on record as saying: "I'm a big proponent of charter schools. I'd like to see charter school districts, where all public schools are run under contract or charter, with high standards and performance accountability, but with choice for parents and without bureaucratic restraints; though they're less resistant than they were, the teachers unions support charter schools only reluctantly." From, Al. 1998. "Don't Muzzle Labor: I May Not Like All It Has To Say, But It Deserves To Be Heard," The New Democrat, March 1, 1998.
[57] Clinton, William Jefferson. 1996. State of the Union Address. January 23, 1996. Online: http://clinton2.nara.gov/WH/New/other/sotu.html.

strength in the state. To do so, we utilize a Ranney party control index.The Ranney index was calculated as described in Bibby and Holbrook (1999).[58] As calculated, it is a proxy for the degree to which the Democratic party holds control (in the previous 4 years) of the governor's seat, the state House of Representatives, and the state Senate. The Ranney Index takes a value of 0-1, with 1 representing total Democratic control and 0 denoting complete Republican control. We used the party index for the year of each state's charter law enactment, thus tracing the political history back four years (presumably the period in which political bargaining was most likely to occur).

Starting teacher salaries. The level of resources available for public education in a state can affect the adoption of charter school legislation in several ways. First, if larger salaries attract higher quality teachers to the public schools, the pressure for reform through charters may be lessened. From a different angle, the lower public school starting salaries the greater the potential threat from charter schools because the public-charter pay differential is presumably lower. Higher starting salaries may also reflect stronger teachers' unions in the state. For all of these reasons, we expect that higher starting teacher salaries should be associated with charter provisions that tend to restrict the charter market. The starting salary data we use is available from Tayler and Fowler (2006), and is unique because it has been corrected for geographic cost variations.

Race Politics. A wide body of literature has noted the importance of race-based politics in the charter school debate. On one hand, concerns have been raised that charter

[58] The 4-year Ranney index was calculated by averaging four percentages: "the average percentage of the popular vote won by Democratic gubernatorial candidates; the average percentage of seats held by Democrats in the state senate, in all legislative sessions; the average percentage of seats held by Democrats in the state house of representatives, in all sessions; and the percentage of all gubernatorial, senate, and house terms that were controlled by the Democrats" (Bibby and Holbrook 1999, page 93).

schools perpetuate or even worsen racial stratification.[59] On the other hand, however, some have argued that charter schools can serve to improve educational opportunities for minorities.[60] In the context of labor market charter school provisions, the most salient argument may be Henig's (2004), that for the African-American community, urban school systems are not only important for educational purposes, but also for the jobs they provide to the minority community.[61] In the present analysis, we include the percentage of non-white residents in the state.[62] To the extent that the Henig argument holds, we would expect a higher percentage of non-white residents to be correlated with provisions that offer greater job security.

Private School Market Share. Charter schools are designed to straddle the public / private school divide, containing elements of both.[63] Existing private schools may see charter schools as competing for a similar group of students and parents. Thus, we would expect greater private school market share to be associated with labor market provisions that raise the costs of teacher transfers to the charter sector. We measure private school market share by estimating the percentage of students in a state enrolled in private schools.[64]

---

[59] See: Frankenberg, E., & Lee, C. 2002. "Race in American public schools: Rapidly resegregating school districts." Cambridge, MA: The Civil Rights Project, Harvard University.

[60] See the collection of essays in: Rofes, Eric and Lisa M. Stulberg, eds. 2004. The Emancipatory Promise of Charter Schools: Toward a Progressive Politics of School Choice. New York: SUNY Press.

[61] Henig, J. R. 2004. Washington, D.C.: Race, Issue Definition, and School Board Restructuring. In Mayors in the Middle: Politics, Race, and Mayoral Control of Urban Schools, J. Henig and W. Rich ed. Princeton, NJ: Princeton University Press.

[62] We utilize the same method for assigning either 1990 or 2000 census figures. See *supra*, note 38.

[63] Julie F. Mead. 2003. Devilish Details: Exploring Features of Charter School Statutes That Blur the Public/Private Distinction. 40 Harv. J. on Legis. 349.

[64] Using data from the Department of Education's Private School Universe Survey, combined with data from the Common Core of Data on student enrollment, we calculated the percentage of students who attend private schools. The measure was created by dividing total number of elementary and secondary private school enrollment by the total number of elementary and secondary students in the state (public and private). Because the private school survey is administered every other year, we calculated this measure for every odd year from 1991 through 2001. In our empirical analysis we then used the measure in the year of

Size of the State School System. There is wide variation in terms of school system size across the fifty states. It is likely that statehouse politics in large states is fundamentally different from politics in smaller states because of the differences in the number of constituent interests being developed. In particular, the presence of large urban districts may drive state policy to provide for more flexible charter school opportunities to meet scaled-up demand. To control for these size-related influences, we include a measure of the size of the state school system. We measure size in this study with the number of students enrolled in the year of charter law enactment.

Revenue from the State. Finally, we include a measure of the percentage of educational revenue that comes from the state (as opposed to local and federal sources). This percentage is determined using data from the U.S. Department of Education's National Center for Education Statistics (NCES), which makes available the annual amount of each state's revenue that comes from state, local, federal, and other sources. In the context of charter schools, more state revenue suggests state have greater control in guiding educational policy. This may be particularly important in regards to the question of whether local districts have veto power of charter school authorization.

Dependent Variables

Dependent variables. Our first set of dependent variables are eleven of the twelve 0-1 provisions identified in Table 3. We present summary statistics for these variables in Table 4. We do not perform regression analysis on the question of whether or not the district's collective bargaining agreement is automatically binding on the charter schools.

enactment (for odd years), or just prior to enactment (for even years). For Maryland, with enactment in 2003, we used the 2001 measure for private school market share.

The reason is that in six of the states, there is no collective bargaining for public school teachers at baseline.[65] Thus, in these states, the question of application of the collective bargaining agreement was not applicable. With these states reduced, the N for the analysis drops to 34. More importantly, there is a very significant bias introduced because there is selection on the independent variable of interest. All of the dropped observations are weak union states.

We have a similar issue arise in the context of our leave of absence provision. In cases where charter school teachers are considered the same as public school teachers, there is no need for a leave of absence. To address this issue, we consider multiple models. In the first model, we drop observations where the two leave of absence questions are not applicable. The N for these models is 33. We then consider an alternative model ("Model B"), in which we code the dropped states as 1, under the assumption that in considering charter teachers the same as public school teachers, districts are essentially offering an indefinite leave. The results from the two models turn out to be substantively very similar.

Because these are dichotomous outcomes, we employ logistic regression. Our state-level measures of union strength and Democratic party strength are not available for Washington, D.C., so it is not included in our analysis and our N is 40.

Putting these variables together in one equation, our final model for the first round of analysis is:

$$PROVISION_i = \beta_0 + b_1 UNION_i + \beta_2 PCT\_NON\_WHITE_i + \beta_3 START\_SALARY_i + \beta_3 PCT\_BIG\_CITY_i + \beta_4 PRIVATE\_SCHOOL_i + \beta_5 DEMOCRAT_i + \beta_6 ENROLL_i + \beta_7 STATE\_REV_i + e_i$$

[65] The six states are Georgia, Missouri, Mississippi, North Carolina, South Carolina, and Virginia.

where $PROVISION_i$ is a dichotomous variable indicating whether or not a state adopted one of the twelve charter law provisions we analyze; UNION is the measure of public sector union bargaining rights in the state; PCT_NON_WHITE is the percentage of state population that is not White, non-Hispanic; PCT_BIG CITY is the percentage of state students who reside in the state's largest city; PRIVATE_SCHOOL is the percentage of students who attend private schools; DEMOCRAT is the 4-year lagged Ranney party index of Democratic party strength; ENROLL is total public school enrollment; and START_SALARY is the cost-adjusted starting teacher salary in the state; and STATE_REVENUE is the percentage of education revenue from the state.

After running these models, we consider a second preliminary analysis in which we examine the relationship between charter laws and two aspects of the charter market: charter school students as a percentage of the whole, and charter schools as a percentage of all schools. We include the same set of control variables, but add to the mix the individual provisions and the union indices.

III.C. Results of Analysis

Our results call into question the ability of state level variables to predict the adoption of individual charter law provisions. The results of the first set of regressions are presented in Tables 5, 6.1 and 6.2. The second set of regressions are summarized in Table 7. Because the analysis employs logit regression, the results in these tables are in odds-ratios. The odds-ratios can be interpreted as the increase in odds of the provision being adopted, given a one unit change in the independent variable.

Indices sensitive only to enrollment and big city influence

The results of our models predicting the union and CER indices (Table 5) suggest that these aggregate indices are sensitive only to the percentage of students located in a state's largest urban city, and to overall state size. Larger school systems are inversely related to the indices of both traditional and reform goals, while positively correlated with the CER's overall grade. This finding suggests that large states may be more likely to seek new choice options, and less likely to be restrained by union interests. It may be that in larger states, union power tends to be countered by pro-charter forces and organized interests. Larger states are also likely to face more accountability challenges, thereby producing broader public support for alternative reform strategies, including charter schools. In contrast, there is a positive correlation between our proxy for big city influence and support for traditional union goals. This makes sense in light of the entrenched teachers union interests in many major U.S. cities.

It is striking that none of the other control variables are significant predictors of the charter law indices. This suggests either limitations with the model (e.g. omitted variables) or the inability of the indices to adequate capture the nuances of the charter law. We turn now away from indices and to individual provisions.

Union influence mixed

The results of our individual provision analysis suggest that once additional factors are controlled for, union influence may not be as strong as hypothesized. We find our measure of union strength to be significant on only two of the traditional union interest provisions; and not significant in relationship to the reform unionism interest provisions. Unions' mixed influence suggests that political compromises are at work.

Politicians may be willing to grant union demands on certain bottom line issues, but in return, policymakers prevail on other operation issues.

States that have stronger union bargaining rights are more likely not to require leaves of absence for charter school teachers, and are less likely to secure tenure when a teacher moves from a public to a charter school. On one hand, this would seem to cut against the unions' interest in having charter school teachers considered as teachers in the local school district. But on the other hand, in order to strengthen their position relative to charter schools, unions have an interest in raising the costs of charter transfer. Removing some of the tenure securities, and also placing district employment status at risk, are both ways that the costs of teaching at a charter school increase.

The lack of significance of union strength on automatic participation in the district's retirement plan can likely be traced to independent interest of state legislatures in providing for retirement plans for all public employees. In other words, a strong union isn't necessary for protection of retirement benefits because the state is already cognizant of this need.

While the measurement of union strength is a significant predictor for two of the traditional union interest provisions, it does not fare as well in predicting the provisions more closely related to reform unionism. These null findings support the contention that political interests are likely to target their influence on the provisions most closely related to their economic interests. Whether a charter school must give preference to at-risk students, for instance, is likely to be less of a concern for teachers unions since it does not directly affect teachers pay, benefits, or tenure.

III.C.3. Race

Our findings with regard to race provide strong support for Henig's (2004) argument that for minority constituencies, primarily African-Americans, may be concerned that charter schools threaten an important source of jobs. We find that states with greater percentages of non-white residents are more likely to be guaranteed employment in the school district after return from a charter school leave of absence and more likely to have charter school teachers automatically covered by health care (Table 6.1). These findings are consistent with recent statements from Bob Lydia, president of the NAACP's Dallas branch. In response to President Bush's July 2006 address to the NAACP, Lydia said in an interview that, "Charter schools are a sore spot with us."[66] He pointed in his comments to the money that is moved out of the traditional public education system.

Private school market and size of school system

We find that states with larger public school systems are more likely to loosen the constraints of their labor-related provisions in charter school laws. States with larger student enrollment are less likely to require districts to provide retirement benefits, health care, or jobs upon a teacher's return from a charter school. In larger states, charters are also given more autonomy to hire/fire without district oversight. Why are larger states less stringent on these provisions, which would seem to encourage teachers to experiment with teaching in charters? The question deserves further investigation, but one preliminary explanation is the administrative costs of performing these services for

[66] Quoted in: Douglas, William. 2006. "Bush addresses NAACP for the first time in his presidency," McClatchy Newspapers, July 20, 2006.

charter teachers is greater in larger school systems.

Consider, for example, the administrative costs in requiring that charter school employees be covered in the local school district's health care plan. In a small system, where there may be the potential for only a small number of teachers to fit into this category, it seems feasible to track all teachers. As system size increases, however, the costs of tracking down every charter school teacher increase.

The private school market share variable is a significant predictor of labor provisions, but the relationship is not consistent across provisions. Our competition hypothesis – that private schools would have an interest in preventing charter operation – gains support from findings that states with greater percentages of students in private schools are less likely to require districts to give leaves of absences and less likely to require districts to cover charter schools in terms of retirement and health care plans (Table 6.1). At the same time, however, these states are more likely to ensure jobs upon return from charter teaching, and require both teacher and parent approval of charter conversions (Table 6.1, 6.2). These mixed findings suggest to us that the relationship between private school climate and charter schools is about more than just competition. It may be that our measure of private school enrollment is also picking up a state's positive predisposition toward school choice. If this is the case, then a more favorable private school climate might lead to more favorable charter provisions. More work is necessary to tease out these competing effects.

Charter School Market & Charter Laws. When we preliminarily examine the relationship between the union provision indices and charter school market share, no clear relationship emerges (Table 7). Indeed, the regression results suggest some puzzling

results: Democratic party strength is inversely related to indices of both traditional and reform union goals. The percentage of revenue from state sources is positively associated with market share, suggesting that states controlling the market place are in a better position to promote charter reform.

IV. New Model for Understanding Charter Law and Charter Outcomes

From a policy perspective, the most pressing questions for charter schools are (1) whether the reform can be scaled up, and (2) if the charter movement is sustainable, moving from its experimental beginnings to a more mature, stable system. State legislation will facilitate or undermine the conditions which promote these objectives.

The discussion and empirical analysis in this paper challenge our conventional notions of charter school laws, and the relationship between those laws and charter school outcomes. Conventional wisdom is that charter school laws are generally either "weak" or "strong" and that "strong" laws will tend to be associated with better charter outcomes in a state. Our analysis raises two fundamental questions about this approach. First, our analysis of legislation suggests strongly that there is as much, if not more, within state variation as compared to between-state variation. The best comparisons to make may not be between states, but between schools and districts within states. Second, our preliminary analysis suggests that not all provisions are created equal – we should not expect all provisions, and especially not rough indices – to be accurate predictors of achievement outcomes.

Future research on the relationship between charter school law and outcomes will benefit from new data sources. For instance, adding measures of charter school waiting

lists at individual schools and districts can provide additional leverage on how the law is operating to promote charter demand. In addition, we plan to code the rest of the areas of charter school laws to see if other aspects of charter legislation follow the same pattern we have seen here with personnel policy. Future research can also include duration or event history analysis to better capture the dynamic aspects of the policy process.

The most important question, of course, is how to connect the charter law provisions to student academic outcomes. Cross-state achievement comparisons are notoriously difficult since states employ different achievement tests. National exams such as NAEP are not yet available for enough charter schools to allow for significant national comparisons. One method, used by Loveless (2003) is to generate z-scores to facilitate cross-state comparisons of charter schools.

Our analysis suggests that a promising alternative route is to adjust the unit of observation from the state, down to the school district or even school level. Hierarchical modeling might be appropriate, especially where additional legal layers (e.g. district-level collective bargaining agreements) are in play. A multi-level analysis would recognize the complex interactions between state, local, and charter school administration. Future analysis should also improve its measure of union strength.

For state and local policymakers, the policy implications to derive from our analysis include:

- Paying attention to the details of individual provisions in the charter legislation, as these provisions may work at cross-purposes and frustrate the overall growth of the charter movement.
- Recognizing that the charter school law will have differentiated effects on

districts and schools in the state, state lawmakers may consider market segmentation to more efficiently improve educational offerings.

- Acknowledging that the charter movement must be particularly sensitive to the needs of large, urban districts which may be driving policy in many states.

There are lessons, too, for the federal government:

- Continue financial incentives to promote the laboratories of innovation (such as charters);
- Ensure the rights of at risk children to attend charter; and
- Provide sufficient support for charters in large urban districts as they face greater challenge in raising student performance.

As our Charter Legislation and Policy database expands, and we are able to make connections between legal provisions and tangible charter outcomes, we will be able to offer more specific policy recommendations for multiple layers of government.

REFERENCES

Barnes, R. D. 1997. "Group conflict and the constitution: Race, sexuality, and religion: Black America and school choice, chartering a new course," 106 Yale L. J. 2375.

Baumgartner, F. R. and Jones, B. D. (1993). Agendas and instability in American politics. Chicago: University of Chicago Press.

Berry, F.S. and Berry, W.D. (1990). State lottery adoptions as policy innovations: An event history analysis. American Political Science Review, 84: p. 395-416.

Berry, F.S. and Berry, W.D. (1992). Tax innovation in the states: Capitalizing on political opportunity. American Journal of Political Science, 34: p. 714-742.

Buss, William G. 1999. "Teachers, Teachers' Unions and School Choice," in School Choice and Social Controversy: Politics, Policy, and Law, edited by Stephen D. Sugarman and Frank R. Kemerer. Washington, DC: Brookings Institution Press, Pp. 300-331.

Center for Education Reform. (2001). Charter school laws: Scorecard and rankings. Washington, D.C., Center for Education Reform.

Chubb, J. E. & Moe, T. M. (1990). Politics, Markets, And America's Schools.

Cohen, M. D., March, J. D., & Olsen, J. P. "A Garbage Can Model of Organizational Choice," Administrative Science Quarterly, 17, March 1972, pp. 1-25.

Cooper, B. S., & Liotta, M.-E. (2004). Competing futures for U.S. teachers' unions: Politics at the crossroads of fiscal capacity and legal rights. In K. DeMoss & K. Wong (Eds.), Money, politics and law (pp. 115-131). Larchmont, NY: Eye on Education.

Elizabeth Garrett, Money, Agenda Setting, and Direct Democracy, 77 Tex. L. Rev. 1845, 1859 (1999).

Finn, C.E., Manno, B.V., & Vanourek, G. (2000). Charter Schools in Action: Renewing Public Education. Princeton, NJ: Princeton University Press.

Gray, V. (1973). Innovation in the states: A diffusion study. American Political Science Review. 1973. 67(4): p. 1174-1185.

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

Green, P. C. III & Mead, J. F. 2004. Charter schools and the law: Establishing new legal relationships. Norwood, MA: Christopher-Gordon Publishers, Inc.

Hart, G.K. and Burr, S. (1996). The story of California's charter school legislation. Phi Delta Kappan, 78(1), 37-41).

Hassel, B. M. (1999) The Charter School Challenge: Avoiding the Pitfalls, Fulfilling the Promise. Washington, D.C.: Brookings Institution Press.

Henig, J. R., Holyoke, T. T., Moser, M., Brown, H., Lacireno-Pauet, N. "The political dynamics of charter school policies." Paper presented at the 98th Annual Meeting of the American Political Science Association, Boston, MA.

Hero, R. E. (1998). Faces Of Inequality: Social Diversity In American Politics. New York : Oxford University Press.

Heytens, T. J. 2000. (Note). "School choice and state constitutions," 86 Va. L. Rev. 117.

Howard, D. (1996). "Rewarding and Sanctioning School District Performance By Decreasing Or Increasing the Level of State Con-trol,", 5 Kan. J.L. & Pub. Pol'y, No. 3, 187, 189, 195, 196, 198.

Howell, W. G. & Peterson, P. E. (2002). The Education Gap: Vouchers and Urban Schools. Washington, DC: Brookings.

Hoxby, C. (1994b). Does Competition Among Public Schools Benefit Students and Taxpayers? NBER Working Paper No. 4979.

Hoxby, C. M. (1996). "How teachers' unions affect education production," Quarterly Journal of Economics. 671-718.

Kingdon, J. W. (1984). Agendas, alternatives, and public policies. Boston: Little, Brown.

Kolderie, T. (2000). "What does it mean to ask: "Is 'Charter Schools' Working?" Accessed May 2003 on-line at: http://www.charterfriends.org/working.html.

Lieberman, Myron. The Teacher Unions: How They Sabotage Educational Reform and Why. San Francisco: Encounter Books, 2000.

Loveless, Tom, ed. 2000. Conflicting Missions?: Teachers Unions and Educational Reform. Washington, D.C.: Brookings Institution Press.

Loveless, Tom. 2003. Brown Center Report on American Education 2003. Washington, D.C.: Brookings Institution.

Maranto, R., Milliman, S., Hess, F., & Gresham, A., eds. (1999). School Choice in the Real World: Lessons from Arizona Charter Schools. Boulder, CO: Westview Press.

Mauhs-Pugh, T. (1995). Charter Schools 1995: A Survey and Analysis of the Laws and Practices of the States. Education Policy Analysis Archives, 3(13). Available at http://epaa.asu.edu/epaa/v3n13/

Mintrom, M. (1997) "Policy Entrepreneurs and the Diffusion of Innovation," American Journal of Political Science 41: 738-70.

Molnar, A. (1996). Charter schools: The smiling face of disinvestment. Educational Leadership, 54, 9-15.

Nathan, J. (1996). Charter schools: Creating hope and opportunity for American education. San Francisco: Jossey-Bass Publishers.

Nelson, F. Howard, et al, "Are Teacher Unions Hurting American Education?" The Institute for Wisconsin's Future, October 1996.

Palmer, L. B. & Gau, R. (2003). Charter School Authorizing: Are states making the grade? Report prepared for the Thomas B. Fordham Institute, June 2003.

Parker, W. 2002. "The color of choice: Race and charter schools," 75 Tul. L. Rev. 563.

Powell, Brian, et al. "Do Teacher Unions Hinder Educational Performance? Lessons Learned from State SAT and ACT Scores." Harvard Educational Review, Winter 2000.

Rofes, E. (1998). How are school districts responding to charter laws and charter schools? Technical report prepared for the Policy Analysis for California Education (PACE), Berkeley, CA.

Scott, J. T. & Barber, M. F. (2002). "Charter Schools in California, Michigan, and Arizona: An Alternative Framework for Policy Analysis." Occasional Paper No. 40, National Center for the Study of Privatization in Education. Teachers College, Columbia University.

Shen, F. X. (2003). "Specification Uncertainty and Model Averaging in State Policy Innovation Research." Paper presented at the Third Annual Conference on State Politics and Policy, Tucscon, AZ.

Sugarman, S.D. and Kobuyama, E. M. (2001). Approving Charter Schools: The Gate-Keeper Function 53 Administrative Law Review 870, 907-09.

Taylor, L.L., and Fowler, W.J., Jr. (2006). A Comparable Wage Approach to Geographic Cost Adjustment. http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2006321

Teske, P., Schneider, M., Buckley, J., & Clark, S. (2000). Does charter school

competition improve traditional public schools? Manhattan Institute's Civic Report, 10 (June 2000).

U. S. Department of Education. (1998). A comparison of charter school legislation: Thirty-three states and the District of Columbia incorporating legislative changes through October, 1998. Available for download at www.uscharterschools.org/pdf/fr/charter_legis.pdf.

U.S. General Accounting Office. (1995). Charter Schools: New Model for Public Schools Provides Opportunities and Challenges. Washington, D.C.: U.S. General Accounting Office.

Urbanski, Adam. "Reform or Be Reformed." Hoover Institution, Fall 2001.

Vanourek, G., Manno, B.V., Finn, C.E., & Bierlein, L.A. (1997). Charter schools in action. Indianapolis and Washington, D.C.: Hudson Institute.

Walker, J.L. (1969). The diffusion of innovations among the American states. American Political Science Review, 63(3): p. 880-899.

Wall, J. T. 1998. "The establishment of charter schools: A guide to legal issues for legislatures," BYU Educ. & L. J. 69.

Wells, A. S. (2000). Beyond the Rhetoric of Charter School Reform: A Study of Ten California School Districts. Los Angeles, CA: UCLA Charter School Study.

Witte, J. F. (2000) The Market Approach to Education: An Analysis of America's First Voucher Program. Princeton, NJ: Princeton University Press.

Wohlstetter, P., Malloy, C. L., Smith, J., & Hentschke, G. "Cross-sectoral alliances in education: A new approach to enhancing school capacity." Paper presented at the 2003 annual meeting of the American Educational Research Association, Chicago IL, April 2003.

Wong, K. K. & Shen, F. X. (2002). "Politics of State-led Reform in Education: Market Competition and Electoral Dynamics," with Kenneth K. Wong, in Educational Policy, 16 (1), March 2002.

Wong, K. K. (1999). Funding Public Schools: Politics and Policy. Lawrence: University of Kansas Press.

Table 1. Oneway Analysis of Variance of Center for Education Reform 10-component index of charter law strength

State	Mean Score	Std. Dev.	State	Mean Score	Std. Dev.
AK	1.9	2.0	MO	3.6	0.7
AR	1.7	1.4	MS	0.2	0.5
AZ	4.6	0.5	NC	3.7	0.8
CA	3.6	1.1	NH	2.8	1.8
CO	3.9	0.8	NJ	3.3	1.4
CT	2.3	1.2	NM	3.0	1.1
DC	4.5	0.6	NV	2.3	1.6
DE	4.5	0.6	NY	3.8	0.9
FL	3.9	1.1	OH	3.8	0.9
GA	2.5	1.7	OK	2.9	1.4
HI	2.0	1.6	OR	3.5	1.3
IA	0.7	1.0	PA	3.7	1.1
ID	2.4	1.8	RI	1.5	1.5
IL	2.7	1.1	SC	2.9	1.2
IN	3.9	0.9	TN	2.1	1.5
KS	1.0	1.3	TX	3.1	1.3
LA	2.6	1.2	UT	2.3	1.5
MA	4.0	0.8	VA	1.3	1.4
MD	1.5	1.5	WI	3.2	1.3
MI	4.4	0.9	WY	2.2	2.0
MN	4.5	0.6	Total	2.9	1.6

NOTES: The CER index considers these ten aspects of charter legislation: Number of Schools Allowed, Multiple Chartering Authorities, Eligible Charter Applicants, New starts allowed, School may be started without evidence of local support, Automatic waiver from state and district laws, Legal / operational autonomy, Guaranteed full per-pupil funding, Fiscal autonomy, Exempt from Collective Bargaining agreement / district work rules

Table 2. Bi-Variate Correlation between individual charter law provisions used to construct union index variables

	[1] Leave of Absence	[2] Job Return	[3] Tenure	[4] Retirement	[5] Health benefits	[6] Local district	[7] Teacher conversion approval	[8] Parent conversion approval	[9] At-risk preference	[10] Certification	[11] Hire / fire
[2] Job Return	0.6466 ***										
[3] Tenure	-0.1887	-0.1887									
[4] Retirement	0.0891	0.0891	0.4927 ***								
[5] Health benefits	-0.0027	0.215	0.2084	0.4144 ***							
[6] Local district	0.0091	0.0091	0.2469	0.007	0.1322						
[7] Teacher conversion approval	-0.075	0.0348	0.0932	-0.1416	-0.2401	0.1278					
[8] Parent conversion approval	0.0915	0.1988	0.128	-0.012	-0.128	0.0998	0.7807				
[9] At-risk preference	0.245	0.245	-0.0509	-0.3085 **	-0.0462	0.1591	0.1032	0.0216			
[10] Certification	0.0157	0.0157	-0.266 *	-0.3574 **	-0.0701	-0.327 **	0.0195	-0.0238	0.1751		
[11] Hire / fire	-0.1494	-0.2919 *	-0.1879	-0.2234	-0.4076 ***	-0.1068	0.1685	0.0538	0.1402	0.3353 **	
[12] Collective bargain	0.1383	0.0109	0.1928	0.2365	0.2173	0.3553 **	-0.2173	-0.1555	-0.0683	-0.3177 *	-0.5311 ***

NOTES: Table displays Pearson's correlation coefficients. Significance denoted as: *** for p<.01, ** for p<.05, * for p<.1. See Table 2 for definitions of variables.

Table 3. Summary of selected charter school provisions for analysis: [Columns: 1: Is there a preference for serving at-risk students? **2:** Must the charter school application go through the local school district (i.e. no alternative routes)? **3:** In order for a charter conversion to occur, must a majority of teachers approve? **4:** In order for a charter conversion to occur, must a majority of parents approve? **5:** Must local district provide a leave of absence to teachers going to charter schools? **6:** Is tenure automatically secured when a teacher goes to a charter school and returns? **7:** Are all charter school teachers automatically covered by the district or state's retirement plan? **8:** Are all charter school teachers automatically covered by the district's health care plan? **9:** If a charter teacher returns to the school district immediately after the leave of absence, are they guaranteed employment in the district? **10:** Is the default arrangement for all charter schools to be subject to the district's pre-existing collective bargaining agreement? **11:** Do at least some charter schools automatically have more relaxed certification requirements? **12:** Can charters automatically hire/fire teachers without district oversight?**]**

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11	Col. 12
Alaska	s-0	1	s-0	s-0	N/A [a]	1	1	1	N/A [a]	1	0	s-0
code cite	14.03.250	§14.03.250 (b)	§14.03.255 (d)	§14.03.255 (d)	.	14.03.255 / 14.03.270	14.03.255 / 14.03.270	14.03.255 / 14.03.270	.	§14.03.270 (b)	14.03.255 / 14.03.270	
Arizona	0	0	s-0	s-0	N/A [a]	1	1	1	N/A [a]	0	1	1
code cite	§ 15-184	§15-183(C)	§15-181(A)	§15-181(A)		§15-187(A)	§15-187(A)	§15-187(A)		§ 15-181	§ 15-181	§ 15-181
Arkansas	1	0	s-0	s-0	N/A [a]	1	1	1	N/A [a]	1	1	s-0
code cite	§6-23-304(1)-(3)	§6-23-103(3)	§6-23-302(5)(B)-(C)	§6-23-302(5)(B)-(C)		§ 6-23-504	§ 6-23-504	§ 6-23-504		§ 6-23-101	6-17-401	§ 6-23-101
Conn.	s-0	1	s-0	s-0	1	0	1	s-1	1	1	1	s-1
code cite	§ 10-66bb	§ 10-66bb.(e)	§10-66aa.(2)	§10-66aa.(2)	§10-66dd(c)	§10-66dd(c)	§10-66dd(c)	§10-66dd(c)	§ 10-66dd.	§ 10-66dd.(4)	§ 10-66dd.	§ 10-66dd.
Colorado	1	1	s-0	s-0	1	s-1	1	s-0	0	1	s-0	1
code cite	§22-30.5-109(3)	22-30.5-107	§22-30.5-106(2)	§22-30.5-106(2)	22-30.5-111	22-30.5-111	§22-30.5-111(3)	§22-30.5-111	22-30.5-111. (2)	22-30.5-104. (4)	22-30.5-104(1)	22-30.5-104. (7) (a)
California	1	1 See: 81 Ops. Cal. Atty. Gen. 140.	1	s-0	0	s-0	0	s-0	0	0	1	1
code cite	§ 47614.5		§47605(a)(2).	§47605(a)(2)	§ 47605.(M)	§ 47605.	§47611	§ 47605.	§ 47605.(M)	§ 47605.	§47605(l).	§ 47605.
Delaware	1	0	1	1	1	0	0	s-0	1	0	1	1
code cite	§ 506	§ 503	§507	§507	§507(d)	§507	§507(e)	§ 507.	§ 507.(d)	§ 507.	§507(c)	§504A(7)
Wash. D.C.	1	1	1	1	1	1	0	0	1	0	1	1
code cite	§ 38-1702.01(a)(3).	§ 38-1702.01	§ 38-1702.02(b)(4) / § 38-1802.01(a)(3)(B)	§ 38-1702.02 (3)	§ 38-1702.08(a)	§ 38-1802.07(b) and § 38-1802.07(b)(2)	§ 38-1802.07(b)(2)	§ 38-1702.12.	§ 38-1702.08	§ 38-1702.02(b)(5)	§ 38-1702.02(15)	§ 38-1702.05.(e)
Florida	1	1	1	1	1	0	0	s-0	s-1	0	0	1
code cite	§1002.33(10)(d).	§ 1002.33(6)(b).	§ 1002.33(3)(b)	§ 1002.33(3)(b)	§1002.33(12)(e)	§1002.33(12)(e)	§1002.33(12)(i)	§1002.33(9)	§1002.33(12)	§ 1002.33(12)(b)	§ 1002.33(12)(f)	§ 1002.33(12)(a)

Table 3. Summary of selected charter school provisions for analysis: [Columns: 1: Is there a preference for serving at-risk students? **2:** Must the charter school application go through the local school district (i.e. no alternative routes)? **3:** In order for a charter conversion to occur, must a majority of teachers approve? **4:** In order for a charter conversion to occur, must a majority of parents approve? **5:** Must local district provide a leave of absence to teachers going to charter schools? **6:** Is tenure automatically secured when a teacher goes to a charter school and returns? **7:** Are all charter school teachers automatically covered by the district or state's retirement plan? **8:** Are all charter school teachers automatically covered by the district's health care plan? **9:** If a charter teacher returns to the school district immediately after the leave of absence, are they guaranteed employment in the district? **10:** Is the default arrangement for all charter schools to be subject to the district's pre-existing collective bargaining agreement? **11:** Do at least some charter schools automatically have more relaxed certification requirements? **12:** Can charters automatically hire/fire teachers without district oversight?**]**

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11	Col. 12
Georgia	0	1	1	1	s-0	s-1	1	s-0	s-0	N/A [b]	0	s-1
code cite	§ 20-2-2061	§ 20-2-2064	§20-2-2064(a)(1)	§20-2-2064(a)(2)	§ 20-2-2065	§ 20-2-2065	See: Op. Att'y Gen. No. U99-4.	§ 20-2-2065	§ 20-2-2065	.	§ 20-2-2065	§ 20-2-2065
Hawaii	s-0	1	1	1	0	1	s-1	s-1	s-1	1	s-0	s-0
code cite	§ 302A-1182	§ 302A-1182(b)	§302A-1191(b)(2)	§302A-1191(b)(2)	§ 302A-1182(c)(1)	§ 302A-1184(b)	§ 302A-1184	§ 302A-1184	§ 302A-1184	§ 302A-1184(a)(1)	§ 302A-1182	§ 302A-1182
Idaho	s-0	1	1	1	0	1	1	1	0	0	0	s-1
code cite	§ 33-5202.	§ 33-5205(1)(b)	§ 33-5205(1)(e)	§ 33-5205(1)(e)	§ 33-5205(3)(o)	§ 33-5206(3)	§ 33-5205(3)(m)	§ 33-5205(3)(m)	§ 33-5205(3)(o)	§ 33-5205(3)(p)	§ 33-5205(3)(f)	§ 33-5205
Illinois	1	1	1	1	1	1	1	s-0	1	0	1	s-1
code cite	§ 105 ILCS 5/27A-8(a)(3)	§ 105 ILCS 5/27A-6.	§ 105 ILCS 5/27A-8(b)	§ 105 ILCS 5/27A-8(b)	§ 105 ILCS 5/27A-10(b)	§ 105 ILCS 5/27A-10(b)	§ 105 ILCS 5/27A-10(b)		§ 105 ILCS 5/27A-10(b)	§ 105 ILCS 5/27A-7(11)	§ 105 ILCS 5/27A-10(c)	§ 105 ILCS 5/27A-7
Indiana	0	0	1	1	1	1	1	0	s-0	0	1	s-1
code cite	§ 20-24-2-1.	§ 20-24-1-9	§ 20-24-11-1	§ 20-24-11-1	§ 20-24-6-10	§ 20-24-6-10	§ 20-24-6-6	§ 20-24-3-4. / § 20-24-6-1.(d)	§ 20-24-6-1.	§ 20-24-3-4(c)(2) and § 20-24-6-1 and § 20-24-6-3 and § 20-24-6-4	§ 20-24-6-5 and § 20-24-6-6.	§ 20-24-3-4(a)
Iowa	s-0	1	1	1	N/A [a]	1	1	1	N/A [a]	s-1	0	s-0
code cite	256F.1	256F.3(3)	§ 256F.3(2)	§ 256F.3(2)		256F.7	256F.7	256F.7		256F.7	256F.7(1)	§ 256F.7.
Kansas	s-0	1	0	0	s-0	s-1	1	1	s-0	s-1	s-0	s-1
code cite	72-1903	72-1906	72-1906	72-1906	72-1906(b)13	72-1906(b)13	72-1909(a)	72-1909(b)	72-1906(b)13	72-1909	72-1906	72-1906(b)12
Louisiana	1	1	1	1	1	1	0	0	1	1	1	s-1
code cite	§ 17:3972	§ 17:3982	§17:3983(C)(1)(a)	§17:3983(C)(2)	§17:3997.B.(1)	§17:3997.A.(2)	La. Atty. Gen. Op. No. 1998-341	§ 17:3997(B)(5	§ 17:3997(B)	§17:3996.D	§17:3991(C)(6)(a)(i)	§ 17:3991

Table 3. Summary of selected charter school provisions for analysis: [Columns: 1: Is there a preference for serving at-risk students? **2:** Must the charter school application go through the local school district (i.e. no alternative routes)? **3:** In order for a charter conversion to occur, must a majority of teachers approve? **4:** In order for a charter conversion to occur, must a majority of parents approve? **5:** Must local district provide a leave of absence to teachers going to charter schools? **6:** Is tenure automatically secured when a teacher goes to a charter school and returns? **7:** Are all charter school teachers automatically covered by the district or state's retirement plan? **8:** Are all charter school teachers automatically covered by the district's health care plan? **9:** If a charter teacher returns to the school district immediately after the leave of absence, are they guaranteed employment in the district? **10:** Is the default arrangement for all charter schools to be subject to the district's pre-existing collective bargaining agreement? **11:** Do at least some charter schools automatically have more relaxed certification requirements? **12:** Can charters automatically hire/fire teachers without district oversight?**]**

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11	Col. 12
Maryland	s-0	1	s-0	s-0	N/A [a]	s-1	1	s-0	N/A [a]	1	0	s-0
code cite	§ 9-101	§ 9-104.	§ 9-104	§ 9-104		§ 9-108	§ 9-108	§ 9-106.		§ 9-108.	§ 9-105	§ 9-102(11)
Mass.	s-0	0	0	0	1	s-1	1	s-0	1	0	0	s-1
code cite	§ 89.	§ 89.(g)	§ 89. (b)	§ 89. (b)	§ 89. (bb)	§ 89. (bb)	§ 89. (aa)	§ 89. (u)	§ 89. (cc)	§ 89. (u)	§ 89. (qq)	§ 89. (j)
Michigan	s-0	0	s-0	s-0	s-0	s-0	s-0	0	s-0	0	1	1
code cite	§ 380.502	§ 380.502	§ 380.502	§ 380.502	§ 380.502	§ 380.502	§ 380.502	§ 380.502	§ 380.502	§ 380.503.Sec 503(5)(e)	§ 380.505	§ 380.506
Minnesota	s-0	0	1	0	1	1	1	s-0	s-1	0	0	1
code cite	124D.10	§ 123D.10.Subd.3	§ 123D.10, Subd.5	§ 123D.10, Subd.5.	§ 123D.10.Subd.20.	§ 123D.10.Subd.20.	§ 123D.10.Subd.20	124D.10	§ 123D.10.Subd.20.	§ 123D.10.Subd.21	§ 123D.10, Subd.11.	§ 123D.10, Subd.11.
Mississippi	s-0	1	1	1	N/A [a]	1	1	1	N/A [a]	N/A [b]	0	s-0
code cite	§ 37-28-1	§ 37-28-5.(a)	§37-28-5(b)	§37-28-5(c)		§ 37-28-17	§ 37-28-17	§ 37-28-17		.	§ 37-28-17	§ 37-28-17
Missouri	1	1	s-0	s-0	s-1	1	0	0	s-1	N/A [b]	1	s-1
code cite	§ 160.405.(4). (4)	§ 160.405	§ 160.400.	§ 160.400.	§ 160.420	§ 160.420.(1)	§ 160.420.(1)	§ 160.420.(1)	§ 160.420	.	§ 160.420.(2)	§ 160.405.(1)
Nevada	1	1	s-0	s-0	1	1	1	s-1	1	1	1	1
code cite	§386.510(2)	386.525.	§386.505	§386.505	§386.595(5)	§386.595(7)	§386.595(7)	§386.595	§386.595	§386.595(2)	§386.590(1)	§386.595(3)
New Ham.	s-0	1	1	0	s-0	s-1	0	s-0	s-0	0	1	1
code cite	§ 194-B:9	§ 194-B:3	§194-B:3(VI)(1)	§194-B:3(VI)(1)	§ 194-B:3	§ 194-B:3	§194-B:14(III)	§ 194-B:14	§ 194-B:3	§194-B:13 and §194-B:14(I)	§194-B:14(IV)	§ 194-B:3
New Jersey	1	0	1	1	1	1	1	1	1	0	1	1
code cite	§ 18A:36A-3	§ 18A:36A-4.	§ 18A:36A-4(b).	§ 18A:36A-4(b)	§ 18A:36A-14(d)	§ 18A:36A-14(d)	§ 18A:36A-14(d)	§ 18A:36A-14(d)	§ 18A:36A-14(e)	§ 18A:36A-14(b)	§ 18A:36A-14(c)	§ 18A:36A-14(b)
New Mex.	0	1	1	1	1	1	s-1	s-0	1	s-1	s-0	1

Table 3. Summary of selected charter school provisions for analysis: [Columns: 1: Is there a preference for serving at-risk students? **2:** Must the charter school application go through the local school district (i.e. no alternative routes)? **3:** In order for a charter conversion to occur, must a majority of teachers approve? **4:** In order for a charter conversion to occur, must a majority of parents approve? **5:** Must local district provide a leave of absence to teachers going to charter schools? **6:** Is tenure automatically secured when a teacher goes to a charter school and returns? **7:** Are all charter school teachers automatically covered by the district or state's retirement plan? **8:** Are all charter school teachers automatically covered by the district's health care plan? **9:** If a charter teacher returns to the school district immediately after the leave of absence, are they guaranteed employment in the district? **10:** Is the default arrangement for all charter schools to be subject to the district's pre-existing collective bargaining agreement? **11:** Do at least some charter schools automatically have more relaxed certification requirements? **12:** Can charters automatically hire/fire teachers without district oversight?**]**

	Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11	Col. 12
code cite	§ 22-8B-4.	§ 22-8B-6(A)	§ 22-8B-6(E).	§ 22-8B-6(E).	§ 22-8B-10(B)	§ 22-8B-10(C)	§ 22-8B-10(D)	§ 22-8B-8.(J)	§ 22-8B-10.(F)	§ 22-8B-4.	§ 22-8B-4.	§ 22-8B-4.C.
New York	1	1	1	1	1	1	s-1	s-0	1	0	1	s-1
code cite	§ 2850 / § 2852	§ 2851	§ 2851(3)	§ 2851(3)	§ 2854	§ 2854	§ 2854(3)(c)	§ 2854(3)	§ 2854	§ 2854(3)(b-1)	§ 2854.(3)(a-1)	§ 2853(1)
N. Carolina	1	1	1	0	1	s-1	1	1	1	N/A	1	1
code cite	§ 115C-238.29A / § 115C-238.29C.	§ 115C-238.29B	§ 115C-238.29B(a)	§ 115C-238.29B(a)	§ 115C-238.29F(e)	§ 115C-238.29F(e)	§ 115C-238.29F(e)	§ 115C-238.29F(e)	§ 115C-238.29F(e)	.	§ 115C-238.29F(e)	§ 115C-238.29F(e)
Ohio	s-0	1	0	0	1	1	1	0	1	0	0	s-1
code cite	§ 3314.01.	§ 3314.02	§ 3314.02.(B)	§ 3314.02.(B)	§ 3314.10	§ 3314.10	§ 3314.10	§ 3314.03.(a)(12)	§ 3314.10	§ 3314.10	§ 3314.03.(A)(10)	§ 3314.03.
Oklahoma	s-0	1	0	0	0	1	1	1	0	0	1	1
code cite	§ 3-131	§ 3-134(D)	§ 3-132	§ 3-132	§ 3-139.	§ 3-139(A)	§ 3-136.15.	§ 3-136.15.	§ 3-139(A)	§ 3-135.(B)	§ 3-135.B	§ 3-135.B.
Oregon	1	1	0	0	1	1	1	s-1	1	0	0	1
code cite	338.185	338.035.	338.035.1	338.035.1	338.135.3	338.135.4	338.135.5	338.135.4	338.135.4	338.135.8	338.135. 7(b)	338.135.2
Penn.	0	1	1	1	1	1	1	1	1	0	1	1
code cite	§ 17-1702-A.	§ 17-1717-A(c)	§ 17-1702-A.(b)(2)	§ 17-1702-A.(b)(2)	§ 17-1724-A.	§ 17-1724-A.	§ 17-1724-A.	§ 17-1724-A.	§ 17-1716-A.	§ 17-1724-A.	§ 17-1724-A.(a)	§ 17-1716-A.
Rhode Is.	1	1	1	1	1	1	1	s-0	1	0	0	s-1
code cite	§ 16-77-9.(c)	§ 16-77-4.	§ 16-77-3. / § 16-77-4.1.	§ 16-77-3. / § 16-77-4.1.	§ 16-77-3.(e)	§ 16-77-3.(e)	§ 16-77-3.(e)	§ 16-77-4.(b)(12)	§ 16-77-3.(e)	§ 16-77-4.1.	§ 16-77-4	§ 16-77-3
S. Carolina	s-0	1	1	1	1	s-1	1	s-0	1	N/A [b]	1	1
code cite	§ 59-40-20.	§ 59-40-60.	§ 59-40-100(A)	§ 59-40-100(A)	§ 59-40-130.A	§ 59-40-130.	§ 59-40-130.B	§ 59-40-60.	§ 59-40-130.	.	§ 59-40-50.(5)	§ 59-40-60.
Tennessee	1	1	1	1	0	1	1	1	s-1	0	0	s-1
code cite	49-13-106.	49-13-108.	49-13-106.(2)(A)	49-13-106.(2)(A)	49-13-117	49-13-117.	8-35-242.	49-13-119	49-13-117	49-13-118.	49-13-111.	49-13-105.
Texas	0	0	s-0	s-0	s-0	s-0	1	0	s-0	0	1	s-1

Table 3. Summary of selected charter school provisions for analysis: [Columns: 1: Is there a preference for serving at-risk students? **2:** Must the charter school application go through the local school district (i.e. no alternative routes)? **3:** In order for a charter conversion to occur, must a majority of teachers approve? **4:** In order for a charter conversion to occur, must a majority of parents approve? **5:** Must local district provide a leave of absence to teachers going to charter schools? **6:** Is tenure automatically secured when a teacher goes to a charter school and returns? **7:** Are all charter school teachers automatically covered by the district or state's retirement plan? **8:** Are all charter school teachers automatically covered by the district's health care plan? **9:** If a charter teacher returns to the school district immediately after the leave of absence, are they guaranteed employment in the district? **10:** Is the default arrangement for all charter schools to be subject to the district's pre-existing collective bargaining agreement? **11:** Do at least some charter schools automatically have more relaxed certification requirements? **12:** Can charters automatically hire/fire teachers without district oversight?**]**

	Col. 1	**Col. 2**	**Col. 3**	**Col. 4**	**Col. 5**	**Col. 6**	**Col. 7**	**Col. 8**	**Col. 9**	**Col. 10**	**Col. 11**	**Col. 12**
code cite	§ 12.110	§ 12.110.	§ 12.101	§ 12.101	§ 12.111.	§ 12.111.	§ 12.1057.	§ 42.2514. But note: § 1579.251	§ 12.111.	§ 12.111.	§ 12.129. / § 12.130.	§ 12.111.
Utah	s-0	0	1	1	0	1	1	s-0	s-1	s-0	1	1
code cite	§ 53A-1a-506	§ 53A-1a-504.1	§ 53A-1a-504(2)(b)	§ 53A-1a-504(2)(b)	§ 53A-1a-512.	§ 53A-1a-512(6)	§ 53A-1a-512.	§ 53A-1a-508(3)(i)	§ 53A-1a-512(6)	§ 53A-1a-512	§ 53A-1a-512.(4)(a)	§ 53A-1a-512.1
Virginia	1	1	0	0	N/A	1	1	s-1	N/A	N/A [b]	0	0
code cite	§ 22.1-212.11.	§ 22.1-212.9.	§ 22.1-212.8.B(3)	§ 22.1-212.8.B(3)	§ 22.1-212.13.	§ 22.1-212.13.	§ 22.1-212.13.	§ 22.1-212.13.	§ 22.1-212.13.	.	§ 22.1-212.13.	§ 22.1-212.13.
Wisconsin	1	1	1	0	s-0	s-1	1	s-0	s-0	1	0	s-1
code cite	118.40. (3)(d)	118.40.	118.40.1(A)	118.40.1(A)	118.40.	40.02.(55)	40.02.(55)	118.40.	118.40.	111.70.(9)d(2)(a)	118.19.	118.40.
Wyoming	s-0	1	1	1	1	s-1	1	s-0	0	s-1	0	1
code cite	§ 21-3-304	§ 21-3-306	§ 21-3-306	§ 21-3-306	§ 21-3-313	§ 21-3-313	§ 21-3-311	§ 21-3-304	§ 21-3-313.	§21-3-307(a)(xvii)	§ 21-3-308	§ 21-3-307(a)

NOTES: All provisions coded as current through at least October 2005. "s-" indicates that the charter school statute itself is silent on this issue. As discussed in the text, we use generally accepted legal principles of statutory interpretation to determine what the state legislature most likely intended. [a.] In these states, all charter school teachers are considered district employees, and thus applicability of leave of absence provisions is not applicable. [b.] In states where there is no collective bargaining available for public school employees, the question of collective bargain applicability is not applicable.

Table 4. Summary of Variables Used in Analysis

Provision	No	Yes
Can charter school choose its own grades to serve?	2	39
Is a lottery required if there is over-subscription?	9	32
Must charter schools take the same standardized tests as students in non-charter public schools?	1	40
Can an existing public school be converted into a charter school?	0	41
Can a teacher be assigned to a charter school without his/her consent?	40	1
Does the statute contain explicit non-sectarian or non-religious language?	3	38
Is there a preference for serving at-risk students?	23	18
Must the charter school application go through the local school district (i.e. no alternative routes)?	10	31
In order for a charter conversion to occur, must a majority of teachers approve?	16	25
In order for a charter conversion to occur, must a majority of parents approve?	21	20
Must local district provide a leave of absence to teachers going to charter schools?	12	22
Is tenure automatically secured when a teacher goes to a charter school and returns?	6	35
Are all charter school teachers automatically covered by the district or state's retirement plan?	8	33
Are all charter school teachers automatically covered by the district's health care plan?	24	17
If a charter teacher returns to the school district immediately after the leave of absence, are they guaranteed employment in the district?	13	26
Is the default arrangement for all charter schools to be subject to the district's pre-existing collective bargaining agreement?	22	13
Do at least some charter schools automatically have more relaxed certification requirements?	20	21
Can charters automatically hire/fire teachers without district oversight?	7	34

Explanatory Variables	Obs	Mean	Std. Dev.	Min	Max
% of state's students residing in largest urban district	40	0.11	0.08	0.03	0.38
Union Strength - Union Bargaining Rights	40	3.73	1.95	0	6
Beginning teacher salaries ($000)	40	28.39	1.95	24.52	34.40
Public school enrollment (000,000)	40	1.02	1.04	0.10	5.25
% Non-White in State Population	40	0.24	0.14	0.03	0.69
Democratic Party Strength (Ranney Index)	40	0.53	0.17	0.18	0.83
% Enrolled in Private Schools	40	0.10	0.04	0.02	0.19
% of Education Revenue from State Sources	40	0.49	0.14	0.08	0.90

NOTES: Summary statistics of the explanatory variables are for the 40 states with charter school laws, excluding Washington, D.C.

Table 5. Analysis of Union Goals Indexes and comparison to CER Overall Score Measure; Odds-Ratios Reported for Ordered Logit Models, Coefficients reported for CER Model, Robust standard errors in ( )

	Index of Traditional Union Goals	Modified Index of Traditional Union Goals	Index of Reform Union Goals	CER Overall Score
% of state's students residing in largest urban district	9.147 *	4.431	4.306	-16.389
	(4.97)	(-3.977)	(-4.492)	(-20.571)
Union Strength	-0.049	-0.105	-0.206	0.109
	(-0.181)	(-0.154)	(-0.204)	(-0.888)
Beginning teacher salaries ($000)	0.098	-0.027	0.104	0.319
	(-0.215)	(-0.167)	(-0.186)	(-0.899)
Public school enrollment (000,000)	-1.32 **	-0.743 **	0.239	4.338 ***
	(0.521)	(0.316)	(-0.357)	(1.479)
% Non-White in State Population	7.289	2.427	2.814	-17.351
	(-5.193)	(-3.327)	(-3.584)	(-16.549)
Democratic Party Strength	-1.958	-2.029	-1.835	-10.497
	(-3.776)	(-2.288)	(-2.76)	(-11.172)
% Enrolled in Private Schools	4.636	5.856	18.128	57.202
	(-11.787)	(-7.841)	(-11.612)	(-35.929)
% of Educ. Revenue from State	-7.078	-2.233	-2.715	15.753
	(-6.259)	(-3.74)	(-3.155)	(-11.834)
Constant				12.72
				(-23.322)
Observations	29	40	40	40
R-squared	0.18	0.06	0.1	0.22

NOTES: The modified traditional union goals index includes states in which charter school teachers are considered public school employees. See text for discussion. Index models estimated using the ologit command in Stata. OLS regression employed for the CER overall score model. All models use robust standard errors. Pseudo R^2 reported for logit models. Standard errors reported in ( ). Two-tailed significance denoted as: *** for p<.01, ** for p<.05, * for p<.1

Table 6.1 Results from Logit Regression Models for Charter School Provisions

	Must local district provide a leave of absence to teachers going to charter schools?		If a charter teacher returns to the school district immediately after the leave of absence, are they guaranteed employment in the district?		Is tenure automatically secured when a teacher goes to a charter school and returns?	Are all charter school teachers automatically covered by the district or state's retirement plan?	Are all charter school teachers automatically covered by the district's health care plan?
	A	*B*	*A*	*B*			
% of state's students residing in largest urban district	1.173	2.839	-2.387	2.443	61.114 ***	13.958 **	-13.024 *
	(-5.071)	(-5.047)	(-9.244)	(-7.962)	(16.844)	(7.084)	(7.774)
Union Strength	-0.468 *	-0.508 *	-0.104	-0.197	-1.603 ***	0.08	0.499
	(0.241)	(0.273)	(-0.239)	(-0.229)	(0.496)	(-0.324)	((0.258)*)
Beginning teacher salaries ($000)	0.173	0.23	-0.222	-0.12	-0.219	-0.218	0.379
	(-0.242)	(-0.244)	(-0.357)	(-0.292)	(-0.348)	(-0.288)	(-0.242)
Public school enrollment (000,000)	-0.459	-0.595	-2.248 ***	-2.167 ***	-2.6 *	-0.947 **	-1.339 **
	(-0.419)	(-0.434)	(0.787)	(0.694)	(1.538)	(0.462)	(0.606)
% Non-White in State Population	1.314	0.47	25.119 ***	19.403 ***	-6.446	3.204	10.612 ***
	(-4.5)	(-4.084)	(9.419)	(6.172)	(-5.653)	(-4.162)	(3.995)
Democratic Party Strength	-2.159	-1.141	-4.504	-2.263	-5.914	-0.733	-1.336
	(-3.253)	(-2.615)	(-4.862)	(-3.429)	(-4.754)	(-3.09)	(-3.423)
% Enrolled in Private Schools	23.515 **	18.353 *	75.219 ***	58.719 **	-5.646	-34.886 *	-28.984 *
	(10.868)	(9.71)	(27.413)	(23.602)	(-19.796)	(17.857)	(14.981)
% of Ed. Revenue from State Sources	-4.871	-5.271	3.297	3.098	-11.597	-0.046	-1.781
	(-5.561)	(-5.577)	(-3.775)	(-3.789)	(-12.007)	(-8.751)	(-3.186)
Constant	-1.106	-1.924	-1.357	-2.472	25.071 **	10.891	-8.613
	(-6.794)	(-6.762)	(-9.472)	(-7.059)	(10.892)	(-8.178)	(-6.608)
Adj. R^2	33	40	33	40	40	40	40
N	0.22	0.22	0.42	0.36	0.66	0.28	0.29

NOTES: Model-B for the leave of absence models includes states in which charter school teachers are considered public school employees. See text for discussion. Models estimated using the logit command in Stata. All models use robust standard errors. Standard errors reported in ( ). Two-tailed significance denoted as: *** for p<.01, ** for p<.05, * for p<.1

Table 6.2 Results from Logit Regression Models for Charter School Provisions, continued; Odds Ratios and (robust std. err.) reported

	Must the charter school application go through the local school district (i.e. no alternative routes)?	In order for a charter conversion to occur, must a majority of teachers approve?	In order for a charter conversion to occur, must a majority of parents approve?	Is there a preference for serving at-risk students?	Do at least some charter schools automatically have more relaxed certification requirements?	Can charters automatically hire/fire teachers without district oversight?
% of state's students residing in largest urban district	57.931 ***	3.51	1.209	4.357	-7.539	-1.167
	(19.783)	(-5.061)	(-5.749)	(-4.622)	(-5.066)	(-7.508)
Union Strength	-0.289	-0.173	-0.217	-0.11	-0.019	0.074
	(-0.324)	(-0.24)	(-0.221)	(-0.211)	(-0.219)	(-0.222)
Beginning teacher salaries ($000)	0.148	-0.078	0.065	-0.017	0.217	-0.068
	(-0.278)	(-0.227)	(-0.231)	(-0.234)	(-0.222)	(-0.271)
Public school enrollment (000,000)	-0.566	0.155	-0.558	0.379	0.651	1.569 **
	(-0.627)	(-0.372)	(-0.36)	(-0.35)	(-0.472)	(0.694)
% Non-White in State Population	6.444	-0.875	5.189	-1.178	3.705	-4.772
	(-6.64)	(-3.789)	(-4.123)	(-3.608)	(-3.493)	(-4.038)
Democratic Party Strength	-1.359	-3.581	-5.942 *	2.792	-2.345	-3.214
	(-3.676)	(-2.689)	(3.316)	(-2.929)	(-3.356)	(-3.418)
% Enrolled in Private Schools	4.329	28.41 **	31.57 ***	11.434	0.231	1.631
	(-15.318)	(12.333)	(11.242)	(-11.185)	(-11.553)	(-10.708)
% of Ed. Revenue from State Sources	-7.674	5.9	6.133 **	-3.375	-2.57	1.695
	(-6.145)	(-4.013)	(2.935)	(-3.328)	(-2.794)	(-3.704)
Constant	-2.791	-0.716	-4.854	-0.951	-4.34	4.196
	(-6.472)	(-6.322)	(-6.163)	(-6.268)	(-5.945)	(-7.288)
Adj. R^2	40	40	40	40	40	40
N	0.37	0.15	0.2	0.13	0.13	0.22

NOTES: Models estimated using the logit command in Stata. Standard errors reported in ( ). All models use robust standard errors. Two-tailed significance denoted as: *** for p<.01, ** for p<.05, * for p<.1

Table 7. Relationship between charter law and charter school market, comparing different indices; OLS coefficients and robust std. err. Reported

	Outcome: % of state's students enrolled in charter schools				*Outcome: % of state's schools that are charter schools*			
	Index of Traditional Union Goals	**Modified Index of Traditional Union Goals**	**Index of Reform Union Goals**	**CER Overall Score**	**Index of Traditional Union Goals**	**Modified Index of Traditional Union Goals**	**Index of Reform Union Goals**	**CER Overall Score**
Index	-0.003	-0.002	-0.006	0.001 ***	-0.003	0.002	-0.018	0.003 *
	-0.002	-0.002	-0.004	0.000	-0.002	-0.007	-0.015	0.002
% in largest urban district	-0.013	-0.001	0.002	0.012	-0.022	-0.076	-0.044	-0.019
	-0.037	-0.042	-0.039	-0.048	-0.075	-0.126	-0.098	-0.106
Union Strength	-0.001	-0.000	-0.000	-0.000	0.001	0.001	-0.001	0.001
	-0.002	-0.001	-0.002	-0.001	-0.004	-0.004	-0.005	-0.004
Teacher salaries ($000)	-0.002	-0.001	-0.000	-0.001	-0.004	-0.001	0.001	-0.002
	-0.002	-0.001	-0.001	-0.001	-0.003	-0.003	-0.004	-0.003
Enrollment (000,000)	0.001	0.002	0.003	-0.002	0.001	0.000	0.001	-0.015
	-0.003	-0.002	-0.002	-0.003	-0.003	-0.005	-0.007	-0.014
% Non-White	-0.01	-0.000	0.006	0.017	0.029	0.103	0.134	0.162
	-0.028	-0.03	-0.036	-0.031	-0.048	-0.112	-0.138	-0.135
Democratic Party Strength	-0.014	-0.035 *	-0.038 *	-0.019	-0.005	-0.072	-0.094	-0.04
	-0.016	0.020	0.022	-0.017	-0.031	-0.062	-0.078	-0.054
% Enrolled in Private Schools	0.146	0.056	0.089	-0.024	0.197	-0.098	0.051	-0.276
	-0.103	-0.103	-0.088	-0.087	-0.152	-0.32	-0.195	-0.345
% of Ed. Rev. from State	0.055 **	0.054 **	0.05 *	0.037 **	0.082 **	0.057	0.036	0.005
	0.026	0.021	0.025	0.017	0.030	-0.056	-0.074	-0.078
Constant	0.066	0.031	0.021	0.003	0.096	0.05	0.066	0.017
	-0.048	-0.04	-0.041	-0.035	-0.076	-0.082	-0.09	-0.074
Observations	29	40	40	40	29	40	40	40
R-squared	0.4	0.17	0.21	0.49	0.4	0.07	0.13	0.32

NOTES: The modified traditional union goals index includes states in which charter school teachers are considered public school employees. See text for discussion. All models use robust standard errors. Standard errors reported in ( ). Two-tailed significance denoted as: *** for p<.01, ** for p<.05, * for p<.1

Appendix A. Summary of Recent Charter School Studies

Achievement (in the charter schools themselves)

Year	Citation	Conclusions	Data	Methods
2005	Bettinger, Eric P. Forthcoming **"The Effect of Charter Schools on Charter Students and Public Schools."** (2005). *Economics of Education Review*, 24 (2), 133-147.	Using difference-in-difference estimators, finds that 4th grade achievement in MI charters opened in 1996 has not increased significantly relative to nearby public schools. Lagged dependent-variable estimates similarly showed no gains for charter students.	Michigan student-level and school-level achievement, financial, and demographic data from 1996-1999	Randomization: No Student Fixed Effects: Yes Value Added: Yes Multiple Years: Yes States Included: MI Years Included: 1996-1999
2005	Buddin, Richard & Ron Zimmer. **"Student Achievement in Charter Schools: A Complex Pictures,"** *Journal of Policy Analysis and Management*, 24(2), 351-371.	Using panel data and regression analysis with school, student, and grade cohort controls, find that startup classroom-based charters are able to improve student achievement, but non-classroom-based charters do not perform as well. Classroom-based conversion charters may not promise as much achievement growth. Also find that most new charters outperform mature charters in California.	California student-level achievement data; additional school characteristics, 1997-2002	Randomization: No Student Fixed Effects: No Value Added: No Multiple Years: Yes States Included: CA Years Included: 1997-2002
2005	Hanushek, Eric A., John F. Kain, Steven G. Rivkin, Gregory F. Branch **"Charter School Quality and Parental Decision Making With School Choice,"** NBER Working Paper #11252	Using panel data with individual student-level achievement data, and well-specified models, find that first-year charters are not as productive as traditional public schools, but that by the second and third years, charters no longer lag behind traditional public schools.	Texas student achievement, enrollment, and mobility data	Randomization: No Student Fixed Effects: Yes Value Added: Yes Multiple Years: Yes States Included: TX Years Included: 1997-2002
2005	Florida Office of Program Policy Analysis and Government Accountability, **"OPPAGA Report: Charter School Performance Comparable to Other Public Schools; Stronger Accountability Needed,"** Report No. 05-21	Using Hierarchical Linear Modeling (HLM), track student trajectories over time and find that in the 2003-04 school year, students in charters who start at the same developmental level as students in comparable traditional public schools perform roughly the same. But charter school performance varies widely, and successful charters exhibit characters of effective schools (e.g. strong leadership, high expectations). Find that stronger accountability measures are needed, beyond local contracts and annual reports.	Florida student-level achievement and background data, 1999-2004	Randomization: No Student Fixed Effects: Yes Value Added: Yes Multiple Years: Yes States Included: FL Years Included: 1999-2004
2005	Carnoy, Martin. Rebecca Jacobsen, Lawrence Mishel, and Richard Rothstein. ***The Charter***	Conclude, based on a synthesis of charter studies, that "based on 19 studies, conducted in 11 states and the District of Columbia, there is no evidence that, on	Synthesis and review of existing research	Synthesis and review of existing research studies

Achievement (in the charter schools themselves)				
Year	**Citation**	**Conclusions**	**Data**	**Methods**
	School Dust-Up Examining the Evidence on Enrollment and Achievement. Economic Policy Institute, Teachers College Press.	average, charter schools out-perform regular public schools. In fact, there is evidence that the average impact of charter schools is negative."		
2005	EdSource (Brian Edwards & Mary Perry), **"How Are California's Charter Schools Performing?"** EdSource Report.	Although hampered by missing achievement data for many charter schools, preliminary find that classroom-based charters seem to be making more progress than non-classroom-based charters, and basic comparisons suggest that charters are meeting growth targets as well as traditional public schools. No strong conclusions possible for charter high schools.	California Academic Performance Index (API) school-level data; School Characteristic Index (SCI) data as well	Randomization: No Student Fixed Effects: No Value Added: Yes Multiple Years: Yes States Included: CA Years Included: 2001-2004
2005	U.S. Department of Education, Institute for Education Sciences, National Center for Education Statistics. **"The Nation's Report Card: America's Charter School Report,"** NCES 2005-456, by National Center for Education Statistics. Washington, DC	Using 2003 4th and 8th grade NAEP achievement data, make a comparison of charter and traditional public schools, and find that charter students perform better on NAEP 4th grade math, but no statistically significant differences between math and reading. Report cautions that simple comparisons should be followed up with with more detailed analysis of school and student characteristics.	NAEP 2003, reading and math, for a randomly selected sample of charter school students	Randomization: ~Some Student Fixed Effects: No Value Added: No Multiple Years: No States Included: National Years Included: 2003
2005	Miron, Gary. **"Evaluating the Performance of Charter Schools in Connecticut."** Commissioned by ConnCAN, Kalamazoo: The Evaluation Center Western Michigan University	Although there are a few exceptions, finds that students in charter schools are performing at higher levels that students in the surrounding traditional public schools. Success of charters in CT may be due to strong oversight and accountability system, including the closure of failing schools.	Cohort-level achievement results on Connecticut Mastery Test (CMT)	Randomization: No Student Fixed Effects: No Value Added: No Multiple Years: No States Included: CT Years Included: 2003-04
2005	Roy, Joydeep and Lawrence Mishel. **"Advantage None: Re-Examining Hoxby's Finding of Charter School Benefits."** Economic Policy Institute: Briefing Paper.	Re-analysis of Hoxby's (2004) paper [see row below], finding that by adding controls for student background (racial background and free-lunch), gains from charter schools are no longer visible. Caution that as a cross-sectional study, the results are not as robust as they would be in a randomized study or a study employing panel data.	NAEP achievement data from 2002-2003, 4th grade focus, with some 3rd and 5th grade data as well	Randomization: No Student Fixed Effects: No Value Added: No Multiple Years: No States Included: 36 states + DC Years Included: 2002-2003

Achievement (in the charter schools themselves)				
Year	**Citation**	**Conclusions**	**Data**	**Methods**
2004	Hoxby, Caroline M. **"A Straightforward Comparison of Charter Schools and Regular Public Schools in the United States"** Harvard Institute of Economic Research, Working Paper.[1]	By comparing charter school (grade-specific) proficiency levels to those of the closest public school and the closest public school of a similar racial makeup, finds that in United States as a whole, charter school students are 4-5% more proficient in reading and 2-3% more proficient in math. States with more charter schools tend to provide more positive results. Generally, results suggest that the average charter school benefits from having the school choice alternative.	NAEP achievement data from 2002-2003, 4th grade focus, with some 3rd and 5th grade data as well	Randomization: No Student Fixed Effects: No Value Added: No Multiple Years: No States Included: 36 states + DC Years Included: 2002-2003
2004	Hoxby, Caroline M. and Jonah E. Rockoff. The Impact of Charter Schools on Student Achievement."	Comparing students lotteried-in to Chicago charter schools, with lotteried-out students, find that students who gain admittance to charters in elementary grades score significantly better than their those who were lotteried out. Difference in achievement is approximately six national percentile ranks in both reading and math. Careful controls added for year-in-school and age-of-charter effects.	Student-level data for applicants (both admits and non-admits) to Chicago International Charter School, 2002-2003	Randomization: No Student Fixed Effects: Yes Value Added: Yes Multiple Years: Yes States Included: TX Years Included: 2000-2002
2004	Bifulco, Robert and Helen F. Ladd. **"The Impacts of Charter Schools on Student Achievement: Evidence from North Carolina."** Terry Sanford Institute of Policy: Working Papers Series SAN04-01.	Using individual student-level panel data, and tracking students as they change schools over time, find that students who transfer into charter schools make smaller gains than they would have if they had remained in traditional public schools. Possible explanations include increased student turnover in charters, as well as peers, resources, or efficiency.	Student-level achievement and demographic data from North Carolina, 1996-2002	Randomization: No Student Fixed Effects: Yes Value Added: Yes Multiple Years: Yes States Included: NC Years Included: 1996-2002
2004	Booker, Kevin, Scott M. Gilpatric, Timothy Gronberg, and Dennis Jansen. **"Charter School Performance in Texas."** Texas A&M University, Private Enterprise Research Center, Working Paper #0410	Analysis of Texas Learning Index gains for students who move between traditional public schools and charter schools in Texas. Find achievement drops for students moving from traditional into charter schools, and gains for students moving out of charters and into traditional public schools. But they also find that after the initial drop, charters do have a significantly positive effect on student achievement.	Student-level achievement and demographic, family, program data from 1995-2002, grades 3-10	Randomization: No Student Fixed Effects: Yes Value Added: Yes Multiple Years: Yes States Included: TX Years Included: 2000-2002

[1] Similar analysis published as: Hoxby, Caroline M. 2004. "Achievement in Charter Schools and Regular Public Schools in the US: Understanding the Differences."

Achievement (in the charter schools themselves)				
Year	**Citation**	**Conclusions**	**Data**	**Methods**
2004	Witte, John F., David L.Weimer, Paul A. Schlomer, Arnold F. Shober. **"The Performance of Charter Schools in Wisconsin"** Wisconsin Charter Schools Study, University of Wisconsin	Based on school-level regression analysis, authors conclude that: "The results of logistic regressions that control for various school characteristics indicate that charter schools are better than traditional public schools at insuring that students achieve the proficient level of performance. Given the demographic characteristics of charter compared to non-charter school students, this is not a trivial accomplishment."	Wisconsin school-level achievement data for grades 4, 8 and 10, across five subjects, from 2000-2002	Randomization: No Student Fixed Effects: No Value Added: No Multiple Years: Yes States Included: WI Years Included: 2000-2002
2004	Solmon, Lewis C. and Pete Goldschmidt. **"Comparison of Traditional Public Schools and Charter Schools on Retention, School Switching, and Achievement Growth."** Policy Report: Goldwater Institute. No. 192	Tracking student-level achievement and enrollment/transfer patterns, find that charter school students initially start at lower achievement levels, but see larger year-to-year achievement gains. These gains, however, are not seen in middle school charter students. Long term benefits of switching schools are shown to outweigh the short terms costs of the disruptive move.	Arizona student-level SAT-9 achievement and demographic data	Randomization: No Student Fixed Effects: Yes Value Added: No Multiple Years: Yes States Included: AZ Years Included: 1997-2000
2004	Sass, Tim R. **"Charter schools and student achievement in Florida,"** Florida State University Working Paper. *PRELIMINARY DRAFT*	Tracking individual students over three years, finds that initial move into charter school is associated with lower student performance, but that over time, charters are able to improve performance to match gains in traditional public schools (2 years to catch up in reading, 4 years to catch up in math). EMO managed charters do not perform better than others.	Florida student-level achievement, background, and program data, combined with school and district data, 1998-2002	Randomization: No Student Fixed Effects: Yes Value Added: Yes Multiple Years: Yes States Included: FL Years Included: 1998-2002
2004	Nelson, F. Howard, Bella Rosenberg, and Nancy Van Meter, **"Charter School Achievement on the 2003 National Assessment of Educational Progress"** American Federation of Teachers	Present comparisons of charters and traditional public schools' achievement on NAEP in 2003, and conclude that charter schools are not performing as well	NAEP school level data from 2003, other school enrollment characteristics	Randomization: No Student Fixed Effects: No Value Added: No Multiple Years: No States Included: National Years Included: 2003
2004	Miron, Gary. **"Evaluation of the Delaware Charter School Reform: Year 1 Report."** Kalamazoo: The Evaluation Center Western Michigan University	Using student-level achievement and demographic data, matched student demographic groups in chater and non-charter schools and find that at elementary grades, charter school students perform slightly better, in the middle grades there is little difference. Biggest differences seen in grade 10, with charters out	Student level achievement data from the Delaware Student Testing Program,	Randomization: No Student Fixed Effects: No Value Added: No Multiple Years: Yes States Included: DE Years Included: 1998-2004

Achievement (in the charter schools themselves)				
Year	**Citation**	**Conclusions**	**Data**	**Methods**
		performing traditional schools.		
2003	Zimmer, Ron, et. al. **"Charter School Operations and Performance: Evidence from California."** Santa Monica: Rand.	CA charters generally performing at or below public school standards; Achievement varies by type of charter school; Charters using fewer resources; Enrollment patterns by race vary by the type of school as well	Extensive analysis of CA charter schools, with multiple data sources and multiple years; Surveys, academic achievement data	Randomization: No Student Fixed Effects: No Value Added: Yes Multiple Years: Yes States Included: CA Years Included: 1997-2002
2003	Greene, Jay P., Greg Forster, and Marcus A. Winters. **"Apples to Apples: An Evaluation of Charter Schools Serving General Student Populations."** Center for Civic Innovation at the Manhattan Institute: Education Working Paper No.1	Focusing on charters serving regular student populations, an analysis of change in achievement (2001 to 2002) 11 states find that charters have positive, though rather small, effect on the change in student achievement in these 11 states from 2001 to 2002	School-level achievement and demographic data collected from 11 different states	Randomization: No Student Fixed Effects: No Value Added: Yes Multiple Years: Yes States Included: 11 states Years Included: 2000-2002
2003	Crew, Jr., Robert E. & Anderson, Mary Ruggiero, **"Accountability and Performance in Charter Schools in Florida: A Theory-Based Evaluation,"** *American Journal of Evaluation*, Vol. 24, No. 2, 189-212.	Information still lacking, but charters do not appear to be outperforming traditional schools, nor impacting the traditional system; Innovations are lacking, perhaps due to a lack of new accountability that has not been put in place	Analysis of: (1) annual financial reports, (2) annual progress reports, (3) supervisor surveys, and (4) Florida achievement data; All data from 1999-00	Randomization: No Student Fixed Effects: No Value Added: No Multiple Years: No States Included: FL Years Included: 1999-00
2002	Shapley, Kelly S., Aprile D. Benner, & Amy M. Pieper. **"Texas Open-Enrollment Charter Schools: Linking Conditions and Practices to Student Achievement."** Texas Center for Educational Research.	Academic effectiveness in charter schools lags behind public schools on performance indicators, although continuous enrollment in a charter school makes a difference. Academic achievement in successful charter schools are similar to or exceed state averages, performance in struggling schools is dismal, possibly due to successful schools enrolling less than 75% at-risk students. Successful charters also differ from less successful charter on a number of dimensions, e.g.	Texas student-level and school-level achievement, financial, and demographic data from 1998-2000	Randomization: No Student Fixed Effects: Yes Value Added: Yes Multiple Years: Yes States Included: TX Years Included: 1998-2000

Achievement (in the charter schools themselves)				
Year	**Citation**	**Conclusions**	**Data**	**Methods**
		parental involvement, teacher quality.		

Competition (Achievement in nearby traditional public schools)				
Year	**Citation**	**Conclusions**	**Data**	**Methods**
2005	Bettinger, Eric P. Forthcoming **"The Effect of Charter Schools on Charter Students and Public Schools."** Forthcoming (2005). *Economics of Education Review*, 24 (2), 133-147.	Difference-in-difference, lagged dependent-variable, and instrumental variable models suggest little to no positive effect of charters on nearby public schools. Efforts are made to control for endogeneity of charter school location.	Michigan student-level and school-level achievement, financial, and demographic data from 1996-1999	Randomization: No Student Fixed Effects: Yes Value Added: Yes Multiple Years: Yes States Included: MI Years Included: 1996-1999
2004	Bifulco, Robert and Helen F. Ladd. **"The Impacts of Charter Schools on Student Achievement: Evidence from North Carolina."** Terry Sanford Institute of Policy: Working Papers Series SAN04-01.	Tracking individual students as they transfer schools over time, find that increased charter competition (measured by looking at distance of traditional public schools from charters), does not lead to statistically significant gains for the local school district. This may be because the intensity of the competition is not very intense, and traditional schools face little real threat of losing large numbers of students to charters.	Student-level achievement and demographic data from North Carolina, 1996-2002	Randomization: No Student Fixed Effects: Yes Value Added: Yes Multiple Years: Yes States Included: NC Years Included: 1996-2002
2004	Booker, Kevin, Scott M. Gilpatric, Timothy Gronberg, and Dennis Jansen. **"The Effect of Charter Competition on Traditional Public School Students in Texas,"** Texas A&M University, Private Enterprise Research Center, Working Paper #0410	Use individual student-level value-added scores, along with two measures of charter competition ("charter penetration" and inflow/outflow from charters). Also have models employing IVs. Find that these measures of charter competition are positively associated with gains by traditional public schools. The effect is small in magnitude, but suggests that systematic gains in the future may be possible.	Texas district, school, and student level data, controlling with demographic data, from 1995-2002	Randomization: No Student Fixed Effects: Yes Value Added: Yes Multiple Years: Yes States Included: TX Years Included: 1995-2002

2004	Bohte, John. **"Examining the Impact of Charter Schools on Performance in Traditional Public Schools"**. Public Studies Journal, 32 (4), pp. 501-521.	Pooled, time-series regression analysis looking at how the number of charters in a district affects tenth grade achievement of traditional schools in that district. Data suggests that the presence of any charter schools in a county precedes an increase of .58 percentage points in district pass rates on TAAS exams for the following year. Not clear whether or not the student enrollment of the charter school is causing this effect.	Texas Educational Agency tenth grade achievement data and a survey sent to superintendents in 2001-02	Randomization: No Student Fixed Effects: No Value Added: Yes Multiple Years: Yes States Included: TX Years Included: 1996-2002
2004	Sass, Tim R. **"Charter schools and student achievement in Florida,"** Florida State University Working Paper. *PRELIMINARY DRAFT*	Using three different measures of competition (presence of nearby charter, number of competing charters, or enrollment share of charters), finds a net positive impact on Florida's traditional public schools.	Florida student-level achievement, background, and program data, combined with school and district data, 1998-2002	Randomization: No Student Fixed Effects: Yes Value Added: Yes Multiple Years: Yes States Included: FL Years Included: 1998-2002
2003	Holmes, George M., Jeff DeSimone, Nicholas G. Rupp. **"Does School Choice Increase School Quality?"** National Bureau of Economic Research, Working Paper 9683.	School-level panel analysis of North Carolina student achievement from 1996 to 2000, with a focus on distance of traditional school from nearby charter school. Authors incorporate maximum-likelihood models, and IV models as well. Traditional schools seems to exhibit gains when there is competition from charter schools. This may have to do with the NC's unique choice landscape: 70% of North Carolina school districts have intra-system school choice (transfers, magnets, year-round schools) combined with a private, alternative and home-schooling choice.	North Carolina school achievement data, combined with demographic and financial data, 1996-2000.	Randomization: No Student Fixed Effects: No Value Added: Yes Multiple Years: Yes States Included: NC Years Included: 1996-2000

Student Demographics, e.g. creaming and racial stratification				
Year	**Citation**	**Conclusions**	**Data**	**Methods**
2005	Fierros, Edward Garcia & Blomberg, Neil. **"Restrictiveness and Race in Special Education Placements in For-Profit and Non-Profit Charter Schools in California."** *Learning Disabilities,* 3 (1)	Comparing for-profit and non-for-profit charters, looked at placement rates for Special Education students and found that both for-profit and non-for-profit charter schools enroll smaller percentages of special education students than traditional California public schools. Significant differences were not found between for-profit and non-for-profit charters.	School enrollment and demographic data from 2002-03	Randomization: No Student Fixed Effects: No Value Added: No Multiple Years: No States Included: CA Years Included: 2002-03
2004	Dee, Thomas S. and Helen Fu **"Do charter schools skim students or drain resources?"** *Economics of Education Review* 23, 259-271.	Using panel-based school-level data from Arizona and New Mexico, perform difference-in-differences analysis and also employ fixed-effects models. Find that: AZ, a "robust and statistically significant reduction in the percent of white non-Hispanic students in conventional public schools (i.e. roughly 1 percentage point or 2 percent of the mean) and an increase in pupil–teacher ratios (i.e. roughly 1.1 pupil per teacher or 6 percent of the mean)." Caution readers about external validity.	School level data from Arizona and New Mexico, CCD enrollment and student-teacher ratio data from 1995 to 2000	Randomization: No Student Fixed Effects: No Value Added: Yes Multiple Years: Yes States Included: AZ, NM Years Included: 1995-2000
2004	Estes, Mary Bailey. **"Choice for all? Charter schools and students with special needs,"** *Journal of Special Education*	Raises three concerns: potential for discrimination, lack of expertise, and lack of funding; Finds no overt discrimination, but evidence of lack of funding and significant variance in expertise. Reporting guidelines (requiring at least 5 children to report special ed) hampered the quantitative analysis.	Quantitative data from the Texas Public Schools, as well as extensive interviews, with focus on special education	Randomization: No Student Fixed Effects: No Value Added: No Multiple Years: No States Included: TX Years Included: 1999-00
2003	Fuller, Bruce, et. al. **"Charter Schools and Inequality: National Disparities in Funding, Teacher Quality, and Student Support."** Working Paper Series 03-2, Policy Analysis for California Education	Charters are 'poor', operating with less resources and fewer credentialed teachers than the traditional public schools; Charter schools serve more racially isolated student populations; Noticeable differences between charters (e.g. startups vs. conversions)	Comparison of NCES principal and teacher survey data (from 99-00), from charter and public schools	Randomization: No Student Fixed Effects: No Value Added: No Multiple Years: No States Included: National Years Included: 1999-00
2002	Frankenberg, E., & Lee, C. **"Race in American public**	Find that charter schools are more intensely segregated by race than are public schools in the same state;	Comparison of student enrollments	Randomization: No Student Fixed Effects: No

	schools: Rapidly resegregating school districts." Cambridge, MA: The Civil Rights Project, Harvard University	Policies to encourage more desegregation in charters have not been uniformly enforced	in public and charter schools in 16 states in 2000-01	Value Added: No Multiple Years: No States Included: 16 states Years Included: 2000-01
2002	Shapley, Kelly S., Aprile D. Benner, & Amy M. Pieper. **"Texas Open-Enrollment Charter Schools: Linking Conditions and Practices to Student Achievement."** Texas Center for Educational Research.	Characteristics of charter schools suggest that Texas parents and students tend to choose schools with higher concentrations of their ethnic group.	Texas student-level and school-level achievement, financial, and demographic data from 1998-2000	Randomization: No Student Fixed Effects: Yes Value Added: Yes Multiple Years: Yes States Included: TX Years Included: 1998-2000
2002	Howe, Kenneth, Eisenhart, Margaret, Betebenner, Damian, **"The Price Of Public School Choice,"** *Educational Leadership*, 59 (7)	Find evidence of increased stratification by race and income, influenced in part by school-level enrollment policies; No significant achievement gains with open enrollment schools	District data from Boulder, CO; interviews with school personnel and parents	Randomization: No Student Fixed Effects: No Value Added: No Multiple Years: No States Included: CO Years Included: 1999-00
2001	Rhim, M. R. & McLaughlin, M. J. **"Special education in American charter schools: State level policy, practices, and tensions,"** *Cambridge Journal of Education*, 31 (3), 373-383.	Find a fundamental gap between the autonomous nature of charter schools and the intensely regulated nature of providing special education servicesw	Interviews with education officials and document analysis in 15 states, with emphasis on special education, part of "Project SEARCH"	Interview and document analysis
2001	Bagley, C., Woods, P. and Woods, G. **"Implementation of School Choice Policy: interpretation and response by parents of students with special educational needs."** *British Educational Research Journal*, 27 (3), pp. 287-311	Families with special education children may be adversely affected by schools of choice that tend to focus more on standardized academic outcomes. But applicability to the United States may be limited; Survey methodology with potential for severe biases in response	Analyses of quantitative and qualitative data from project funded by the UK Economic and Social Research Council	Case study analysis, with minimal statistical analysis

Innovation				
Year	**Citation**	**Conclusions**	**Data**	**Methods**
2004	Dickman, Anneliese, Emily Van Dunk, John Witte, Paul Schlomer, & David Weimer. **"Charter Schools in Wisconsin: Assessing Form and Performance."**	Curricular Foci analyses suggests that there is a diverse and overlapping array of programs yet most of "innovative programming" is already implemented within district or with other charter schools. However, in other districts with substantial membership there is doubt that they will duplicate existing approaches as they do not have access to similar urban resources.	31 charter schools compared to their counterparts in Milwaukee;	Randomization: No Student Fixed Effects: No Value Added: N/A Multiple Years: No States Included: WI Years Included: 2001-2002
2003	Lubienski, C. **"Innovation in education markets: Theory and evidence on the impact of competition and choice in charter schools,"** American Educational Research Journal, 40 (2), 395-443.	Considers innovation within schools/classrooms, replications of charter practices elsewhere, and appearance of innovation in state and local contexts. Taken as a whole, concludes that there does not seem to be a direct link between charter schools and the generation of educational innovation.	Review of 190 published studies of innovation related to charter schools, 1997-2003	Systematic literature review

Parental & Student Satisfaction				
Year	**Citation**	**Conclusions**	**Data**	**Methods**
2005	Hanushek, Eric A., John F. Kain, Steven G. Rivkin, Gregory F. Branch **"Charter School Quality and Parental Decision Making With School Choice,"** NBER Working Paper #11252	Using panel data with individual student-level achievement data, find that higher quality charter schools are able to retain parents better than low-quality charters, but that this effect is stronger for higher income families. Parents are more sensitive to charter quality, as compared to traditional public school quality.	Texas student achievement, enrollment, and mobility data	Randomization: No Student Fixed Effects: Yes Value Added: Yes Multiple Years: Yes States Included: TX Years Included: 1997-2002
2004	Howell, William G. **"Parents, Choice, and Some Foundations for Education Reform in Massachusetts,"** Pioneer Institute for Public Policy Research, White Paper #22.	Parents are not adequately informed about the achievement level (e.g. "low performing") of their children's' school, but can identify factors that are important and also alternatives that are higher achieving. Also finds that how an education issue is raised affects the ensuing support voiced by parents.	Telephone survey responses from 1,000 parents in MA's ten largest districts	Randomization: No Student Fixed Effects: No Value Added: No Multiple Years: No States Included: MA Years Included: 2003
2003	Barrett, Edith J., **"Evaluating Education Reform: Students' Views of Their Charter School Experience,"** *Journal of Educational Research*, 96 (6)	Finds that students are generally more pleased with their present charter school, as compared to their previous (traditional) school; At-risk students may be particularly receptive to their new environment. No discussion of causation.	Student surveys from Texas charter schools, conducted in Fall 2000;	Cross-sectional analysis of parental surveys, using HLM
2003	McCully, D. & Malin, P. J. **"What parents think of New York's charter schools,"** Civic Report No. 37, Manhattan Institute.	Parental satisfaction rates with charter schools are very high; Parents prefer these schools over the public schools they left	Survey of 300 charter school parents in New York	Analysis of responses to parental survey, basic summary statistics
2002	Shapley, Kelly S., Aprile D. Benner, & Amy M. Pieper. **"Texas Open-Enrollment Charter Schools: Linking Conditions and Practices to Student Achievement."** Texas Center for Educational Research.	Characteristics of charter schools suggest that Texas parents and students tend to choose schools with higher concentrations of their ethnic group.	Texas student-level and school-level achievement, financial, and demographic data from 1998-2000	Randomization: No Student Fixed Effects: Yes Value Added: Yes Multiple Years: Yes States Included: TX Years Included: 1998-2000

Additional Charter School Studies				
Year	**Citation**	**Conclusions**	**Data**	**Methods**
2005	Glomm, Gerham, Doug Harris, & Te-Fen Lo. **"Charter School Location"**. Economics of Education Review, Vol. 24 (2005), pp. 451-457.	Relatively little support for argument that charter schools will improve overall school quality, since charter school do not appear to locate in school districts with less efficient public schools. As many charter locate amongst private schools, charters may simply shift resources to students who previously attended private schools. State education policy does affect the location of charter schools depending upon how charters are authorized and how liberated from state regulation they are.	District-level demographic data from Michigan and California, 1998-1999	Randomization: No Student Fixed Effects: No Value Added: No Multiple Years: No States Included: MI, CA Years Included: 1998-1999
2005	Government Accountability Office. **"Charter Schools: To Enhance Education's Monitoring and Research, More Charter School-Level Data Are Needed"** GAO-05-5.	Found that the Department of Education did not collect information on the timeliness of grant payments, or on how well charter schools subsequently performed. Recommended to the DOE that it help states track federal funds, and require Charter School Program grant recipients to report more detailed information on how the grant funds were spent.	Case study materials from all states with charter schools	Interviews, document analysis, case study in 2003
2005	Bulkley, Katrina E. and Hicks, Jennifer. **"Managing Community: Professional Community in Charter Schools Operated by Educational Management Organizations,"** *Educational Administration Quarterly*, 41: 306-348.	EMO staff influenced professional community in important ways through the design of their programs (including structures they set up for use of time and staffing) and their informal relationships with schools (including their roles as "cheerleaders," constructive critics, flexible keepers of the model and reliable managers). External entities have the potential to support or diminish the development of professional community.	Interviews and document analysis	Comparative case study that examines six schools and three EMOs that provide comprehensive .management services
2004	Hassel, B. C. & Batdorff, M. **"High Stakes: Findings from a national study of life-or-death decisions by charter school authorizers,"** Public Impact Report	Charter school authorizers are willing to close schools, but a lack of sufficient information as well as political pressures can complicate these decisions; the re-authorization process remains somewhat veiled	Document review of decisions about charter authoriziation	Analysis of 500+ high stakes decisions about charter schools, with detailed analysis of 50 randomly selected cases
2004	Witte, John F., Arnold F. Shober, Paul A. Schlomer, Par Jason Engle. **"The Political Economy of School Choice"**.	Using spatial theory, find some interview and student-flow evidence to support the theory that school districts will attempt to maximize revenue by maximizing student enrollment of "non-attending, private school,	Interviews, case studies of WI districts and charter schools; school-	Randomization: No Student Fixed Effects: No Value Added: No Multiple Years: Yes

	Wisconsin Charter Schools Study, University of Wisconsin.	home-schooled, and students from other districts."	level and district-level enrollment data	States Included: WI Years Included: 2001-2004
2004	Ferraiolo, Kathleen, Frederick Hess, Robert Maranto, and Scott Milliman. **"Teachers' Attitudes and the Success of School Choice."** *Policy Studies Journal*. 32 (2).	Resistance to school choice is positively related to union membership, teacher experience, and Democratic Party affiliation. "Personal experience with charter schooling is associated with increased support for public and private forms of school choice in both states."	1998 survey of public school teachers in Arizona and Nevada; teachers randomly selected from schools	Probit analysis of responses to extensive survey, measuring attitudes toward school choice
2004	Buckley-Lynch, Jack & Mark Schneider. **"Do Charter Schools Promote Student Citizenship?"** National Center for the Study of Privatization in Education, Teachers College, Columbia University, Occasional Paper #91.	Compared to traditional public schools, charter schools outperform in the area of educating their students in civic skills, volunteerism and participation within their community. Statistically significant effect within treatment group on community service and volunteerism. No effect on participation in school clubs, church or youth groups or team sports. Yet, there is no evidence to support the permanence of these results beyond the schooling years. In contrast, there is no difference in charter or traditional schools toward political tolerance.	Telephone surveys of 7th-12th grade students and their parents within the Washington, D.C. area in 2003. 1,012 parents, 196 students, 50% random digit dialing and 50% charter parents randomly selected from list.	Randomization: Yes Student Fixed Effects: No Value Added: No Multiple Years: No States Included: DC Years Included: 2003
2004	Henig, Jeffrey R., Thomas T. Holyoke, Natialie Lacireno-Paquet, & Michele Moser. **"Privatization, Politics, and Urban Services: The Political Behavior of Charter Schools,"** *Journal of Urban Affairs*, 25(1), 37-54.	Find that recourse to market approaches does not eliminate the exercise of politics and power. When faced with insufficient revenues or heavy competition, charter schools may respond by shifting the venue of decision-making from markets to governments. Charter schools pursue their goals through political as well as market activities. Many schools engage in direct lobbying of federal and local officials. Schools chartered by an appointed board appear to be oriented toward somewhat different political venues than those chartered by the locally elected Board of Education.	Theory building, plus 60 interviews with the founders, staff and parents at 17 or the 18 original DC charter schools	Theory building, with additional support from interviews
2004	Wohlstetter, P., Malloy, C. L., Smith, J. & Hentschke, G. **"Incentives for Charter Schools: Building School**	Find that cross-sectoral alliances are prevalent amongst charter schools across a number of states, but these alliances differ some from other alliances in the business community. The success of these cross-	Document analysis and interviews in 2002	Document analysis of state charter school laws, combined with interviews

	Capacity Through Cross-Sectoral Alliances," *Educational Administration Quarterly*, 40 (3), pp. 321-365.	sectoral alliances rely heavily on particular contexts.		
2003	Henig, J.R.; Holyoke T.T.; Lacireno–Paquet N.; Moser M. **"Privatization, Politics, and Urban Services: The Political Behavior of Charter Schools,"** *Journal of Urban Affairs*, 25 (1), pp. 37-54	DC charter schools take political routes when faced with challenges of service delivery, thus muting some market forces	Theory building and case study of Washington D. C. charter schools	Case study analysis and theory building
2003	Palmer, Louann Bierlein & Rebecca Gau. **"Charter School Authorizing: Policy Implications from a National Study"**. Thomas B. Fordham Institute.	More analysis in this area of research needs to be conducted. Yet, it is evident that locally elected school boards have most difficulty in role as authorizing agent for charter schools. Local politics, lack of infrastructure and inability to dedicate staff to process inhibit proper functioning and analysis from local school boards as authorizers. At least one or more non-local board authorizer needs to be involved in process (separate chartering boards or universities).	Online survey responses from 114 major charter authorizers, 555 operators, and 191 knowledgeable observers of statewide charter initiatives	Purposive sample, cross-state analysis of single year of survey response data. Construction of weighted means to rank states.