Politics of State-Led Reform in Education: Market Competition and Electoral Dynamics

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State-led educational initiatives have gained prominence across the nation. In this study, the authors examine two very different types of reform—state adoption of charter school legislation and state implementation of school district take-over—to explore the proposition that the type of education reform a state chooses will be significantly affected by a state's electoral dynamics, that is, the extent to which there is political competition or party dominance in a given state. The authors examine charter schools and school district takeover with the expectation that the factors leading to charter schools in a state will be different than the political climate in which takeover reform is realized. To test various hypotheses on the role of electoral dynamics in state-led reform, the authors use an event history analysis using pooled cross-sectional time-series and a traditional cross-sectional model using ordinary least square regression techniques.

STATE-LED EDUCATIONAL initiatives have gained prominence across the nation in recent years. Almost all 50 states have now developed accountability frameworks for student achievement, emphasizing standardized tests and grade-level benchmarks. In addition, a growing number of states is passing legislation that allows for more controversial measures, such as public school vouchers, charter schools, and provisions for state takeover of underperforming schools and districts. Some states have made nontraditional alternatives, such as home schooling, more accessible to families. Alternative leadership (e.g., business leaders) has also been recruited into the public sector to help failing schools.

Although adopting any statewide education reform will, by definition, require a change to the existing public schools, the extent of that change can

vary widely depending on which educational innovations a state chooses to implement. Each model of school governance brings with it a unique set of institutional characteristics, which can be understood by categorizing them under management, standards, capacity building, and the incentives for school self-governance. As Figure 1 suggests, strands of reform initiatives can be placed along a conceptual continuum. First, reforms vary in terms of their scale, which may range from systemwide to individual level. Systemwide reform includes efforts to build up the capacity of districtwide institutions, such as the superintendent's office and his or her central office staff. At the individual level, home schooling allows for substantial parental discretion over schooling practices. In between these two types are the mixed categories of charter schools and state-funded vouchers, where parental decisions are constrained by state or district provisions. Second, reforms are differentiated in terms of the balance between direct intervention and market-oriented tools to turn around low-performing schools. Whereas home schooling and vouchers are relying on market forces to improve school performance, integrated governance (such as mayoral control) and district-based restructuring focus primarily on standards, accountability, and management tools.

Thus, when states consider education reform, they are met with a broad range of options, each generating a different magnitude of change to the existing public school system. States must make a decision about which type of reform (or set of reforms) to adopt. In this study, we examine two very different types of reform—state adoption of charter school legislation and state implementation of school district takeover—to explore the proposition that the type of education reform a state chooses will be significantly affected by a state's electoral dynamics, that is, the extent to which there is political competition or party dominance in a given state. We choose to examine charter schools and school district takeover with the expectation that the factors leading to charter schools in a state will be different than the political climate in which takeover reform is realized.

DIFFERENT GOALS, DIFFERENT DESIGNS: CHARTER SCHOOL REFORM AND SCHOOL DISTRICT TAKEOVER

Charter schools and takeover reform are both designed to increase the quality of existing public schools, but their methods of achieving that goal are quite different. Based both on the theory guiding each reform and the empirical results each reform has thus far produced, we identify three primary differences between charter school reform and school district takeover. First, accountability in each reform is generated from a different source. Charter schools are designed to create an open market for education, thereby exerting

Reform Strategy	Scales of Reform					Individual Parenting
	Systemwide Institutions					Home Schooling
	Existing Public Schools	Districts With Alternative Leaders	Integrated Governance	Charter Schools	State-Funded Vouchers	
Management						
Corporate management (e.g., CEO, information networking)	x	+	+	x	x	x
Leadership with diverse expertise	x	+	+	x	x	x
Reform in financial administration and labor contact	x	+	+	x	x	x
Restructure human resource practices	x	+	+	+	+	x
Standards						
Systemwide academic standards	+	+	+	+	x	x
Alignment of curriculum and assessment	+	+	+	+	x	x
Performance-based accountability (e.g., academic probation policy)	+	+	+	+	x	x
Capacity building						
Sanctions on low-performance schools/students	+	+	+	+	+	x
Support for low-performing schools/students	+	+	+	x	x	x
Instructional improvement policy	+	+	+	x	x	x
Efforts to narrow the achievement gap	+	+	+	x	x	x
Incentives for school self governance						
Site-based recruitment of principals and teachers	x	x	+	+	+	x
Support charter school	x	x	+	+	+	x
Options to contract services with alternative suppliers	x	x	x	+	+	x
Strong parental preferences	x	x	x	+	+	+

Figure 1. Institutional Characteristics of School Governance Models

pressure on the other public schools to improve (Finn, Manno, & Vanourek, 2000; Hassel, 1999; Maranto, Milliman, Hess, & Gresham, 1999). Charters are expected to maintain a better fit with the needs of their parent customers, thereby gaining enrollment from the other public schools. Charter school reform, then, is designed to make public schools accountable to the parents they serve.

In stark contrast, school district takeover reform is designed to make schools accountable to state officials. School district takeover occurs in cases of "academic bankruptcy" or woefully low-performing schools (Bushweller, 1998; Seder, 2000; Wong & Shen, 2000; Ziebarth, 2001). Often, these school districts have repeatedly failed to improve achievement, even after substantial reform efforts. It is deemed necessary for state officials to step in and take over the district's academic, financial, and/or management operations. In many cases, state officials work with city governments. This system of "integrated governance" mixes political accountability and educational performance standards at the systemwide level (Wong, 1992, 1999). Thus, takeover reform is designed to make state and city politicians accountable for public school improvement.

Second, the size and scope of charter school reform across the states is significantly greater than that of school district takeover. Thirty-seven states and the District of Columbia now have legislation allowing for charter schools, and more than 2,000 charter schools will be operating in the fall of 2001. School district takeovers, however, have only occurred in 18 states and the District of Columbia. Furthermore, takeover reform is specifically designed for a single school district. Often, takeover is deemed a temporary solution until the district can get back on its feet. Charter school reform is intended to be a permanent change to the public school landscape, and proponents of the reform suggest that it can change the entire education system (Finn, 2000; Nathan, 1996).

The third distinction follows from the first two: Given their differences in accountability and scope, opposition to these education reforms has been varied in strength and originates from different sources. In the case of charter schools, critics have raised questions about potential stratification or "creaming" effects due to increased public choice (Cobb & Glass, 1999; Fiske & Ladd, 2000; Wells, 2000). Teachers unions have also been vocal opponents of charter schools because they see charter schools as a threat to their bargaining power. Opposition to school district takeover, however, has usually been based on the concern that a state-led administration will not be sensitive to the needs of the local community (Seder, 2000; Wong & Shen, 2000). Often, it takes careful negotiation between state and local authorities to produce an effective takeover. In cases where this has not happened (e.g., in Lawrence, Massachusetts), the state takeover has not operated efficiently.

Because of these major differences in accountability arrangements, size, scope, and opposition, charter school reform and school district takeover represent two distinct choices for states looking to implement education reform. These choices are not mutually exclusive, and in fact, many districts (e.g., Chicago, Boston, and Detroit) that have undergone takeover are also home to charter schools. But there is still much variation across the states in regard to these two reforms. A majority of states have not implemented takeover reform, and there are still some states without charter school legislation. In addition, the timing of reform adoption has varied significantly, with some states leading the way and others following the trend many years later. Recognizing that many factors may account for this variation, our study focuses on the role of a state's internal political climate. We ask, "What role do state electoral dynamics play in the adoption of charter school legislation and implementation of takeover reform?"

CONCEPTUAL FRAMEWORK

To frame our analysis, we turn to the wealth of literature on state policy adoption. First, two internal determinants or perspectives seem most useful. On one hand, the interstate competition perspective relates the state reform agenda to the need for interstate competition in capital, investment, and social standing (Peterson, 1981, 1995). On the other hand, the electoral cycle perspective focuses on interparty competition and its inertia in building the winning coalition, such as using education reform to broaden the party's constituent base (see Hassel, 1999; Key, 1949; Mintrom, 1997 Witte, 2000).

In addition to these models, there is also a set of models that look at policy adoption as innovation and consider the ways in which these innovations spread through regional diffusion and national interaction models (Berry & Berry, 1990, 1992; Gray, 1973; Walker, 1969). Of the state policy innovation literature, the most relevant for our study is Michael Mintrom's (1997, 2000) study of policy entrepreneurs and school choice. Mintrom recognized that the process of policy change is complicated but still argued that it is important to pay attention to certain individual factors that may influence that change. For those with an interest in understanding the politics, Mintrom (2000) suggested that "perhaps the best position to maintain is one where we remain curious about complexities but cognizant of the potential for theory (which necessarily involves simplification) to enlighten our understanding of a range of particularities" (p. 37). The particularity Mintrom was interested in is the policy entrepreneur, an individual who single-handedly promotes education policy change. In this study, we are interested in electoral dynamics, another factor likely to influence the adoption of education reforms.

Our study also departs from Mintrom in defining the reforms that we will empirically assess. Mintrom restricted his focus to "proposals for some form of open enrollment," excluding voucher and charter school legislation. As discussed in the previous section, our study examines the adoption of charter school legislation and the implementation of school district takeover. We employ a similar set of explanatory variables as used in Mintrom's analysis, but because we examine two reform models that differ from open enrollment programs, we expect to find a different set of significant relationships. By running analysis parallel to Mintrom, we not only hope to learn about the process of state policy change but also to uncover differences in the nature of the education reforms themselves.

Recalling the spectrum presented in Figure 1, we know that all innovations, even when they fall in the same policy arena of education, are not the same. As Gray (1973) pointed out in an early study of state policy innovation, "adoption of one education law is only slightly related to adoption of another education law" (p. 1184). Thus, it is useful to go back to the same broad policy area (education) but choose a new set of innovations (charter schools and takeover instead of open enrollment) to examine. Recent research in the field of postsecondary innovation indeed finds that different education reforms are related to different state-level characteristics. A study of innovation in postsecondary education by McLendon, Heller, and Young (2001) found that financing innovations are sensitive to a different set of explanatory variables than are regulatory innovations.

Based on this conceptual framework and on the differences noted between charter schools and takeover reform, we now develop a series of hypotheses about relationships we expect to see between education innovation (in charters and takeover) and a state's electoral climate.

HYPOTHESES ON THE ROLE OF ELECTORAL DYNAMICS IN STATE-LED EDUCATION REFORM

Hypothesis 1. Because the Republican Party platform is more frequently linked to school choice options, including charter schools (Hassel, 1999), we expect to find that stronger Democratic Party control in a state will reduce the likelihood that a state will adopt charter school legislation. We expect that the level of Democratic control in the past 4 years and in the past 8 years will both significantly reduce the chances of charter law adoption. Alternatively, because takeover reform has not been as split along traditional party lines, we do not expect to find that Democratic Party control is a significant factor in determining takeover implementation. This should be the same for both the 4- and 8-year lagged party control indexes.

Hypothesis 2. Recognizing that opposition to charter schools from teachers unions and other large constituencies might adversely affect elections, we expect to find that the adoption of charter school legislation is more likely to occur in off years, when a gubernatorial election has not happened in that year or the year previous. Similarly, because state takeover can potentially upset important constituencies (e.g., residents of densely populated cities), we would also expect to find that takeover is more likely to be first implemented in off years. Reform-oriented governors are expected to take actions to reduce the political risks of new initiatives.

Hypothesis 3. Electoral dynamics will play a role in the development of an overall school choice climate and a system of standards and accountability. Because school choice options outside of charter schools (e.g. vouchers, open enrollment) are even more politically charged, we expect that Democratic Party control will lessen the strength of the school choice climate. We also expect that Democratic Party control will lead to a less rigorous system of standards and accountability, as these tend to be emphasized more heavily in Republican platform.

Hypothesis 4. We expect both takeover and charter school reform to be more likely to occur in states with lower performing schools. Thus, the lower the high school completion rate in a state and the lower its students perform on standardized tests, the more likely it should be to adopt reform. In states where school quality is lower, reform might be viewed as more of a necessity, making it more politically feasible.

Hypothesis 5. We expect that states with more inviting private school climate (measured as the percentage of private schools out of all schools in the state) will more readily adopt charter school legislation. A state that already has a high percentage of private schools may be more open to the creation of charter schools as a viable alternative to traditional public schools. Furthermore, a greater percentage of private schools may indicate that there is a stronger network of resources available for independent schools.

Hypothesis 6. Following the argument on interstate competition, we expect that a state's wealth (measured in median family income) and size (in population) will make it more likely to engage in reforms that provide redistributive assistance to low-income students, in this case charter school programs with targeted populations. We also expect them to be more likely to carry out takeover reform, both because they have the means to do so and

because their larger populations put them at greater risk of housing failing school districts.

Hypothesis 7. We expect to find evidence of regional diffusion of education reform for both charter school legislation and takeover reform. Based on other policy diffusion studies (Berry & Berry, 1990, 1992; Gray, 1973; Mintrom, 1997; Mooney & Lee, 1995; Walker, 1969), we expect that a state will become more likely to adopt a charter school law or implement a school district takeover as a greater percentage of its neighboring competitors adopt the reform.

Hypothesis 8. Similar to Mintrom's (2000) expectation of national influences on state adoption of education reforms, we expect that our time control variables will increase (at a declining rate) in significance over time. As charter schools become a national phenomenon, for instance, we would expect more states to adopt charter schools laws. The same holds for takeover—as takeovers become more publicized, they may be seen as a more legitimate option for states to turn to.

APPLYING TWO ANALYTIC MODELS

To test these hypotheses on the role of electoral dynamics in state-led education reform, we use two analytic approaches: an event history analysis using a pooled cross-sectional time-series model and a traditional cross-sectional model using ordinary least square (OLS) regression techniques. We place greater emphasis on the event history analysis as a tool for isolating the effects of state electoral dynamics, but we include an OLS model for the purpose of offering some preliminary analysis of several additional questions that the event history analysis generates.

Event history analysis (EHA) is the current standard statistical approach for state policy innovation researchers (Mooney, 2001). Since Berry and Berry (1990, 1992) introduced EHA as a tool for studying policy innovation, it has become widely accepted as the most effective way to empirically assess the causes of policy innovation in the states. Over the past decade, EHA has been used to study innovations in many state policy arenas, including lotteries, taxes, abortion rights, open enrollment school choice, same-sex marriage bans, and higher education (Berry & Berry, 1990, 1992; Haider-Markel, 2001; Mintrom, 1997; Mooney & Lee, 1995). In this article, we employ a similar set of assumptions as used in EHA state policy innovation literature.[1] To guide our EHA analysis, we referred to Allison (1984), Yamaguchi (1991), and Lelievre and Bringe (1998).[2]

Since EHA is "a longitudinal record of when events happened to a sample of individuals or collectivities" (Allison, 1984, p. 9), a preliminary step in EHA is to determine the individuals and events of interest. We are interested in the individual states and in two distinct events that may occur in a given year to those states. First, we consider adoption of legislation that allows for the creation of charter schools. Second, we consider the implementation of school district takeover reform. One important difference to note between these two events is that one (charter schools' law) is an adoption of legislation, whereas the other (takeover reform) is the implementation of a law that is already on the books.[3]

We use the calendar year as our unit of time and thus have a series of state years. We are then interested in tracking the history of what happens to a state i in year t. We make the assumption that adoption of charter legislation and implementation of takeover reform are both cases of a "nonrepeatable one-way transition, that is, transition from one state to another state that occurs at most once for each subject" (Yamaguchi, 1991, p. 15). In other words, we assume that once a state adopts a charter school law, it cannot repeal it and that a state cannot take back a takeover.[4] Because we use years to measure time and make this assumption of nonrepeatable events, it is appropriate to use a discrete-time logit model of EHA (Allison, 1984; Berry & Berry, 1990; Yamaguchi, 1991).

Before employing the discrete-time logit model, we must define the risk set and the hazard rate based on our individuals, events of interest, and length of observation. The risk set is the "set of [states] who are at risk of event occurrence at each point in time" (Allison, 1984, p. 16). Following Berry and Berry (1990), we assume that a state is not at risk of adopting a policy innovation until at least one state has adopted it. Because we want to include the potential effects from regional diffusion, we include only the 48 continental states in our risk set. Furthermore, following Mintrom (2000), we recognize that a state cannot be at risk of adopting a new law (charter school or otherwise) if its legislature does not meet. Thus, for those states where the legislature meets every other year, they are excluded from the risk set in those years when the legislature is not in session. We start our observations of each state in 1991 (when Minnesota first adopted charter legislation) for the charter school risk set and in 1988 (when Kentucky enacted the first school district takeover) for the takeover risk set. When a state adopts a policy, it is no longer at risk of adopting it again and thus drops out of the risk set. We look at states for the period from 1991 to 1999 in our charter school EHA and from 1988 to 1999 for our takeover EHA. In Tables 1.1 and 1.2, we present the risk set for each of these years.

Table 1.1
Hazard Rates and Cumulative Proportion Of States Having Adopted Legislation Allowing for the Creation of Charter Schools

Year = t	States Adopting Charter Laws	Number Adopting in Year t	Cumulative Number of Adoptions	Cumulative Proportion of Adoptions = A_t [a]	Risk Set [b]	Hazard Rate = h_i
1991	MN	1	1	0.02	47	0.02
1992	CA	1	2	0.04	41	0.02
1993	CO, GA, MA, MI, NM, WI	6	8	0.16	45	0.13
1994	AZ, HI,[a] KS	3	11	0.22	34	0.09
1995	AK,[a] AR, DE, LA, NH, RI, TX, WY	8	19	0.38	36	0.22
1996	CT, FL, IN, NJ, NC, SC	6	25	0.50	25	0.24
1997	MI, NV, OH, PA	4	29	0.58	22	0.18
1998	ID, MO, NY, UT, VA	5	34	0.68	16	0.31
1999	OK, OR	2	36	0.72	13	0.15

a. The cumulative proportion of adoptions presented here includes Hawaii and Alaska and is therefore calculated as A_t = cumulative number of adoptions in year *t* divided by 50.

Table 1.2

Hazard Rates and Cumulative Proportion of States Having Adopted School District Takeover

Year = t	States Adopting Charter Laws	Number Adopting in Year t	Cumulative Number of Adoptions	Cumulative Proportion of Adoptions = A_t[a]	Risk Set[b]	Hazard Rate = h_i
1988	KY	1	1	0.02	47	0.02
1989	MA, NJ	2	3	0.06	46	0.04
1990		0	3	0.06	46	0.00
1991	CA, RI	2	5	0.10	44	0.05
1992	WV	1	6	0.13	43	0.02
1993		0	6	0.13	43	0.00
1994	IL, PA	2	8	0.17	41	0.05
1995	NY, OH, TX	3	11	0.23	38	0.08
1996	AL, MS	2	13	0.27	36	0.06
1997	CT, MD	2	15	0.31	34	0.06
1998		0	15	0.31	34	0.00
1999	MI, NM, SC	3	18	0.38	31	0.10

Source. Charter school adoption information was determined using the U.S. Department of Education (2000) and the Center for Education Reform's (2001) online resources at http://www.edreform.com/charter_schools/. School district takeover dates were determined using Ziebarth (2001) and were verified with additional takeover research in Wong and Shen (2000).

a. The cumulative proportion of adoptions presented here includes Hawaii and Alaska and is therefore calculated as A_t = cumulative number of adoptions in year *t* divided by 50.

b. Because the event history analysis used in Model 1 and Model 2 in this article includes an explanatory diffusion variable, the risk set is determined using only the 48 contiguous states. This is consistent with policy diffusion literature, for example, Mintrom (1997) and Berry and Berry (1990, 1992), among others.

c. Even though school district takeover is not a onetime event, the initial decision to turn to takeover reform is. This table therefore defines the "adoption of takeover reform" as the first time a state decides to implement a school district takeover.

Once the risk set is determined, the hazard rate, $P(t)$ can be calculated. The hazard rate is the "probability that an event will occur at a particular time to a particular [state], given that the [state] is at risk at that time" (Allison, 1984, p. 16). Assuming that the hazard rate varies by year but is the same for all states in a given year, we can estimate the hazard rate for each year of observation by dividing the number of events (i.e., charter school law adoption or takeover implementation) by the number of states at risk. We present the hazard rates for each year in Tables 1.1 and 1.2.

Our EHA models are designed to serve two purposes. First, we focus on two related measures of political party control. We construct a Ranney index that captures Democratic Party control over the previous 4 years and one over the past 8 years. With the 4-year lagged index, we gain a sense of recent momentum in the state's party politics. This might be important if either charter school or takeover reform came in with a new wave of party power. On the other hand, these education reforms might have simmered over the course of many years. If this is the case, then the 8-year lagged index would be better suited to explain the reform's adoption. In addition to focusing on the political climate explanatory variables, we also use our EHA models to compare the nature of charter school and takeover reform. Because we use the same set of explanatory variables in each model, we can gain a better understanding of how the two reforms differ in terms of being sensitive (or not) to certain political, economic, and regional conditions.

Our two EHA models will estimate two distinct hazard rates. For clarity, we will refer to the charter school hazard rate (as the likelihood of a state i in year t adopting charter school legislation) and the takeover hazard rate (as the likelihood of implementing school district takeover reform). Both models will take the simple form of

$$\log [P(t) / (1 - P(t)] = a(t) + b_1 X_1 \ \ldots \ + b_n X_n + \text{time controls},$$

where $P(t)$ is the hazard rate, $a(t)$ is a constant for each year t, the explanatory variables are the independent variable of interest (defined below), and the time controls are a series of dummy variables used to account for maturation effects. The logit analysis will provide us with coefficients related to the logit of the odds (or log odds) of our dependent variable (charter schools or takeover) being equal to 1. We can then use the following mathematical transformations to estimate the effect of each explanatory variable on the probability of $P(t) = 1$, that is, the probability that a state adopts a charter school law or engages in takeover reform.[5] Thus, we will be able to predict the effect of a series of explanatory variables on the charter school and takeover hazard rates. By specifying certain conditions, we can isolate the effects key

explanatory variables will have on the predicted probability of adoption and implementation. To estimate our coefficients and test our hypotheses, we specify the following models.[6]

*Model 1: Event History Analysis of
State Adoption of Charter School Legislation*

$CHARTER_{i, t} = b_1DEMOCRAT4_{i, t} + b_2OFFYEAR_{i, t} + b_3COMPLETE_{i, t} + b_4ACHIEVE_{i, t} + b_5REVENUE_{i, t} + b_6PRIVATE_{i, t} + b_7INCOME_{i, t} + b_8PEOPLE_{i, t} + b_9DIFFUSE_{i, t} + TIMECONTROLS_t$ (1)

where our dependent variable $CHARTER_{i, t}$ is the hazard rate, the probability that a state *i* will adopt charter school legislation in year *t*, given that the state has not already adopted a charter school law. We use a baseline model without the *DEMOCRAT* variable and then test both the 4- and 8-year lagged Ranney index variables (*DEMOCRAT4* and *DEMOCRAT8*).

*Model 2: Event History Analysis of
State Implementation of School District Takeover*

$TAKEOVER_{i, t} = b_1DEMOCRAT4_{i, t} + \ldots$ same variables as in Model 1,   (2)

where the independent variables remain the same as in Model 1, but a new dependent variable—state implementation of school district takeover—is introduced. As noted for Model 1, we use a baseline, add $DEMOCRAT4_{i, t}$, and also test $DEMOCRAT8_{i, t}$.

$DEMOCRAT4_{i, t}$ is a time-dependent variable that measures the Ranney party control index for the 4-year period ending in year *t*. The Ranney index was calculated as described in Bibby and Holbrook (1999).[7] As calculated, it is a proxy for the degree to which the Democratic Party holds control of the governor's seat, the state house of representatives, and the state senate. The Ranney Index takes a value of 0 to 1, with 1 representing total Democratic control and 0 denoting complete Republican control.

$DEMOCRAT8_{I, t}$ is a time-dependent variable identical to RANNEY4 described above but with a different period over which the Ranney index is calculated. *RANNEY8* measures the Ranney Index for the 8-year period ending in year *t*.

$OFFYEAR_{i, t}$ is a dichotomous variable taking the value 1 if year *t* is neither an election year (for governor) nor the year immediately following an election year. The values for this variable were determined using various volumes

of *The Book of the States*, published by the Council of State Governments (1977-1999, various years).[8]

$COMPLETE_{i,t}$ is the average high school completion rate, defined by the National Center for Education Statistics as "the high school completion rate represents the proportion of 18- through 24-year- olds who have completed a high school diploma or an equivalent credential, including a General Educational Development (GED) credential." This variable is available in both the Digest of Education Statistics (various years) and *Dropout Rates in the United States* reports, available from the U.S. Department of Education National Center for Education Statistics (NCES).[9]

$ACHIEVE_i$ is a measure of average achievement on the SAT over the duration of the period of interest, as measured as the average state score in year t divided by the total possible score. The data source for this variable was the NCES Digest of Education Statistics 2001.

$REVENUE_{i,t}$ is a time-dependent variable that measures, by state, the percentage of education revenue provided by the state. This variable was calculated using fiscal data from the NCES Common Core of Data, through fiscal year 1998 (U.S. Department of Education, 1999).[10]

$PRIVATE_{i,t}$ is a time-dependent variable that measures the percentage of a state's schools that are private. This is calculated using data from the NCES' Private School Universe Survey, conducted every other year starting in 1993. We divided the total number of private schools in a state by the total number of schools in three years: 1993-1994, 1995-1996, and 1997-1998. We imputed values for the missing years by making the assumption that in these off years the percentage of private schools would remain roughly the same as the year of the most recent survey (U.S. Department of Education, 2001).[11]

$INCOME_{i,t-1}$ is a time-dependent variable tracking the median family income of each state in year $t-1$. As used in McClendon, Heller, and Young's (2001) study of policy innovation in higher education, we use the log (base 10) of income. Data for this variable also came from the *Statistical Abstract of the United States*, various years.

$PEOPLE_{i,t}$ is a time-dependent variable that takes the log (base 10) of the total state population. Population was determined using data from the *Statistical Abstract of the United States*, various years.[12]

$DIFFUSE_{i,t}$ is a time-dependent variable that measures the proportion of a state's neighbors who have adopted the reform (passing charter school legislation or implementing school district takeover) by year $t-1$. A state's neighbors were defined in the same way as Berry and Berry (1990), under the assumption that states are neighbors if they share a border.

ADDITIONAL EXPLORATORY ANALYSIS

Although the EHA models just described represent the focus of our analysis, we also include preliminary exploratory analysis of two other dependent variables using OLS estimation methods. Because our EHA considers only a single event (initial adoption or implementation), it cannot account for significant variation in the scope of those events. Put simply, not all charter schools laws are the same, nor do all takeovers resemble one another. Rather, each of these events occurs within the context of other educational reforms. In our exploratory OLS analysis, we look at the broader topics of a state's school choice climate and standards and accountability framework. We make the assumption that each of these broad reforms—school choice and standards/accountability—has emerged over the past decade. Thus, the political and economic climate in the state over the past decade would be the context in which these reforms developed. We therefore use averages across this decade of several key state-level variables to serve as explanatory variables.

We use these independent variables to try to explain two measures developed in previous studies that capture the school choice and standards/accountability climates. For school choice, we turn to Jay Greene's (2000) Education Freedom Index. This index uses five components (weighted equally) to determine the school choice climate: "availability of charter school options; availability of government assisted private school options (e.g. vouchers); ease with which one can home school one's child; ease with which one can choose a different public school district by relocating; ease with which one can send a child to a different public school district without changing residence" (Greene, 2000, p. 1).[13] To measure the quality of a state's standards and accountability framework, we use Education Week's (2001) overall grade for standards and accountability as reported in the special report, *Quality Counts 2001: A Better Balance*. This measure considers a state's "adoption of standards (15%), clarity and specificity of standards (25%), quality of assessment (28%), participation in the 2000 NAEP test (2%), and accountability (30%)."[14] Although our analysis of these broader education reform climates is restricted in its scope by the data we have available and our inability to look at year-to-year data, it serves its purpose as a tool for complementing our EHA analysis and guiding future analyses. We specify two models.

Model 3: OLS Regression Analysis of
Strength of State's School Choice Efforts

$$CHOICE_i = b_0 + b_1 DEMOCRAT_i + b_2 COMPLETE_i + b_3 PRIVATE_i + b_4 REVENUE_i + b_5 INCOME_i + b_6 PEOPLE_i + e_i,$$

where the dependent variable measures the strength of the state's school choice efforts as reflected in Greene's (2000) Education Freedom Index, the independent variables are the same as in our other models, b_0 is a constant, and e_i is the error term. Because we significantly reduce our N when we do not use a pooled, cross-sectional approach, we choose to drop several of the explanatory variables and simplify the model.

Model 4: OLS Regression Analysis of
Quality of State's Standards and Accountability Programs

$STANDARD_i = b_0 + b_1DEMOCRAT_i + b_2COMPLETE_i + b_3PRIVATE_i + b_4REVENUE_i + b_5INCOME_i + b_6PEOPLE_i + e_i,$

where the dependent variable is a measure of the quality of the standards and accountability programs a state has implemented, as reflected in Education Week's (2001) overall grade for standards and accountability (see description above.) Descriptive statistics for each of these variables are presented in Tables 2.1, 2.2, and 2.3.

RESULTS

Using the models as specified above, we find very little support for our hypothesis that the level of political party control will make a significant impact on a state's likelihood to adopt charter legislation and implement takeover reform. Using both a 4- and 8-year lagged Ranney party competition index, we do not find that this aspect of state electoral dynamics is a good predictor for charter school and takeover reform. Neither of the party control variables make a large impact in expanding the explanatory power of the baseline model. Furthermore, we find that the majority of our other explanatory variables also fail to be significant in either Model 1 (charter schools) or Model 2 (takeover). We do not find empirical support for our hypotheses that a more inviting private school climate or greater wealth would make states more likely to adopt charter legislation and implement takeover. All results are presented in Tables 3, 4, and 5.

This lack of significance in the variables that account for party control and competition adds credence to Mintrom's (2000) suggestion that "the politics of school choice needs to be analyzed in ways that, among other things, pay greater attention to the inner workings of the policymaking process" (pp. 206-207). Mintrom also attempted to use a Ranney Index as well as a state ideology score and found that in all cases, the results were not statistically significant.

Table 2.1

Summary of Explanatory Variables, Grouped According to State Years by Adoption of Charter School Legislation (Model 1)

Variable Name	All State Years Included in Model 1		State Years of Those States Adopting a Charter School Law by 1999		State Years of Those States Not Adopting a Charter Law by 1999	
	Mean	*Standard Deviation*	*Mean*	*Standard Deviation*	*Mean*	*Standard Deviation*
Electoral dynamics and political climate						
DEMOCRAT4	0.558	0.158	0.548	0.167	0.572	0.144
DEMOCRAT8	0.572	0.154	0.564	0.163	0.584	0.138
OFFYEAR (in percentages)[a]	47.04	—	48.28	—	45.13	—
School quality and demographics						
COMPLETE	0.880	0.039	0.873	0.036	0.889	0.042
ACHIEVE	0.664	0.039	0.657	0.036	0.674	0.040
School finance						
REVENUE	0.469	0.133	0.461	0.136	0.481	0.128
State demographics						
PRIVATE	0.205	0.077	0.219	0.081	0.183	0.064
INCOME (in thousands of U.S. 1999 dollars)[b]	36.3	5.4	37.0	5.2	35.3	5.6
PEOPLE (log base 10)	6.495	0.424	6.600	0.421	6.334	0.377
State-to-state diffusion						
DIFFUSE	0.183	0.248	0.136	0.203	0.255	0.290
Number of observations	287		174		113	

Note. See the text for thorough descriptions of the variables.

Table 2.2

Summary of Explanatory Variables, Grouped According to State Years by Adoption of Charter School Legislation (Model 2)

Variable Name	All State Years Included in Model 2		State Years of Those States Implementing a Takeover by 1999		State Years of Those States Not Implementing a Takeover by 1999	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
DEMOCRAT4	0.551	0.166	0.614	0.128	0.529	0.172
DEMOCRAT8	0.567	0.162	0.633	0.120	0.544	0.168
OFFYEAR (in percentages)[a]	47.90	—	51.16	—	46.77	—
School quality and demographics						
COMPLETE	0.876	0.041	0.868	0.036	0.879	0.043
ACHIEVE	0.667	0.039	0.652	0.034	0.672	0.039
School finance						
REVENUE	0.478	0.136	0.485	0.140	0.476	0.134
State demographics						
PRIVATE	0.201	0.074	0.239	0.057	0.196	0.126
INCOME in thousands of U.S. 1999 dollars[b]	36.8	5.7	37.3	7.2	36.6	5.1
PEOPLE (log base 10)[b]	6.478	0.419	6.730	0.370	6.391	0.399
State-to-state diffusion						
DIFFUSE	0.118	0.196	0.144	0.224	0.108	0.185
Number of observations	501		129		372	

Note. See the text for thorough descriptions of the variables. Because our unit of analysis is the "state year" and not the state, the means and standard deviations presented in this table are for state years. Recalling that states are not included in the event history analysis (EHA) for those years after the year of charter school law adoption, these averages are not overall state averages for the time period of 1991 to 1999. Alaska and Hawaii are not included in these averages, because they are not included in the EHA models.

a. OFFYEAR is a dichotomous variable, so we report the percentage of observations for which its value is 1.

b. In our model, we used the log (base 10) of median family income and state population. We report here the actual income means and standard deviations.

Table 2.3

Summary of Explanatory Variables, Grouped According to States' Strength of School Choice Efforts and Quality of Standards and Accountability Measures

Variable Name	All States Included in Models 3 and 4		States That Have Developed Strong[a] School Choice Climates		States That Have Developed Strong[b] Standards and Accountability	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Electoral dynamics and political climate						
DEMOCRAT	0.520	0.158	0.474	0.107	0.565	0.128
School quality and demographics						
COMPLETE	0.877	0.042	0.884	0.044	0.873	0.031
School finance						
REVENUE	0.485	0.126	0.462	0.071	0.482	0.117
State demographics						
PRIVATE	0.210	.076	0.235	0.067	0.233	0.046
INCOME (in thousands of U.S. 1999 dollars)[c]	37.5	5.6	40.8	4.7	38.6	5.3
PEOPLE (log base 10)[c]	6.517	0.440	6.590	0.393	6.735	0.273
Number of observations	50		10		11	

Note. See the text for thorough descriptions of the variables.

a. The strength of the school choice climate is measured using Jay Greene's (2000) Education Freedom Index (EFI), and we use the EFI designation of "free" states (the top 10 EFI scores) for this table to define strong school choice climates.

b. The quality of standards and accountability measures are determined using the "standards and accountability" overall grade as given by Education Week (2001) in its special report, "Quality Counts 2001: A Better Balance." Because four states are tied for places 8-11, we choose the 11 highest graded states to represent those states with strong standards and accountability measures.

c. In our model, we used the log (base 10) of median family income and state population. We report here the actual income means and standard deviations.

Table 3

Results from Model 1, Event History Analysis of State Adoption of Charter School Legislation, Using 4-year Lagged and 8-Year Lagged Ranney Party Control Indexes

Explanatory Variable	Model 1a: Baseline		Model 1b With 4-Year Lagged Ranney Index		Model 1c With 8-Year Lagged Ranney Index	
	Coefficient	Standard Error	Coefficient	Standard Error	Coefficient	Standard Error
Electoral dynamics						
DEMOCRAT4	—	—	–2.028	1.501	—	—
DEMOCRAT8	—	—	—	—	–2.220	1.568
OFFYEAR	0.368	0.439	0.340	0.443	0.357	0.442
School quality						
COMPLETE	–0.143*	0.065	–0.150*	0.065	–0.155*	0.065
ACHIEVE	3.751	6.589	2.481	6.725	2.606	6.723
School finance						
REVENUE	0.067	0.065	0.405	1.678	0.397	1.659
State demographics						
PRIVATE	3.381	3.556	4.529	3.671	4.375	3.639
INCOME	7.696	4.369	6.021	4.449	6.328	4.404
PEOPLE	0.088	0.602	0.061	0.596	0.142	0.595
State-to-state diffusion						
DIFFUSE	–0.632	1.052	–0.464	1.092	–0.535	1.088
Time controls (base = 1991)						
1992	–0.025	1.470	–0.031	1.472	–0.058	1.476
1993	2.028	1.156	2.029	1.157	2.038	1.160
1994	1.374	1.284	1.249	1.290	1.294	1.291
1995	2.766*	1.141	2.646*	1.147	2.727*	1.148
1996	2.846*	1.195	2.660*	1.208	2.767*	1.203

1997	2.661*	1.258	2.450	1.271	2.577*	1.265
1998	3.346**	1.256	3.173**	1.268	3.283**	1.263
1999	2.543	1.455	2.331	1.471	2.505	1.464
Constant term	−30.58	19.56	−20.50	21.05	−21.95	20.71
Summary statistics						
Number of observations	287		287		287	
−2 × log likelihood	175.94		174.07		173.59	
Chi-squared (*df*)	32.92 (16)		34.78 (17)		34.96 (17)	
Probability > chi-squared	0.008		0.007		0.006	
Pseudo R^2	0.158		0.167		0.167	

Note. See the text for thorough descriptions of the variables.
*Significant at the .05 level. **Significant at the .01 level.

Table 4

Results From Model 2, Event History Analysis of State Implementation of School District Takeover Reform, Baseline, With 4-Year Lagged and With 8-Year Lagged Ranney Party Control Indexes

	Model 2a: Baseline		Model 2b: With 4-Year Lagged Ranney Index		Model 2c: With 8-Year Lagged Ranney Index	
Explanatory Variable	*Coefficient*	*Standard Error*	*Coefficient*	*Standard Error*	*Coefficient*	*Standard Error*
Electoral dynamics						
DEMOCRAT4	—	—	3.244	2.265	—	—
DEMOCRAT8	—	—	—	—	2.444	2.263
OFFYEAR	−1.483*	0.657	−1.563*	0.663	−1.556*	0.664
School quality						
COMPLETE	0.052	0.092	0.075	0.096	0.073	0.096
ACHIEVE	−5.140	8.329	−3.327	8.352	−3.963	8.299
School finance						
REVENUE	0.932	2.265	1.071	2.422	1.031	2.391
State demographics						
PRIVATE	2.300	5.018	1.559	5.244	1.766	5.175
INCOME	−0.928	3.620	−0.625	3.734	−0.676	3.678
PEOPLE	2.425**	0.928	2.820**	1.067	2.643**	1.022
State-to-state diffusion						
DIFFUSE	1.551	1.342	1.949	1.419	1.856	1.407
Time controls (base = 1988)[a]						
1989	2.281*	1.095	2.238*	1.092	2.275*	1.093
1991	1.362	1.064	1.237	1.067	1.295	1.064
1992	1.517	1.286	1.452	1.285	1.505	1.285
1995	1.946*	0.971	1.946*	0.975	1.903*	0.974
1996	2.312*	1.111	2.374*	1.114	2.314*	1.109

1997	2.310*	1.113	2.425*	1.121	2.344*	1.113
1999	2.550**	1.013	2.900**	1.048	2.717**	1.026
Constant term	−18.60	17.62	−27.72	19.07	−25.25	18.86
Summary statistics						
Number of observations	501		501		501	
−2 × log likelihood	116.54		114.40		115.34	
Chi-squared (*df*)	31.91 (15)		34.06 (16)		33.11 (16)	
Probability > chi-squared	0.0066		0.0053		0.0071	
Pseudo R^2	0.2149		0.2294		0.2230	

*Significant at the .05 level. **Significant at the .01 level.

Note. See the text for thorough descriptions of the variables.

a. The maturation effect variables for 1990, 1993, and 1998 were dropped due to one-way discrimination; that is, they were perfect predictors of no takeover implementation because there were no takeovers in those years. Also dropped was 1994 as a time control after including it led to problems of collinearity.

Table 5

Results from Model 3 and Model 4 Ordinary Least Squares Regression Analysis of the Quality of States' Efforts to Promote School-Choice Options Standards and Accountability Measures

Explanatory Variable	Model 3: School Choice Options[a]		Model 4: Standards and Accountability[b]	
	Coefficient	Standard Error	Coefficient	Standard Error
Electoral dynamics				
DEMOCRAT	–0.981*	0.441	0.104	0.132
Controls				
COMPLETE	0.186	1.721	–1.053*	0.518
PRIVATE	–0.087	1.050	0.034	0.316
REVENUE	–0.756	0.491	–0.024	0.148
INCOME	–0.477	1.133	0.473	0.341
PEOPLE	0.219	0.170	0.098	0.051

Note. See the text for thorough descriptions of the variables.
a. $n = 50$; adjusted $R^2 = 0.140$.
b. $n = 50$; adjusted $R^2 = 0.250$.
*Significant at the .05 level.

We do, however, find that our hypothesis on the quality of the public schools is inversely related to adoption of charter school legislation (see Table 5). In the baseline model and with the party control measures included, the high school completion rate is statistically significant and inversely related to the adoption of charter school laws. The lower the completion rate (i.e., the lower the quality of the public schools), the more likely it is that a state will adopt charter school legislation. This is consistent with the argument that charter schools develop to serve populations whose needs are not being met by the traditional public school system.

To make clearer the relationship between the completion rate and charter school law adoption, we present the predicted probabilities (hazard rates) produced when the conditions are set to high, low, and average completion rate. As Berry and Berry (1990) noted when first promoting EHA, "a great advantage of event history analysis for state innovation research is that the coefficient estimates it generates can be used to calculate predicted probabilities that a state with specified characteristics will adopt a policy in any given year" (p. 407). In Table 6, we use this advantage of EHA and find that low completion rates will produce a notable increase in the charter hazard rate. Also in Table 6, we see the effects of time on both the charter and takeover hazard rates.

The time controls for maturation effects are significant in both the charter school and takeover models. Time controls were significant in the charter schools model for 1994, 1995, and 1998. In the takeover model, time controls

were significant in all years from 1995 forward. In Table 6, by reading each row across from left to right, the maturation effect on the hazard rate is evident. With all independent variables set at their means, for instance, the model predicts a charter hazard rate of 0.165 in 1995 and 0.249 in 1998. Although the takeover hazard rate is also significantly affected by whether it is an off election year, maturation effects are also present. Reading the rows in Table 6 from left to right, it can be seen that the takeover hazard rate increases over time, even when all other characteristics are held the same.

What explains the significance of these time controls? Two answers seem most probable. First, it may be that these time controls are capturing the effects of national effects, for example, federal encouragement to look at charter schools as an education reform model. In the case of takeover, this may be even more appropriate. It was in 1995 that the state of Illinois allowed Mayor Daley to takeover the Chicago public schools. This high-profile takeover drew national attention and was even mentioned in a State of the Union speech by President Clinton. Although such anecdotal evidence is not sufficient to explain the significance of the time control variable, it is a plausible explanation that deserves more attention.

Another potential explanation for the significance of these time control variables is that our models have been misspecified and have not captured state-level variables that do in fact explain these education reforms. Some preliminary research suggests that there is a "new politics of policy innovation" (Karch, 2001). It may be that charter school and takeover reform are influenced by factors outside the traditional scope of wealth and party control.

Our takeover model produces two additional significant results. First, we find that takeovers are less likely to occur in off years, that is, years in which there is no election for governor and has been no election the year before (see Table 4). The predicted hazard rates in off years are much less than those predicted under similar conditions in non–off years, for example, years close to elections (see Table 6). This is contrary to our original hypothesis and may suggest that instead of being politically treacherous, takeovers are a tool used to boost political capital or pay back supporters who voted for the governor the year before.

In addition, we find that states with larger populations are more likely to engage in takeover. The predicted hazard rates also vary significantly according to the population size (see Table 6). The hazard rate is particularly large when the population is high, that is, 1 standard deviation above the mean. This result may be driven by the fact that takeovers in many states have been implemented in densely populated school districts such as Chicago and Detroit. A big city of substantial size will have a significant impact on a

Table 6
Estimates of Charter School and Takeover Hazard Rates

	1995	1996	1997	1998
Predicted consideration charter school hazard rate given; all other variables				
estimated at their mean values and				
Low completion rate (−1 *SD*)	0.263	0.297	0.222	0.371
Mean completion rate	0.165	0.196	0.138	0.249
High completion rate (+ 1 *SD*)	0.098	0.123	0.082	0.156
Predicted consideration school district takeover hazard rate given;				
all other variables estimated at their mean values and				
It is an off year and				
Small population (−1 *SD*)	0.003	0.005	0.005	0.006
Average population (mean)	0.011	0.014	0.014	0.023
Large population (+1 *SD*)	0.038	0.036	0.035	0.077
It is not an off year and				
Small population (−1 *SD*)	0.015	0.017	0.015	0.018
Average population (mean)	0.046	0.051	0.053	0.060
Large population (+ 1 *SD*)	0.129	0.145	0.169	0.183

Note. The hazard rates in this table are predicted using the coefficients as presented in the second column (base + DEMOCRAT4 variable) of Table 3 (for charter schools) and Table 4 (for school district takeover). For each year, mean values were used for all variables, except those variables of interest that are adjusted accordingly, as noted above.

state's population, and therefore, the larger state size may be capturing the presence of a big city.

Our exploratory analysis of state school choice climate and standards/accountability frameworks finds a significant relationship between the level of Democratic control in a state and the state's school choice climate (see Table 5). Because this result comes from our preliminary OLS model, its implications are for further empirical analysis of those school choice reforms that are most politically sensitive. Given our findings in this article, it is likely that other measures of the school choice climate (e.g., vouchers and open enrollment plans) may be the most interesting for evaluation.

CONCLUSION

Our analysis suggests that neither adoption of charter school legislation nor implementation of school district takeover are adequately explained by a state's electoral dynamics, at least as understood through traditional measures such as the Ranney party control index. In fact, these two education innovations appear to be most sensitive to factors outside the scope of our analysis with state-level variables. In the case of charter schools, this may indicate the strong effects from a national push for charter schools. For takeover, this is more likely a combination of national influences plus specific school district characteristics not captured in averaged, state-level data.

Our models do, however, flush out some differences between charter school and takeover reform models. For instance, takeover reform's responsiveness to non–off years suggests that takeovers are more politically sensitive for state leaders. Our finding that large populations in states make states more likely to adopt takeovers indicates that takeovers are targeted at specific, big-city problems. Charter school law adoption, which is inversely related to the overall quality of the public schools, has a broader statewide mission.

Our exploratory analysis suggests that party control may be linked to the broader school choice climate, including more partisan issues such as vouchers and open enrollment programs. In future research on state-led education policy innovation, it will be useful to separate out these effects and perhaps try to empirically assess the most politically volatile. One implication of our analysis is that charter schools have developed as a politically safe option, a reform that does not divide down party lines. Other reforms, however, are not likely to share this characteristic. If the political sensitivity of additional reforms can be isolated, the resulting synthesis would be a useful tool for evaluating state education policy.

Future research can also respecify the models used to study education innovation. One important variable that we do not include in our analysis but should be considered in future work, is a measure of teachers union opposition to these education reforms. Ideally for the EHA, this would take the form of a time-dependent measure of union opposition in each state. Practically, however, this variable is difficult to obtain. Mintrom (2000) used a national survey to estimate an average level of union opposition over a given time period. Our search for other, publicly available and annually collected data turned up very little in the way of useful figures. This is not surprising given that teachers unions are unique in respect to their opposition to charter schools. In some states, other trade unions have actually chartered schools. It is therefore important, even if difficult for researchers, to compile accurate data on teacher union membership and strength at the state level and over time.

It would also be interesting to conduct ongoing analysis on evolving issues at either the city, district, or even school level (Wong & Shen, 2001). With charter schools, for instance, there have now been a significant number of closings. What factors led to these closings, and why did other similar schools survive? In the case of school district takeover, it would be interesting to examine the growing number of cities where takeover is threatened but not implemented. If state-level politics do not by themselves play a dominant role in some of these education reforms, it is important to develop data measurements that can empirically consider the local and national political mechanisms.

NOTES

1. Recent scholarship (Mooney, 2001) has encouraged state politics scholars to advance the event history analysis (EHA) model to better account for biases inherent in the earliest EHA studies of innovation. In this article, we do not attempt to extend the EHA model but rather employ it in its traditional form to study two new events of interest (charter school legislation and school district takeover).

2. Following Mintrom (1997) and others, we used Stata's logit command to estimate our coefficients.

3. We specify these events of interest because we feel they are the moments of each reform that will be most sensitive to electoral dynamics. In the case of charter school legislation, this is fairly obvious. Because charter schools are likely to appear soon after legislation is passed, it is the process leading up to adoption of a charter school law that will be most affected by political variables. In the case of takeover reform, however, states have had provisions for state takeover of local school districts in the law for many years but rarely invoked them, except in cases of clear financial mismanagement or illegal activity (Cibulka, 1999). The decision to implement a takeover, then, is the event that will require the most political capital.

4. These assumptions do not hold for all cases. It is conceivable that a charter school law could be repealed and adopted again. For school district takeover, some states have indeed

stopped a takeover only to begin it again. But to study the initial adoption of charter school legislation and the first time a state turns to takeover reform, the nonrepeatable events approach is useful. We acknowledge that future analysis, especially on takeover, should incorporate an event history analysis model that allows for repeatable events. This is generally the case for state policy research. As Mooney (2001) noted, "The possibility of repeal has been virtually ignored by state policy researchers, and is ripe for future research" (p. 107).

5. We use this mathematical transformation to obtain the predicted probabilities:

$$\log [P(t) / [1 - P(t)] = a(t) + b_1 X_1$$

$$P(t) = [1 - P(t)] * e \wedge [a(t) + b_1 X_1)$$

$$P(t) \{1 + e \wedge [a(t) + b_1 X_1]\} = e \wedge [a(t) + b_1 X_1])$$

$$P(t) = e \wedge [a(t) + b_1 X_1) / \{1 + e \wedge [a(t) + b_1 X_1]\}.$$

6. In preliminary analyses. we constructed time-dependent variables for the percentage of minority students in a state's public schools and percentage of students eligible for free and reduced lunch. Problems with multicollinearity, however, prevented us from using these variables in the final model. In addition, we considered a number of school quality (e.g., safety, social climate) variables for which we only had data for one or a few time points. Without year-to-year variation, however, these variables did not hold strong explanatory power and were dropped before the final models were specified.

7. The 4-year and 8-year Ranney indexes were both 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 & Holbrook, 1999, p. 93). Because Nebraska's state legislature is nonpartisan, the Ranney Index was approximated using only the first component, the percentage of popular votes won by Democratic gubernatorial candidate. Multiple data sources were used to determine and verify the makeup of state governments. We primarily consulted *The Book of the States*, published by the Council of State Governments every other year. We also referred to various editions of the *World Almanac*, the Democratic Governors' Association's online election results at http://www.democraticgovernors.org (accessed in May 2001), Congressional Quarterly's Campaigns and Elections, and various Secretary of State offices for official verification. Depending on when a count was taken in a certain year, we found some small discrepancies in the number of Republican and Democratic members of state legislatures. We did not find, however, that these variations produced significant differences in the construction of our Ranney indexes.

8. In preliminary analyses, we considered using dummy variables for governor, house, or senate election years but found the off-year variable to hold the most explanatory power.

9. Because state-level data on high school dropout rates are scarce and often calculated using different methods (U.S. Department of Education, 1997), we also tried constructing a "dropout rate index" by averaging three indicators: the percentage of 9th to 12th graders who dropped out in 1994-1995 (an event dropout rate), the percentage of 9th to 12th graders who dropped out in 1996-1997 (a second event dropout rate), and "1 minus the average completion rate, calculated from 1991-1999" (a proxy for a status dropout rate). Because many states did not

have consistent dropout data, however, this dropout index proved to be ineffective in our analyses.

10. We calculated the percentage of education revenue from the state by dividing state revenue by the total revenue (federal, state, local, and other). National Center for Educational Statistics currently reviewing the fiscal year 1993 files, so we used fiscal year 1994 for the year. We do not anticipate that this will significantly alter our findings.

11. For years previous to 1993, we used the percentage value generated with the 1993-1994 data.

12. Using the actual population (instead of log base 10 of population) did not significantly change the results of our analyses.

13. Greene (2000) standardized all measures in the Education Freedom Index (EFI) as "units of standard deviations above the lowest scoring state on that item" (p. 16). The EFI is composed of these five equally weighted components: charter schools (percentage of public schools that are charters and regulations governing charter school creation), private school assistance (percentage of students using vouchers, maximum benefit available from tax credits, and range of direct state subsidies to private schools), home schooling (percentage of students in state being home schooled and extent of restrictions on home schooling), interdistrict public choice (extent of choice programs as reported by Education Week, 2000, in *Quality Counts 2000*), and relocation (average number of students per district and average number of square miles per district).

14. The overall standards and accountability grade was determined by Education Week using "more than 75 indicators across five categories." Details of these indicators and the grading methodology are available from the Education Week Quality Counts 2001 home page at http://www.edweek.com/sreports/qc01/.

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