

## Seven

### State Charter Law and Charter School Outcomes

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#### **Abstract**

Despite federal initiatives encouraging the expansion of charter schools, there remains a limited understanding of the empirical relationship between state charter school laws and charter performance. In this study, I categorize state legislation across three dimensions – permissibility, autonomy, and accountability – and investigate each dimension’s statistical relationship with the number of schools as well as NAEP performance. Results suggest that a state’s legal environment may play a large and significant role in charter school students’ academic outcomes. Permissibility and autonomy are associated with a greater number of charter schools, while higher accountability standards may restrict and reverse growth. Although greater autonomy has some positive correlation with academic outcomes, the negative correlations of increased permissibility and increased accountability with student outcomes are greater in magnitude. These findings suggest that policymakers may want to consider tightening permissive charter laws and overhauling current accountability frameworks while encouraging a reasonable degree of autonomy. Furthermore, expanding charter school programs through permissive laws may adversely affect academic outcomes. Accountability standards seem to restrict charter school growth without necessarily improving student performance.

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## Introduction

### Background

Since 1991, when the first charter school law was passed in Minnesota, charter schools have been a growing feature of the U.S. education landscape. In the 2009-10 academic year, there were over 4,900 charter schools nationwide, serving more than 1.6 million students (Chen 2011). Charter schools were conceived as a means of revolutionizing public education through both competition and choice by introducing greater competition in quality with traditional public schools, and boosting student achievement along with parent satisfaction (Stillings 2005). Charter schools can be set up by parents, teachers, community organizations, or other groups, and are governed by a legislative contract with an authorizing body, such as the state or local school board. Such contracts, which are periodically reviewed after a certain number of years, are meant to articulate performance guidelines and hence maintain a certain degree of accountability.

Charter schools occupy an intermediary space between traditional public and private schools. Like public schools, they receive state tax dollars and are generally open enrollment. Charter schools also adopt features of private schools such as greater autonomy from regulations, increased operational and curriculum flexibility, expanded choice by parents and students, and a diminished teacher union presence (Miron and Nelson 2002; McNeal and Dotterweich 2007).

Because policymakers must try to manage the tension between local-level flexibility and macro-level accountability (Shober et al. 2006), and between private choice and public standards, charter school policy has inevitably become controversial. Detractors argue that the per-pupil funding redirected to charter schools has drained much-needed resources from public school districts without producing tangible success. Charter performance has been mixed and, despite some successful case studies, performance tends to be lower than that of traditional public schools (U.S. Department of Education 2006; CREDO 2009). A U.S. Department of Education study (2006) found that charter school students had, on average, lower mean reading and mathematics scores on the National Assessment of Educational Progress (NAEP) than students in traditional public schools. A 2009 study by Stanford University's Center for Research on Education Outcomes (CREDO) found significant state-by-state differences in charter school performance. A more recent CREDO 2013 study found some performance improvements but with high unevenness in quality between states and across schools.

Despite inconsistent results, the federal government is actively supporting charter school initiatives. The No Child Left Behind (NCLB) Act of 2001 included \$300 million of federal funding for charter schools. The Obama administration has also put considerable emphasis on expanding charter schools nationwide. For example, Race to the Top is a recent initiative seeking to spur local-level reform and innovation in education policies. In order to qualify for Race to the Top funding, states' applications must include initiatives for charter schools. Given such federal support, it becomes even more critical to evaluate the factors behind the successes and shortcomings of charter schools.

Each state implements its own set of charter laws. Because of such variation across states, legislation has considerable implications on the creation and operation of charter schools in

different states. Miron and Nelson (2002) describe legislation as creating “an opportunity space in which charter schools may experiment.” The authors highlight choice, deregulation, and accountability as broad structural variables that can act through legislation to influence school and student outcomes (Miron and Nelson 2002). Yet, there remains a limited understanding of the relationship between state charter school laws and student academic performance, especially one that is empirically based and at the national level.

This is in part because of the blanket ratings and classification of state charter laws that are widely used. For example, letter grades A through E and classifications such as “strong” or “weak” are subsumed into charter school policy discourse as a standard proxy for quality of charter legislation (Wong and Shen 2006). A “strong” law supporting the expansion of charter schools does not necessarily translate into quality outcomes and suggests a bias toward charter reform. Moreover, such ratings do not adequately capture different dimensions of state legislation that can have opposite effects on charter school presence and performance. Additionally, the complicated nature of charter school politics involves competing interests of multiple actors, such as education departments, traditional public schools, teacher unions, local politicians, parents, and citizens of various ideological stripes. This has given rise to legislative and regulatory “layering” (Wong 1999) in which laws are usually far from homogeneous. Wong and Shen (2006) have not only found variation across states but also variation in the degree of permissibility across provisions within a single state’s law.

To better understand charter school legislation as it relates to charter school outcomes, my study decomposes state legislation into different clusters of provisions based on legal dimensions of permissibility, autonomy, and accountability. Wong and Shen (2006) describe a consensus that “evaluation of charter schools is not about, ‘Are charter schools working?’ but rather, ‘What makes some charters work and others falter?’” A better understanding and evaluation of the effects of charter school legislation is particularly relevant for pinpointing the circumstances that make charters effective and those that do not. This has crucial implications for the design and direction of existing and future charter law.

## **Literature Review**

Through statistical analysis of clustered charter law provisions, Witte et al. (2003) concluded, “unexpected[ly],” that “increasing flexibility in creating and running charter schools is correlated with increasingly stringent state requirements for accountability of charter schools.” Subsequently, Wong and Shen (2006) highlighted the importance of studying links between charter law and charter outcomes and included a significant effort to kick-start the creation of a charter legislation database for the purposes of policy analysis. They described in detail a systematic procedure of coding state legislation, with the emphasis on individual provisions that were operationalized as objective, dichotomous variables for easy use in empirical work. While the authors outlined four broad categories of provisions (authorizing process; personnel policy flexibility; operation; and accountability, standards, and expectations), they only analyzed the link between these provisions and selected state-level factors, such as starting teacher salaries, size of state school system, and

Democratic Party strength, leaving unanswered the question of the relationship between charter law provisions and student academic outcomes.

Such a relationship with student outcomes was specifically examined in a 2007 conference paper by Watral, looking at fall-to-spring achievement gains in Northwest Education Assessment test scores for schools in that region. Watral (2007) found that guaranteed funding for charters had positive and significant effects on student achievement. Additionally, collective bargaining exemptions and automatic waivers produced significant negative effects. Watral (2006) concluded that there is no strong support for the impact of autonomy and flexibility on student achievement, despite the arguments of advocates. However, Watral's analysis was based on Center for Education Reform (CER) rankings, which may potentially reflect the bias of this pro-charter advocacy group.

A CREDO (2009) analysis found significant variation in charter school performance across 16 selected states (including the District of Columbia), and demonstrated a link between legislation and academic outcomes. These states, which had education department partnerships with Stanford, represented over 50 percent of K-12 students in the United States and over 70 percent of the country's charter school students. In particular, charter schools in states with either enrollment caps or multiple authorizers demonstrated significantly lower student growth in academic learning compared to traditional public schools. At the same time, states that provided an avenue for appeals on applications or renewals showed small but significant gains in learning. While the study's strength lies in its methodological selection of "twinned" students for comparison in charter versus traditional public schools, it also relies on value-added analysis using state test scores. This limits the ability to evaluate charter school performance between states as a function of legislation, since different test measures would potentially have varied parameters and standards of student achievement.

To take into account differences in education quality, the CREDO (2009) study also mapped charter school effects by state against the state's average performance on the 2007 National Assessment for Education Progress (NAEP). The study finds that charters were more positively associated with student performance gains in states with lower overall academic performance. Nonetheless, there remains an absence of research on a nationwide scale using national-level assessments as a common basis for comparison of legislation.

## Methods and Data

### Data and Methodology

Legal variables are based on individual state laws as reported in a 2004 study by CER. While the CER is admittedly a pro-charter organization, I only use the legal analysis and explanation provided for relevant individual provisions, in order to avoid any potential bias from CER's rankings of the state laws. I also refer to actual legal texts, legal databases and existing literature.<sup>1</sup> Charter school numbers by state were obtained from the National Alliance for Public Charter Schools (NAPCS) database and NAEP test scores were provided online by the National Center for Education Statistics (NCES) Data Explorer. There were fewer observations for charter NAEP scores, as some states did not meet NCES reporting requirements in some years; missing data were left out of subsequent

regression analyses. Data on poverty status and population size at the state level came from the Current Population Survey (CPS) Annual Social and Economic Supplement (U.S. Census Bureau). The above data were collected for four time points: 2005, 2007, 2009, and 2011. Because CPS data for 2011 were not yet available, 2010 figures were used instead. This is unlikely to significantly affect results since the relative change within a year would likely be limited. State government and citizen ideology scores are based on the most updated, commonly used measures by William Berry et al. (2010), using a scale of 0 to 100, with 100 being the most liberal.

I use state legislation in three dimensions: permissibility, autonomy, and accountability. Although previous studies code for a general “flexibility” dimension that encompasses the openness of authorization processes and freedom from general regulation, such a dimension actually encompasses both the ease of establishing and the freedom of operating charter schools. Thus, to better understand such factors, I chose to code more specific dimensions: permissibility, the legal ease of obtaining legal approval and setting up a charter school, and autonomy, the flexibility and freedom from usual district and state education regulations once a charter has been established. The third dimension, accountability, captures the public accountability and external monitoring standards imposed on charter schools.

Each legal dimension consists of several legal variables coded individually along a scale. I combine the variables’ scores to give each state three overall scores – one per dimension. Table 1 shows the breakdown of legal variables for each of the three dimensions. Instead of coding the entire body of legislation, I identify the legal variables after a thorough review of proposed model laws and the academic literature. Variables were coded on a scale of one to five, with a higher score indicating a greater level of permissibility, autonomy, or accountability. The overall dimension score for a state is equal to the sum of its individual variable scores. Because autonomy encompassed many individual variables, states’ overall scores in that dimension were scaled down proportionally to give the same maximum score of 15 as the other two dimensions.<sup>2</sup> Appendix 1 further elaborates on how these variables are defined.

**Table 1.** Breakdown of legal variables for each legal dimension.

Dimension	Legal Variable
Permissibility	No cap on the number of schools; if there is one, 90% of the cap is not reached
	Number and nature of authorizers
	Involvement of for-profit organizations
Autonomy	Automatic exemptions from most district and state regulations
	Waiver of teacher certification requirements
	Legal and operational autonomy
	Fiscal autonomy
Accountability	Guaranteed funding sources
	Defined academic and operational performance expectations
	Submission of annual performance reports to higher bodies
	Periodic formal evaluation of state charter school program

I study two main outcomes: the number of charter schools in each state and the academic performance of charter schools by state. I investigate the relationship between state charter law and each outcome using ordinary least squares (OLS) regression. To measure student performance, I use state-level mean charter scores from the National Assessment for Education Progress (NAEP) reading and writing tests for grades four and eight, starting from 2005, the first year a breakdown of scores according to charter and traditional public schools is available. I examine scores at four time points: 2005, 2007, 2009, and 2011.

While forty states and the District of Columbia passed charter laws by 2004, only 21 states are used because of the availability of NAEP charter school data. This approach assumes that state charter laws remained constant after 2004, which is not likely to be the case. Therefore, I presume that revisions would likely not be a determining factor of academic performance or school numbers. State legislative changes could primarily affect new charter schools, a relatively small proportion compared to the existing numbers, or would be phased in slowly to give current schools time to adjust their practices and hence taking legal effect after the studied time frame. Such laws also tend to produce effects observable only after a time lag. For example, more stringent accountability requirements may only lead to improved test scores after a few years, or may only be imposed during charter renewal. This is admittedly a potential weakness that will have to be addressed in future studies.

I use OLS regression models to understand how differences in charter law structure relate to point increases or decreases in NAEP test scores. Model 1 accounts for the number of charter schools by state (N) and Model 2 uses charter NAEP scores (T). The two equations follow:

Model 1

$$N = \alpha_1 + \beta_{perm1}L_{perm} + \beta_{auto1}L_{auto} + \beta_{acc1}L_{acc} + \lambda_1Pop_s + \omega_1POV_s + \phi_1L_t + \varphi_1L_r + \theta_1I_{gov} + \zeta_1I_{citi} + \varepsilon_1$$

Model 2

$$T = \alpha_2 + \beta_{perm2}L_{perm} + \beta_{auto2}L_{auto} + \beta_{acc2}L_{acc} + \gamma_2T_p + \lambda_2Pop_s + \omega_2POV_s + \phi_2L_t + \varphi_2L_r + \varepsilon_2$$

Variables  $L_{perm}$ ,  $L_{auto}$  and  $L_{acc}$  represent state permissibility, autonomy, and accountability scores, respectively. These are the main explanatory variables of interest. Constants are represented by  $\alpha_1$  and  $\alpha_2$  and  $\varepsilon_1$  and  $\varepsilon_2$  are error terms. Additional control variables include: state population ( $Pop_s$ ); state poverty rate ( $POV_s$ ); time since the charter law first took effect ( $L_t$ ); and, time since the last legal revision ( $L_r$ ). I also include two other controls in Model 1: measures of government ( $I_{gov}$ ) and citizen ( $I_{citi}$ ) ideological leanings.

In Model 2, I incorporate the mean state-level NAEP scores for traditional public schools,  $T_p$ , as a covariate to take into account exogenous performance variations and education standards between the various states. By controlling for the mean performance of non-charter public school students in the same state, any remaining gaps in charter academic achievement across states as measured by  $\beta_c$  may more accurately be attributed to differences in state laws.

I also control for additional state-level factors that may influence charter law design as well as school numbers or performance. First, I use the percentage of the population under the poverty

line by state,  $Pov_s$ , as a proxy for the quality of the education system as a function of state resources. To the extent that charter schools are seen as a vehicle of school choice and a solution to increase the quality of traditional public schools through a competitive effect, states with more limited resources could be inclined to encourage the expansion of charter school programs by designing more permissive charter laws that grant greater autonomy without demanding high levels of accountability. To factor in large demographic disparities across the United States that affect the absolute number of charter schools per state, I include state population numbers ( $Pop_s$ ) as a control. Larger states may also face greater demographic variation which may make it harder for states to implement or monitor higher education standards. Therefore, such difficulty may lead to variability in academic performance.

The two OLS models also factor in the number of years since a state's charter school law was first implemented and last revised. A combination of both variables could capture the potential time lag from any legal changes. The variable  $L_t$  refers to the age of the state charter law and is calculated by subtracting the year when the law was first implemented in that state from 2004 (the year for which state laws were coded).  $L_t$  is defined as the difference between the year in which the NAEP test was administered and the year of the most recent substantive revision to state law (until 2004). This information was obtained from prior research done by Shober et al. (2006). Additionally use the 2004 CER report for revisions after 2002 that were not included in the Shober et al. (2006) study.

Laws that were passed earlier would give charter schools more time to open and gain operational experience and this would plausibly facilitate improved academic performance. At the same time, legal amendments would likely occur over the years to meet changing needs, depending on whether the original law was regarded as too strict or too lax. Research has shown that state laws have often been revised to increase flexibility and decrease accountability requirements (Shober et al. 2006). Alternatively, amendments may tighten accountability standards because of experience from failed charter experiments or negative political or popular sentiment. For instance, a recent law proposed by the pro-charter National Alliance for Public Charter Schools (NAPCS) gave more attention to accountability and monitoring requirements.

Model 1 incorporates two variables on state government ( $I_{gov}$ ) and citizen ideology ( $I_{citi}$ ). Both variables are measured on a scale from 0 for the most conservative to 100 for the most liberal. Those with conservative leanings traditionally favor school choice and expansion of charter school programs. Therefore, I expect that states with a lower score will implement laws making it easier for charter schools to open.

Citizen ideology may also be related to state government ideology in that people tend to vote for political representatives with similar ideological leanings. Thus, ideology could influence charter school numbers directly through broader support or opposition at the grassroots level to the opening or closing of schools and indirectly, acting through the intermediary of state charter law. However, this is not included in Model 2 as it is less likely to be significant in terms of student academic performance. Finally, each state is weighted equally regardless of overall or charter student population size. This is because charter laws are developed by individual states and this study is focused on state-level comparisons rather than national aggregate effects.

## Findings

### Descriptive Results

This section presents a summary of the data used and descriptive trends of the two outcomes: number of charter schools and student academic outcomes. Figure 1 shows the geographic coding of state scores with darker regions reflecting higher scores. There is no clear pattern in the degree of autonomy but permissive laws and lower accountability standards tend to be prevalent in the West.

**Figure 1.** Permissibility, accountability, and autonomy ratings by state.

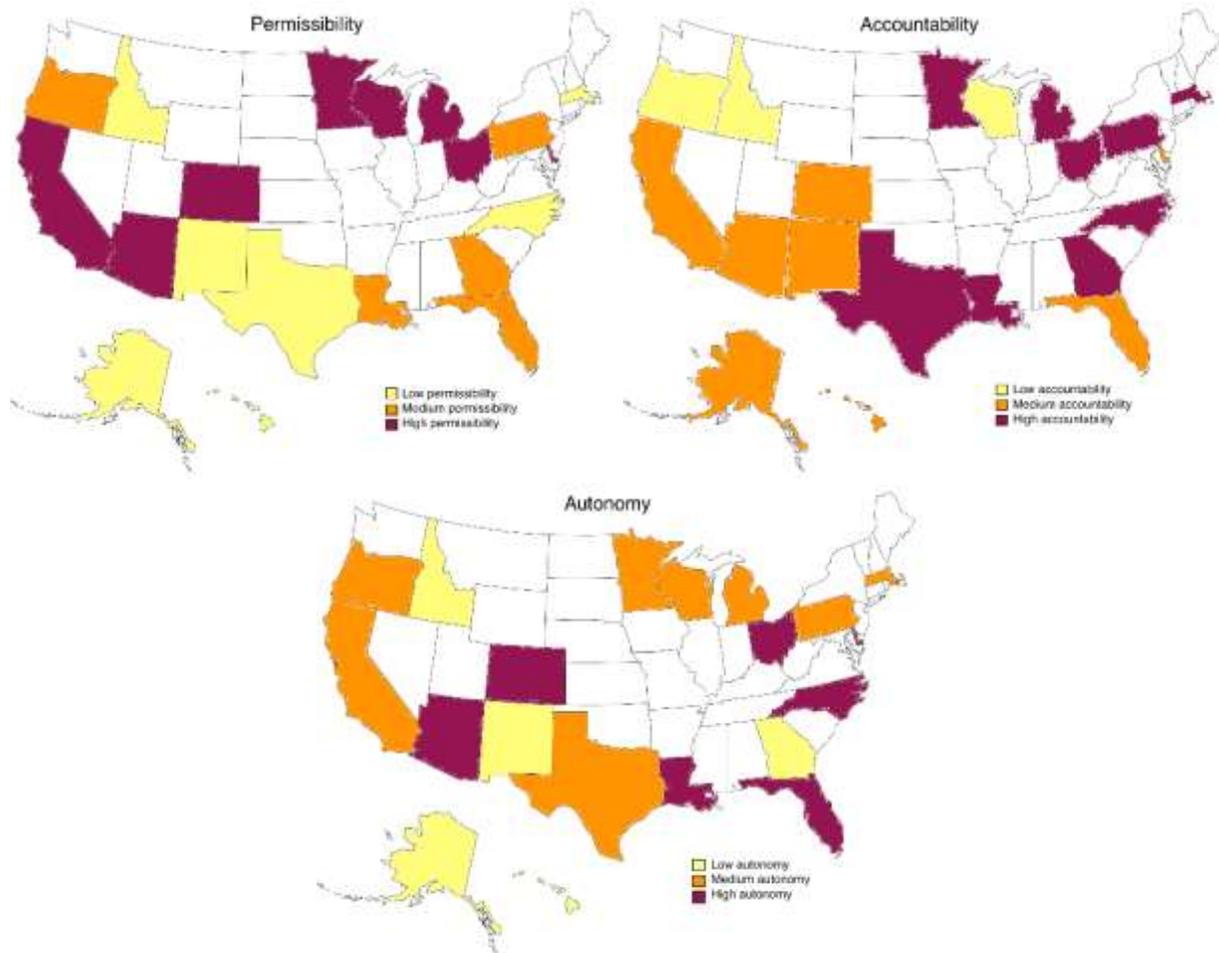
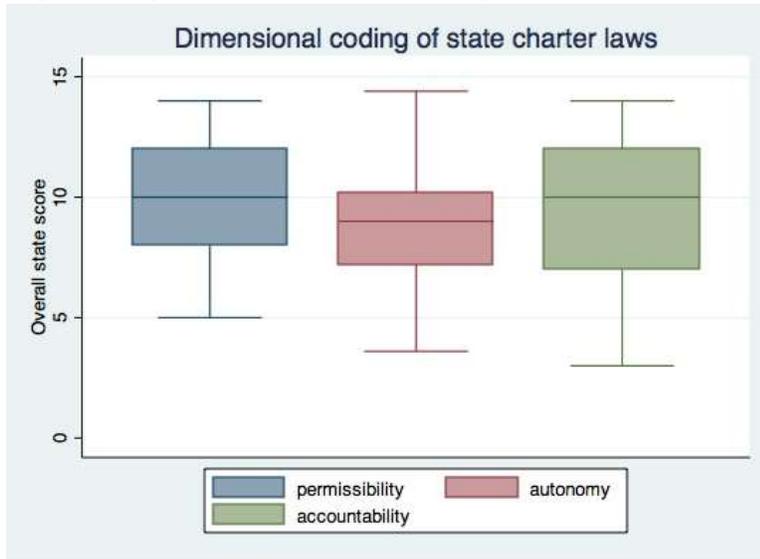


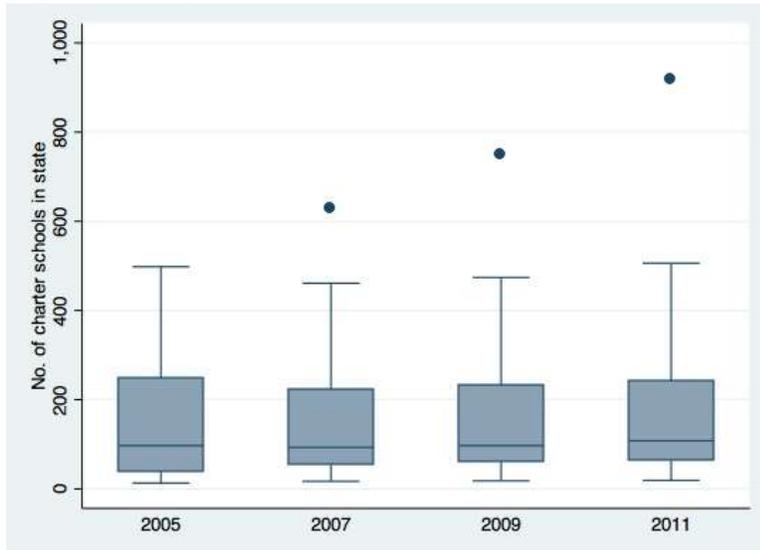
Figure 2 contains three box plots presenting the spread of scores for each legal dimension. State laws show greater variation in autonomy and accountability. The mean level of permissibility, 9.52, is slightly higher than those of the other dimensions. For accountability in particular, states that score below the median are more likely to have far less stringent standards than the average, as shown by the relatively large distance between the median and lower quartile lines. Although there is a large range of autonomy scores, most states are clustered around the median score of 9.

**Figure 2.** Spread of scores for each legal dimension.



The box plots in Figure 3 show the range in the number of charter schools for different states. Overall, states saw an expansion of charter schools over the years, although numbers varied greatly across states (which may also be a function of population size). While most states have fewer than 200 charter schools each, states with more schools than the median greatly exceed this median figure, indicating a positively skewed distribution. The dots that appear from 2007 onwards represent California as an outlier state.

**Figure 3.** Range in the number of charter schools for different states.



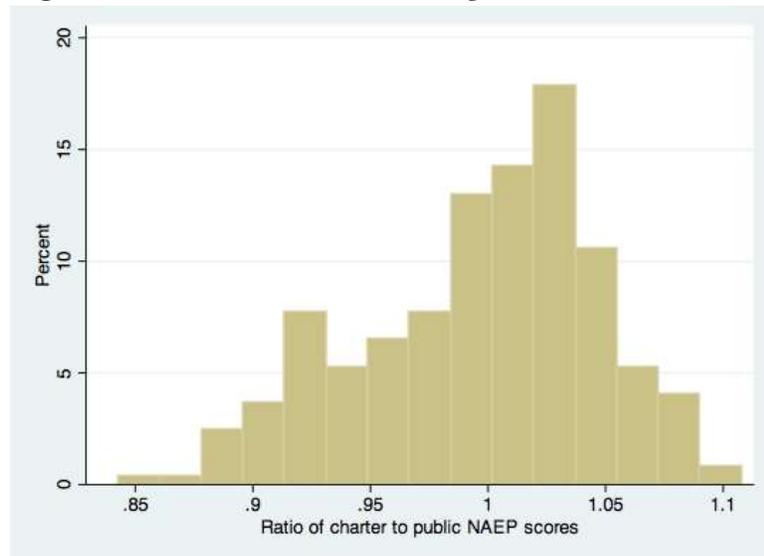
Mean state-level NAEP scores for charter and traditional public schools are almost the same and the mean ratio of charter to public school scores is very close to one (Table 2). However, the longer left tail of the histogram in Figure 4 suggests that charters that perform worse have a larger

achievement gap relative to traditional public schools in the same state and those that did better than state public schools produce relatively smaller improvement.

**Table 2.** Descriptive statistics of state laws.

Variable	Obs.	Mean	Std. Dev.	Min.	Max.
Permissibility of state law	36	9.52	2.54	5	14
Autonomy of state law	36	8.91	3.09	.6	14.4
Accountability of state law	36	8.00	3.19	3	14
No. of charter schools in state (sum of the obs. across all 4 years)	36	168.96	176.26	3	917
2005	4	144.76	147.57	3	498
2007	4	158.14	159.64	7	627
2009	4	176.86	179.32	8	748
2011	4	196.10	210.85	9	917
Charter NAEP scores	46	248.08	26.42	88	311
Traditional Public School NAEP scores	36	249.10	24.99	90	299
Ratio of Charter NAEP scores to public school NAEP scores	46	.997	0.05	.84	1.11
Year state law was implemented	36	1994.91	2.09	991	1999
Year of latest revision to state law	36	2001	1.85	996	2003
Time in years between law implementation and 2004	36	9.10	2.09	5	13
Time in years between last revision of law and when test was taken	36	7.00	2.91	2	15
Citizen ideology rating by state	20	52.41	14.52	0.3	85.3
State government ideology rating	20	47.82	13.21	5.9	67.7

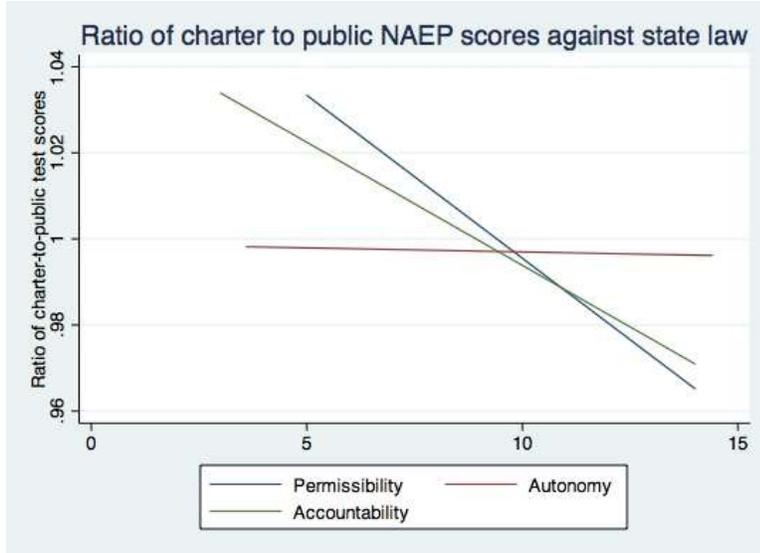
**Figure 4.** Distribution of charter-to-public NAEP score ratios.



The linear relationships of the three legal dimensions are plotted in Figure 5. Permissive state laws have a strong negative correlation with relative student achievement and, perhaps unexpectedly, laws that demand greater accountability also have a negative correlation with charters?

performance compared to traditional public schools. The degree of legislative autonomy has only a very small negative association with relative student achievement.

**Figure 5.** Ratio of charter to public NAEP scores against state law.



### Regression Results

Based on my regressions, the influence of all three legal dimensions remained large and statistically significant even after adjusting for multiple controls. This demonstrates that legal environment may still have a major influence on the eventual number of operating charters (a joint F-test of all three dimensions provides a test statistic of  $F(3, 310) = 102.02$  and a p-value of 0.0000).

I also test the three legal parameters of permissibility, autonomy, and accountability for correlation. The correlation coefficients are between 0.1 and 0.4 suggesting that individual analysis of each parameter (as well as in tandem) may be significant in predicting my outcome variables. Table 3 presents the results for the number of charter schools (Model 1) and Table 4 shows the results for charter NAEP scores (Model 2).

**Table 3.** Impact of the legal environment on the number of charter schools in each state (Model 1).

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Permissive	26.64*** (3.504)			22.21*** (3.662)	13.02*** (2.024)	15.60*** (2.103)	11.00*** (2.056)	11.07*** (1.997)	7.135*** (1.934)
Autonomous		17.49*** (2.967)		12.71*** (3.077)	12.58*** (1.678)	10.37*** (1.749)	12.75*** (1.659)	12.75*** (1.611)	19.26*** (1.734)
Accountable			-1.740 (3.023)	-7.027** (2.809)	-12.69*** (1.545)	-12.39*** (1.518)	-13.67*** (1.423)	-13.73*** (1.382)	-16.97*** (1.354)
State population (in 100,000s)					1.577*** (0.0563)	1.524*** (0.0570)	1.484*** (0.0533)	1.380*** (0.0565)	1.266*** (0.0573)
State poverty rate						5.736*** (1.533)	6.612*** (1.431)	9.685*** (1.544)	12.52*** (1.636)
Age of law in 2004							16.38*** (2.260)	18.61*** (2.248)	22.99*** (2.333)
Time since last legal revision								-7.770*** (1.700)	-5.945*** (1.701)
Government ideology									-0.510 (0.414)
Citizen ideology									-0.615 (0.392)
Constant	-84.73** (34.53)	13.03 (27.99)	185.3*** (29.94)	-89.94** (41.15)	-78.15*** (22.45)	-158.2*** (30.71)	-280.9*** (33.20)	-279.4*** (32.24)	-285.3*** (33.70)
Observations	336	336	336	336	336	336	336	336	320
R-squared	0.148	0.094	0.001	0.195	0.761	0.771	0.803	0.814	0.844

Standard errors in parentheses  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 4.** Impact of the legal environment on charter NAEP performance in each state (Model 2).

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Permissive	-0.839 (0.688)			-0.619 (0.734)	-1.902*** (0.317)	-1.798*** (0.318)	-1.986*** (0.341)	-2.391*** (0.367)	-2.401*** (0.365)
Autonomous		-0.601 (0.525)		-0.421 (0.558)	0.599** (0.241)	0.560** (0.240)	0.714*** (0.261)	0.869*** (0.263)	0.901*** (0.262)
Accountable			-0.383 (0.593)	-0.243 (0.602)	-1.197*** (0.260)	-1.150*** (0.259)	-1.112*** (0.259)	-0.998*** (0.259)	-0.971*** (0.258)
Public school NAEP scores					0.975*** (0.0297)	0.974*** (0.0295)	0.969*** (0.0296)	0.972*** (0.0292)	0.969*** (0.0291)
State population (in 100,000s)						-0.0164** (0.00760)	-0.0134* (0.00784)	-0.0173** (0.00785)	-0.00953 (0.00875)
State poverty rate							-0.358 (0.239)	-0.292 (0.237)	-0.506* (0.260)
Age of law in 2004								1.203*** (0.432)	1.070** (0.435)
Time since last legal revision									0.530* (0.272)
Constant	256.3*** (6.942)	253.7*** (5.179)	251.7*** (5.842)	260.4*** (8.730)	29.73*** (7.967)	30.46*** (7.914)	36.35*** (8.824)	25.42*** (9.546)	25.34*** (9.491)
Observations	246	246	246	246	246	246	246	246	246
R-squared	0.006	0.005	0.002	0.009	0.819	0.822	0.824	0.829	0.832

Standard errors in parentheses  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

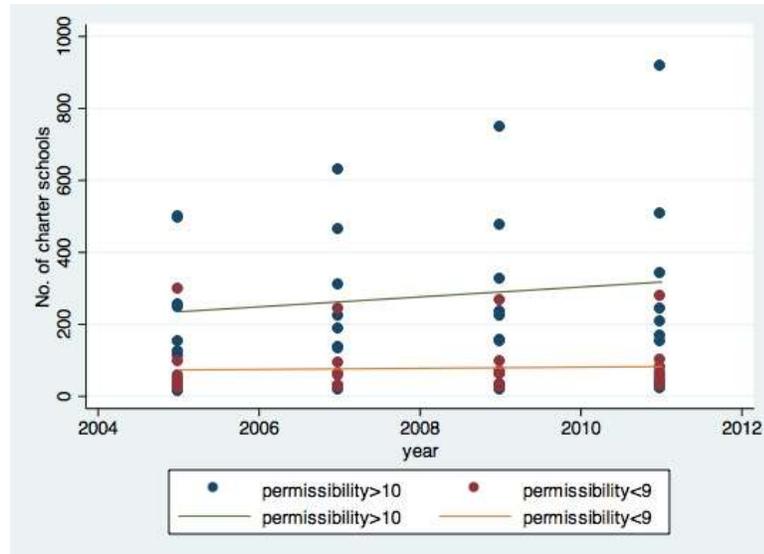
**Model 1: Number of charter schools in state**

Without controlling for other state factors, laws granting higher permissibility and autonomy significantly relate to a greater number of charter schools, while accountability is associated with fewer charter schools. Adding control variables reduces the apparent influence of permissive laws.

As seen in Model 1, every point increase in permissibility of state law relates to seven more charter schools. In contrast, granting greater legislative autonomy has a larger positive correlation, while enhancing accountability requirements has a strong negative correlation. Each unit increase in the degree of legal autonomy is associated with an increase of over 19 charter schools, but the same increase in legal accountability correlates with almost 17 fewer charter schools.

Permissive laws – the lack of caps, having multiple authorizers, and allowing for-profit organizations – relate to an increase in charter schools. This suggests that permissive laws do make it easier or provide incentives for charters to be set up. Comparing states with high (score greater than 10) versus low permissibility (score less than 9), more permissive laws are associated with a faster rate of increase in the number of schools over time (Figure 6).

**Figure 6.** Effect of permissibility on the number of charter schools over time.



In terms of autonomy, fewer regulations, guaranteed funding, and more charter control over teacher certification and operational matters also appear to provide incentives to set up and maintain operation of charter schools. Freedom plausibly encourages innovation and hence more charter proposals. However, accountability standards in terms of performance expectations and monitoring requirements greatly limit growth, either by enforcing closures of schools or by reducing the incentive to open a school in the first place. A more daunting monitoring environment could deter potential applicants.

**Model 2: Academic achievement of charter schools on NAEP tests**

There is no significant correlation between charter school performance and any of the three legal parameters in the model without the covariate of traditional public school performance on NAEP. However, the corresponding coefficients are large and highly significant when mean scores of traditional public schools in the same state are considered. This underscores the large overall variability in academic achievement between states that could obscure any potential performance trends.

Without adding any other variables, permissibility and accountability have a negative influence on charter academic achievement, whereas autonomy has a slight positive effect. After controlling for other state-level variables, the model suggests greater negative influence of more permissive laws, and greater positive influence of greater legislative autonomy, alongside a smaller negative effect of accountability requirements. As shown in Table 3, a one-unit increase in the level of permissibility relates to a 2.4 point decrease on the NAEP. Increasing the degree of legal autonomy by one point correlates with a 0.9-point increase in NAEP score, while a similar increase in accountability is linked with a decrease of 0.97 points on the NAEP. A joint F-test of all three legal dimensions provides a test statistic of  $F(3,237) = 22.57$  and a corresponding p-value of 0.0000. This further confirms the high significance of the overall legal environment and suggests good model fit.

## Discussion

The regression results suggest potentially adverse implications for greater permissiveness in charter legislation. Charter school students in states with no caps on growth, multiple non-governmental authorizers, or laws that allow the involvement of for-profit organizations are far more likely to perform worse on NAEP tests. An unlimited number of possible charters would reduce authorizer oversight and incentive in screening for high-quality charter applications. At the same time, authorizers such as private non-profits or higher education institutions may have less stringent standards compared to state or local school boards who may be more demanding or even skeptical of charters because charters directly affect the operations of their public schools. The availability of multiple authorizers makes the approval process easier as applicants can work outside the usual governmental bodies to find an authorizer with less rigorous standards. Finally, for-profits could well have differing priorities when operating schools (charter or non-charter) and may be inclined to maximize revenue at the expense of quality, which in turn affects the academic learning opportunities of students.

The results do provide some empirical support to charter school advocates calling for increased operational and legal freedom, whether in terms of automatic exemptions from standard regulations, guaranteed funding, or even waivers of teacher certification requirements. This would be a means of spurring educational innovation and enhancing student outcomes without having to worry as much about fulfilling bureaucratic across-the-board regulations. States that have given more space for charter schools to operate and experiment appear to have attained higher NAEP scores. It is also plausible that increased autonomy could have even larger impacts if a broader definition of student outcomes was used to take into account specialized programs in music, art, language, or gifted education not usually captured in standardized reading and math tests. At the same time, it should be noted that this positive autonomy effect remains smaller than the size of the strongly negative permissibility factor. The different impacts of legislative permissiveness and autonomy underlines the potentially opposing effects of what is commonly called flexibility at different stages of charter school implementation (setting up versus operating the school).

Interestingly, greater accountability is associated with significantly lower test scores in charter schools (although the influence was less pronounced than with permissive laws). This influence was reduced in size but remained significant even after controlling for population, poverty, and law age. A possible reason could be omitted variable bias. Introducing a dummy variable that grouped states by census region, I also run a modified regression model (Table 5) with just the accountability parameter and eliminate state poverty and population controls to minimize collinearity. The accountability coefficient, however, remains negative. This could simply be because states with poorly performing charters have implemented accountability requirements as a remedial response with time lag limiting the influence of these more recent legal revisions.

**Table 5.** Impact of legal accountability on charter NAEP performance.

Variables	(1)	(2)
Accountable	-0.421*	-0.439*
	(0.238)	(0.238)
Public school NAEP scores	0.996***	0.996***
	(0.0241)	(0.0241)
Age of law in 2004		0.406
		(0.354)
Midwest region	-5.184*	-6.037*
	(3.005)	(3.093)
South region	11.23***	11.26***
	(2.864)	(2.862)
West region	17.67***	16.95***
	(3.036)	(3.098)
Constant	-5.794	-8.816
	(7.362)	(7.814)
Observations	246	246
R-squared	0.882	0.883

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

On the other hand, the results provide strong indication that existing accountability mechanisms are failing and suggest important implications for the improvement of charter school legislation and policy. For example, authorizers may not rigorously enforce accountability requirements prescribed by the law, and schools have little incentive to respond to such standards, especially when legal language is vague and permits are flexible. Furthermore, the illusion of having stringent accountability standards might lead to a perverse effect of laxer action in practice; monitoring bodies may be inclined to grant schools' requests for continued operation under supposedly consistent monitoring.

The coded variables for the accountability dimension also focused on reporting and monitoring requirements with no explicit link to upholding said accountability standards even if such performance standards may have been defined in the charter contract. Submission of annual performance reports or even state-level evaluation of the charter school program may not necessarily lead to rapid corrective action on poorly performing charters. State laws have largely been silent on requirements for sanctions, probation, or closure of failing charters. It may take years to complete follow-up action, given the possibility of an appeals process and schools may be allowed some time for self-improvement before stricter action is taken by authorizers or boards of education. In addition, the influence of interest groups and political pressure muddies the entire process. Thus, within the limited time period for which charter school NAEP scores are available, we may not be able to clearly determine the impacts of accountability requirements.

Moreover, the “ideal” definition of accountability standards has yet to be adequately captured in existing charter legislation across the country. Authorizers play an important role in upholding accountability, not just in granting “permissibility” during the initial stages of setting up a charter. Accountability standards should also encompass greater monitoring and intervention powers for authorizers, as well as specific reporting and performance mandates for authorizing bodies. This would provide important incentives for authorizers to maintain a quality portfolio of charter schools.

Several studies have found that authorizers face difficulties imposing accountability standards and implementing sanctions because of unclear laws, financial and logistical limitations, political pressure, and adverse impacts on reputation (Finnigan et al. 2004). However, such specific requirements are not traditionally emphasized in legal texts and public discourse. Only in recent years has this aspect started to receive more attention. Therefore, the true influence of accountability standards cannot yet be determined from data currently available for this study. This presents a broader challenge in evaluating the association of accountability standards across states. Future long-term studies will hopefully be better positioned for conclusive analyses.

Finally, methodological limitations may contribute to the negative association between accountability and charter school performance. The sample of states with charter school data available in NAEP is limited and not necessarily representative of the true population distribution of accountability scores. This limits conclusive interpretations of current results. For instance, several Northeastern states are not included in this study. Yet, the Northeast region tends to have higher accountability standards compared to the West and Midwest. The lack of a geographic region control variable in the model may also contribute to bias.

## Conclusion

According to my analysis, states’ legal environments significantly shape the growth of charter school programs as well as charter academic performance. Different aspects of the law are working in varying directions. Permissibility and autonomy favor a greater number of charter schools while accountability restricts and reverses growth. In addition, although greater autonomy has some

positive association with student academic outcomes, it tends to be outweighed by the negative relationship between these outcomes and permissibility and accountability.

The results of this study suggest that different dimensions of charter laws may have conflicting influences on the expansion and quality of charter schools. It is thus important for policymakers to evaluate legislation at a finer level, by dimensions or even by individual provisions. Otherwise, legal policy may impede progress towards effective understanding and management of charter school programs. Charter school advocates consistently favor permissibility, autonomy, and, increasingly, accountability. However, this study indicates that blanket support for all three dimensions is detrimental to charter academic performance. While encouraging a reasonable degree of autonomy, policymakers need to tighten permissive laws and overhaul currently inadequate accountability frameworks. Just as with traditional public schools or any other system, charter schools (and charter laws) are not simply “good” or “bad.” Meaningful discourse needs to consider which aspects of policy and legislation are constructive and which ones are not. States that have implemented permissive laws as a means of expanding charter school programs tend to struggle with poor academic outcomes in these schools. On the other hand, accountability standards seem to be restricting growth without necessarily improving student performance. Given the relatively weak influence of autonomy, there is no clear-cut formula or combination of parameters that facilitate charter performance alongside growth. Thus, the best strategy in designing charter school law may be to first focus on ensuring academic quality through accountability reform and establishing adequate standards in a smaller group of schools prior to engaging in a state-wide expansion of charter schools. It would certainly be harder to belatedly rein in growth and enforce higher accountability standards on a large, heterogeneous, and poorly-regulated pool of schools.

Charter schools are a relatively recent initiative with mixed research results and there remains a paucity of reliable data. This study is limited by the number of years and states for which NAEP data for charters were available. This study also does not incorporate changes in state legislation after 2004, as governments respond to the growing interest (positive and negative) in charter schools. Nonetheless, this study provides groundwork for subsequent studies using more comprehensive coded legislation and larger datasets.

Future research might code state charter laws over time, especially after 2004, to analyze the dynamic influence of changes in permissibility, autonomy, or accountability. Research could also look into how various dimensions of charter school law correlate with variability in school performance within states. The legal environment may have varying influence on schools in rural, urban, or suburban settings, for instance, or depending on whether the charter school is virtual, newly set-up, or converted from a public or private school. It would thus be interesting to explore the legislative effects at the school or district level within a state.

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<sup>1</sup> This included: the Education Commission of the States’ State Policies for Charter Schools Database, the Law, accessed Feb 23, 2012 at <http://www.ecs.org/html/IssueSection.asp?issueid=20ands=What+States+Are+Doing>; Librarian’s Society of Washington DC Legislative Database, Wong and Shen (2006), Watral (2007), accessed Mar 18, 2012 at <http://www.llsdc.org/state-leg/>

<sup>2</sup>The summed score for permissibility as well as accountability, each consisting of three variables, was 15. Autonomy, which had five variables, had a total score of 25 – this was then adjusted to a 15-point scale, to facilitate easy comparison of dimension scores.

## References

- Berry, William D., Richard C. Fording, Evan J. Ringquist, Russell L. Hanson and Carl Klarner. 2010. Measuring Citizen and Government Ideology in the American States: A Re-Appraisal. *State Politics and Policy Quarterly* 10(2): 117-135.
- The Center for Education Reform. 2004. *Charter School Laws Across the States 2004: Ranking Scorecard and Legislative Profiles*. Washington, DC: The Center for Education Reform.
- Center for Research on Education Outcomes. 2009. *Multiple Choice: Charter School Performance in 16 States*. Palo Alto, CA: Stanford University, center for Research on Education Outcomes.
- Chen, Chen-Su. 2011. *Numbers and Types of Public Elementary and Secondary Schools from the Common Core of Data: School Year 2009-10 – First Look*. Washington, DC: U.S. Department of Education, National Center for Education Statistics.
- McNeal, Ramona and Lisa Dotterweich. 2007. *Legislative Activities on Charter Schools: The Beginning of Policy Change?* New York, NY: Columbia University, National Center for the Study of Privatization in Education.
- National Alliance for Public Charter Schools. 2012. *Measuring Up to the Model: A Ranking of State Charter School Laws, Third Edition*. Washington, DC: National Alliance for Public Charter Schools.
- Shober, Arnold F., Paul Manna and John F. Witte. 2006. Flexibility Meets Accountability: State Charter School Laws and Their Influence on the Formation of Charter Schools in the United States. *The Policy Studies Journal* 34(4): 563-587.
- Finnigan, Kara, Nancy Adelman, Lee Anderson, Lynnyone Cotton, Mary Beth Donnelly and Tiffany Price. 2004. *Evaluation of the Public Charter Schools Program: Final Report*. Washington, DC: U.S. Department of Education.
- Stillings, Cara. 2005. Charter Schools and the No Child Left Behind: Sacrificing Autonomy for Accountability. *Journal of Education*, 186(2): 51-70.
- Watral, Caroline. “Differences that Make a Difference: An Examination of the Relationship between Charter Law ‘Strength’ and Student Achievement.” Presentation at the Annual Meeting of the American Educational Research Association, Chicago, IL, April 9-13, 2007.
- Witte, John F., Shober, Arnold F., and Manna, Paul. “Analyzing State Charter School Laws and Their Influence on the Formation of Charter Schools in the United States.” Presentation at the Annual Meeting of the American Political Science Association, Philadelphia, PA, August 28-31, 2003.

Wong, Kenneth K., and Francis X. Shen, “Charter Law and Charter Outcomes: Re-Examining the Charter School Marketplace.” Presentation at the National Conference on Charter School Research, Nashville, TN, September 29, 2006.

U.S. Department of Education. 2000. *The State of Charter Schools, Fourth-Year Report*. Washington, DC: U.S. Department of Education.

**Appendix 1. Definition of coded legal variables**

Dimension	Legal Variable	Definition/Examples
Permissibility	No cap on the number of schools; if there is one, 90% of the cap is not reached	A cap limits the number of charter schools in a state, either through an absolute total or a cap on new schools per year e.g. in California, 550 schools were allowed in 2004, with the cap increased by 100 every year. Sometimes the cap can vary by the type of authorizing body, or by the type of charter (e.g. Florida imposed no limits on charters converted from existing public schools, but the number of new start-ups was limited by district size).
	Number and nature of authorizers	A state could designate the local or state school board of education as the sole authorizing body, or create a specialized statewide charter review board (as in Colorado). Alternatively, a more permissive state law could permit multiple authorizers, including higher education universities, non-profits, or other private organizations. At times, eligible authorizers may depend on the type or location of the proposed charter school. For example, in Wisconsin, charters in Milwaukee can be authorized by the local board, the city of Milwaukee, or the two universities; however, local school boards are the only legal authorizers outside of Milwaukee.
	Involvement of for-profit organizations	For-profit organizations can either directly operate charter schools (i.e. granted an approved charter), or indirectly be contracted for management and operational services. Statutory silence sometimes occurs, when a state's law does not explicitly permit or disallow the involvement of for-profits.
Autonomy	Automatic exemptions from most district and state regulations	Quite often, in the spirit of the original charter school concept, states automatically provide blanket waivers from most of the usual state and district education laws, regulations or policies, apart from those of health or safety for example. In some states, state- and district-level regulations are treated differently, or exemptions have to be negotiated on a case-by-case basis (e.g. in New Mexico).
	Waiver of teacher certification requirements	Teachers employed at charter schools in certain states may be exempted from the standard certification requirements for traditional public schools. Such waivers could also be for up to a certain percentage of teachers, or allow alternative levels of certification (e.g. Ohio), or depend on the type of teacher (e.g. Texas waives all requirements except for bilingual and special education teachers).

	Legal and operational autonomy	This measures the extent to which charter schools are allowed to be independent legal entities, versus remaining under district jurisdiction. Legally or operationally autonomous charter schools have more control over personnel, enrollment numbers, property ownership, and contracting for services, for instance. This could likely affect the level of charter school activity in the state. For example, charters in Washington DC enjoy high autonomy, while those in North Carolina have some autonomy with state and local board officials exercising additional oversight.
	Fiscal autonomy	Some states give charter schools complete control over budgets, while others leave funds in the hands of traditional school districts. This would have implications for the resources available for charters, as well as how they can spend funding, depending on the attitudes at the district and local levels. States such as California or Colorado allow negotiation with the sponsor district.
	Guaranteed funding sources	Generally, district and school budgets are affected by per-pupil funding, which automatically follows students to the schools where they are enrolled. In some cases, the law states that 100 percent of per-pupil funding goes to the charter school (e.g. Louisiana); while in other states, the amount is lower or has to be negotiated specifically with the district. In Hawaii, funding is determined annually and not guaranteed.
Accountability	Defined academic and operational performance expectations	These performance outcomes are usually defined in the charter contract, although the level of specificity varies by state. Such outcomes could include some or all of the following: academic achievement goals, assessment indicators, an imposed timeline and corrective action procedures if standards are not met.
	Submission of annual performance reports to higher bodies	This reflects whether the state requires schools or their authorizers to submit annual performance or progress reports that are available to the public, beyond the usual testing or reporting requirements for traditional public schools. Reports could cover student academic performance but also financial or other operational matters. Some states do not explicitly mandate regular accountability reports, or relax the annual requirement after a certain number of years; on the other end of the spectrum, Georgia has a state office of Charter School Compliance that prepares guidelines, contracts with third parties to evaluate schools, and compiles annual reports.
	Periodic formal evaluation of state charter school program	Some states require the state board of education or another entity (e.g. an independent consultant is commissioned by the secretary of education in Pennsylvania) to regularly report on and evaluate the overall performance of charter schools in the state. This may include academic progress, best practices, impacts on the districts, and policy recommendations.