

LAW AND POLICY ENTREPRENEURS: EMPIRICAL EVIDENCE ON THE EXPANSION OF SCHOOL CHOICE POLICY

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This study leverages event history analysis to help explain the expansion of public charter school legislation between 1991–2006. This study expands previous work in two important ways. First, while critical distinctions separate public charter school and school voucher programs, both fall comfortably within the broader rubric of “school choice.” As such, it is difficult to understand the development of state legislation for one school choice variant independent of the other. Thus, this analysis includes the presence of publicly- or privately-funded voucher programs in a state as a possible factor influencing the adoption of charter school legislation in a state. Second, a methodological contribution emerges by comparing results generated by a complementary log-log model with results generated by a rare event logistic regression model. That school voucher programs’ influence on the emergence of state charter schools laws is robust across both models underscores school voucher programs’ salience to the emergence of charter school legislation. Understanding the emergence of charter school legislation as a defensive political move to deflect school voucher progress or a political compromise finds support in these results. Either interpretation of the emergence of charter schools’ ascendance, however, needs to account for the school voucher programs’ influence as well as important suburban political and economic interests.

INTRODUCTION

As Americans’ impulse and appetite for school reform endure, so too does the public education system’s resistance to helpful, structural change. As one leading education critic and scholar, Diane Ravitch, noted recently: “It is a well-known fact that American education is in

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crisis.”¹ Moreover, this “well-known” fact is not new as the American education system has remained in a crisis mode (albeit in varying degrees) for at least a century.²

An impulse to wade into elementary and secondary school reform is broadly shared and expanded relatively recently to include the federal government. Just over a decade ago, the U.S. Congress passed the No Child Left Behind Act of 2001³ (“NCLB”) which represents the federal government’s most dramatic venture into the nation’s schools and educational policy and reform.⁴ With NCLB Congress sought to leverage state accountability standards in an effort to improve academic performance in general as well as to narrow the achievement chasms that separate various student sub-groups in particular.⁵ According to Frederick Hess, one early legacy of NCLB is that “‘achievement gaps’ became (educational) reformers’ catch phrase, and closing those gaps became the goal of American education policy.”⁶

To be sure, concerns over American student academic achievement and nagging differences in achievement among various student sub-groups are well-founded.⁷ An international vantage point is particularly instructive as it reveals that “the performance of American students on international tests is mediocre.”⁸ And this American educational mediocrity prevails even though the United States outspends virtually all other nations when it comes to education.⁹

With anxiety over student academic achievement (and achievement gaps) as a central current motivation for educational reform in this country, educational reform machinery continues to grind. Over the decades numerous reform strategies have come and gone.¹⁰ Recently, perhaps owing to more specific concerns over the economic and social damage inflicted by inefficacious public schools, educational reform strategies began to soften an almost instinctive institu-

1 Diane Ravitch, *School ‘Reform’: A Failing Grade*, N.Y. REV. BOOKS, Sept. 29, 2011, at 32.

2 *See id.*

3 No Child Left Behind Act of 2001, Pub. L. No. 107-110, 115 Stat. 1425 (codified in scattered sections of 20 U.S.C.).

4 *See id.*

5 *See* § 1001, 115 Stat. at 1439–40 (codified in 20 U.S.C. § 6301).

6 Frederick M. Hess, *Our Achievement-Gap Mania*, NAT’L AFFAIRS, Fall 2001, at 113.

7 *See id.*

8 *Id.*

9 *See* U.S. DEP’T OF EDUC., THE CONDITION OF EDUCATION 2011, at 106 (2011).

10 Indeed, important histories of American educational reform have been written. *See, e.g.*, DIANE RAVITCH, LEFT BACK (2000).

tional aversion to market forces. Indeed, many current reform efforts now openly seek to enlist and exploit market forces, though in varying degrees, into the service of improving public schools.¹¹ Within the larger reform framework of subjecting public elementary and secondary institutions to increased market forces, charter schools appear to have won the battle of ideas at the moment.¹² Setting aside the merits of charter schools and other school choice policy alternatives (notably voucher programs), what is clear is that among the various school choice policy options, the charter school option is the clear preference of citizens, lawmakers, and many policymakers. As such, how charter school legislation emerged as well as how such legislation spread across state general assemblies in the United States warrant attention.

The historical narrative of education policy entrepreneurs' experience in Minnesota persuading state lawmakers to enact the nation's first charter school program is well known.¹³ Far less developed, however, is an account of charter school legislation's emergence across the country. While case studies are particularly helpful in unearthing state-specific nuance and context, the migration of school choice legislation over time across the country benefits from event history analysis and a growing event history literature.¹⁴

In perhaps the most important and technically sophisticated study of states' adoption of charter school legislation between 1991–2006, Wong and Langevin found that charter school legislation was most likely to emerge in states with Republican governors, comparatively lower classroom spending levels, protracted school finance litigation, and a comparatively higher concentration of private schools.¹⁵ Despite their work's contribution, Wong and Langevin noted limitations to their study, including possible omitted variable bias.¹⁶ They also expressly encouraged scholars to expand upon their work both substantively and methodologically. From a substantive

11 For a discussion of how the democratic and market structures influence public and private schools, see JOHN E. CHUBB & TERRY M. MOE, *POLITICS, MARKETS, AND AMERICA'S SCHOOLS* (1990).

12 See *infra* Part III.A (describing how adoptions of charter school programs have eclipsed adoptions of publicly- and privately-funded voucher programs).

13 For a thorough historical account, see NANCY C. ROBERTS & PAULA J. KING, *TRANSFORMING PUBLIC POLICY* (1996).

14 See Kenneth K. Wong & Warren E. Langevin, *Policy Expansion of School Choice in the American States*, 82 PEABODY J. EDUC. 440, 445 tbl.1 (2007) (summarizing five major event history studies of school choice policies since 1997).

15 See *id.* at 465.

16 See *id.* (noting the problem of omitted variable bias in the policy diffusion literature).

perspective, notably Wong and Langevin suggested that future scholars explore whether states may have passed charter school laws “as a political compromise to private school vouchers.”¹⁷ On more methodological and technical fronts, Wong and Langevin recognized plausible alternatives to their model specifications.¹⁸

This study responds to Wong and Langevin’s plea for more research in two small but specific ways. Substantively, to assess the influence of school voucher programs on the emergence of charter school law across states and over time the Wong and Langevin data set was expanded to include relevant 1991–2006 school voucher data.¹⁹ While data are ill equipped to answer Wong and Langevin’s specific interpretative question about whether charter school legislation is better understood as a defensive political move designed to deflect the voucher movement, from either a theoretical or practical vantage point it is difficult to understand the emergence of charter school laws independent of public and private school voucher programs. More to the point, efforts to do so are incomplete. The policy nexus linking school voucher and charter school programs is simply too strong to assess the development of one policy independent of the other. Methodologically, this study compares results from Wong and Langevin’s complementary log-log model with those from an alternative approach to rare event studies, Gary King and Langche Zeng’s rare event logistic regression model.²⁰ Such a comparison will help assess whether the substantive results depend upon model selection in any way.

While results from this study largely comport with Wong and Langevin’s earlier findings, school voucher programs’ influence on states’ adoption of charter school laws emerges with clarity.²¹ Moreover, subtle structural variations between the two types of voucher programs proved important.²² Specifically, the existence of a publicly-funded voucher program operating in a state exerted comparatively stronger influence than did their privately-funded counterparts.²³

17 *Id.* at 466–67.

18 *See id.* at 454–55 (noting an array of plausible alternative model specifications).

19 For more technical information on (as well as a copy of) the original Wong-Langevin data set and codebook, see Kenneth K. Wong & Warren E. Langevin, *Policy Expansion of School Choice in the American States, 1991–2005*, INTER-UNIV. CONSORTIUM FOR POLITICAL & SOC. RESEARCH, <http://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/20427> (last visited Apr. 1, 2002).

20 *See* Gary King & Langche Zeng, *Logistic Regression in Rare Events Data*, 9 POL. ANALYSIS 137–63 (2001).

21 *See infra* Part III.B.

22 *See infra* Part III.C.

23 *See infra* Part III.C.

Finally, the influence of voucher programs on the creation of charter school laws are robust across two leading statistical approaches designed to account for the emergence of rare events over time.²⁴

The Article proceeds in four parts. Parts One and Two describe the relevant scholarly literatures as well as the data, methodology, and research design. The results, presented and discussed in Part Three, illustrate the influence that school voucher programs exerted on states' enactment of charter school legislation. One crucial—if subtle—wrinkle is that publicly-funded school voucher programs exerted comparatively more influence than their privately-funded counterparts (though both forms of school voucher programs were influential).²⁵ Also notable is that the main results are robust to alternative model specifications. This Article concludes by noting that while key findings from prior empirical work in this field, particularly earlier work by Wong and Langevin, persist, expanding the scope of this research to account for the influence of school voucher programs provides a richer and more textured and robust account of the growth of charter school legislation across states between 1991–2006.

I. RESEARCH LITERATURE

In their effort to empirically account for the expansion of charter school programs over time, Wong and Langevin created the first data set of its kind to track various influences on the passage of state charter school laws. Adopting an event history analytical framework, the researchers found that between 1991–2006 charter school legislation was most likely to emerge in states with Republican governors, comparatively lower classroom spending levels, protracted school finance litigation, and a comparatively higher concentration of private schools.²⁶ Despite their important and helpful work, Wong and Langevin noted important limitations to their study and expressly encouraged scholars to expand upon their work by exploring whether states may have passed charter school laws “as a political compromise to private school vouchers.”²⁷

This study responds to Wong and Langevin's call for such research by expanding their data set to include relevant 1991–2006 school voucher data that facilitate analyses designed to assess the influence of school voucher programs on the emergence of charter

24 See *infra* notes 45–46 and accompanying text.

25 See Wong & Langevin, *supra* note 14, at 448–55 (describing dependent and independent variables in that data set).

26 See *id.* at 448–55.

27 *Id.* at 466.

school law across states and over time. To be sure, data are ill equipped to answer Wong and Langevin's specific interpretative question about whether charter school legislation is better understood as a defensive political move to deflect the voucher movement. Methodological limitations notwithstanding, it is difficult to understand the emergence of charter school laws from either a theoretical or practical vantage point independent of public and private school voucher programs. Thus, both theory and common sense suggest that an empirical account of the emergence of charter school legislation needs to include voucher program variables.

II. DATA AND METHODOLOGY

By design (and, indeed, at the express urging of Wong and Langevin),²⁸ this study draws heavily from the original data set created by Wong and Langevin as well as their methodological approach and basic research design. While tracking as closely as possible to their earlier work facilitates comparisons, at the same time, where needed, appropriate adjustments were implemented to account for the additional data and the resulting expanded data set.

One important adjustment to Wong and Langevin's original work (aside from the addition of new variables)—the exclusion of a sub-set of alternative geography-based variables—warrants brief note. Wong and Langevin included an array of geography-based variables in their study to trace public policy's possible migratory patterns. At the policy level, however, to the extent that educational choice policies in general and school voucher programs in particular were national in scope and discussion, certainly by 1992, the salience of geographic proximity decreases. Moreover, in Wong and Langevin's study none of the geography-based variables achieved statistical significance.²⁹ Consequently, this expansion of Wong and Langevin's prior work excludes the geography-based control variables.³⁰

A. Data

While it certainly remains true that various political, social, educational, and historical perspectives contribute to any explanation of charter school policy expansion across states and over time, this Arti-

28 See *id.* at 466–67 (encouraging future researchers to extend their study).

29 See *id.* at 460 tbl.3.

30 In any event, unreported alternative model specifications make clear that the inclusion of the geography-based variables did not materially disrupt the main results. Moreover, none of the geography-based variables achieved statistical significance in the unreported alternative model specifications.

cle approaches the research question from a quantitative perspective. As such, theories about and explanations for the migration of charter school legislation are subject to data. This study builds on prior work by expanding Wong and Langevin's leading data set in the field to include data on voucher programs.

The dependent variable of interest is a state's adoption of charter school legislation. Minnesota enacted the nation's first such legislation in 1991. Since then, thirty-nine other states enacted similar—though varying—charter school legislation. Because this study assesses the migration of charter school legislation across states and over time, our analysis begins in 1992.³¹ The dependent variable—whether a state has enacted charter school legislation—is a dummy variable, coded “0” for each year that a state has not enacted charter school legislation and “1” in the year of a state's adoption of such legislation.

The independent variables cluster into four sub-groups, with each sub-group reflecting various theoretical and practical influences on a state's inclination toward enacting charter school legislation. One such sub-group of variables—indeed, the independent variables of interest in this study—assesses whether school voucher programs influenced the emergence of charter school legislation. Theory and common sense suggest that school voucher programs could help stimulate charter school legislation in at least two separate ways. As a state becomes more familiar with one form of school choice (vouchers) alternative forms of school choice (charter schools) may be perceived as comparatively less radical and to pose less of a threat to the education status quo. Also, and especially where voucher programs were introduced as pilot programs or limited in scope or duration, passing charter school legislation is one plausible legislative way to reduce pressure to expand voucher programs. To test the hypothesized positive relation between voucher programs and the likelihood of a state passing charter school legislation, the models include a dummy variable signaling the presence of a school voucher program operating in a state. Moreover, in light of the potentially important ways in which school voucher programs vary, the school voucher program variable is coded in two separate ways. One way collapses all voucher programs into a single dummy variable. In an alternative model specification, separate dummy variables signal the presence of two types of school voucher programs: voucher programs that are publicly funded and those that are privately funded.

31 The analysis begins in 1992 as it is the calendar year following Minnesota's adoption of charter school legislation.

A second sub-group of variables explores an array of political and economic factors that plausibly influence a state's desire to enact charter school programs. One critical question involves how political leaders learn about new policy initiatives, such as charter schools. While the modern push to increase school choice generally construed thus far has been associated with the Republican Party, the models include a dummy variable indicating whether a state had a Republican governor, by year.

Of course, when it comes to enacting legislation state governors cannot act alone. Thus, the gubernatorial power variable is designed to capture differences in how executive authority is structured across states and over time. The composite measure seeks to differentiate governors' ability to influence the legislative process as a function of such factors as a governor's tenure in office, appointment authority, budget control, veto authority, and party control over the state legislative branch. While it is hypothesized that Republican governors are more partial to charter school legislation, Republican governors with robust gubernatorial power are more likely to see their policy preferences enacted into legislation.

Economic factors also warrant consideration and inclusion in the model. While the percentage of the state contribution to local schools' budgets is not inexorably tied to policy control, increased fiscal decentralization is typically associated with increased policy diffusion and experimentation.³² Moreover, a state's relative contribution to a local school budget typically reflects the degree to which citizens support traditional local public schools.³³ Thus, as it relates to a state's adoption of charter school legislation, as the percentage of a state's contribution to local school budgets increases, the likelihood that the state enacts charter school legislation decreases.³⁴ Relatedly, because charter school legislation often increases teachers' classroom discretion, it follows that states with comparatively lower levels of classroom per pupil spending and higher student-teacher ratios would be more inclined to pursue charter school legislation. As well, another

32 See Wong & Langevin, *supra* note 14, at 450.

33 See *id.*; see also Kenneth K. Wong, *Economic Constraint and Political Choice in Urban Policymaking*, 32 AM. J. POL. SCI. 1, 1 (1988) (arguing that "urban policymaking can be the result of political choice as well as economic consideration").

34 *C.f.* Wong & Langevin, *supra* note 14, at 451 ("Due to the greater degree of professional discretion represented in state authorization of charter schools, it makes conceptual sense that states with relatively lower levels of classroom spending and higher pupil-teacher ratios will be more likely to adopt charter school legislation."). See generally PAUL E. PETERSON, *THE PRICE OF FEDERALISM* (1995) (discussing America's decentralized government structure and its effect on social welfare programs).

proxy for the financial condition of schools—pupil-teacher ratio—is also presumed to influence prospects for charter school legislation. Specifically, states experiencing larger pupil-teacher ratios should be more receptive to charter school policies.

Moreover, because school finance litigation poses a threat to local school autonomy as well as educational status quo, such litigation in a state should increase the prospects of charter school legislation.³⁵ Challenges presented by school finance litigation should make lawmakers more receptive to re-thinking existing and alternative public school structures and delivery mechanisms of educational services.³⁶ Hypothesizing a positive relation between school finance litigation activity and the likelihood of charter school legislation reinforces policy entrepreneurs' motivation to cast charter school legislation as a market-sensitive reform with strong fiscal incentives for state institutions.³⁷

A third sub-group of control variables dwells on important social and education factors. A school's racial composition endures as a factor of interest, particularly in light of the complicated (and often odious) intersection of race and schooling throughout American history. The many and continually evolving ways in which race and school choice policies intersect complicate matters further. Many scholars note, however, the important and growing support for increased school choice among minority families, particular African-American families.³⁸ Consequently, an increase in the percentage of minority students (elementary and secondary) should increase the likelihood that a state enacts charter school legislation.³⁹

As well, states that enjoy comparatively higher per capita personal income will likely be more inclined to entrepreneurial policies, such as charter school legislation.⁴⁰ Indeed, not only are states with higher personal incomes more likely to be receptive to social changes, but such states must also respond to comparatively higher demands of state residents for more effective and efficient governmental services.⁴¹

35 See Wong & Langevin, *supra* note 14, at 451.

36 See *id.*

37 See *id.*

38 See, e.g., LANCE D. FUSARELLI, THE POLITICAL DYNAMICS OF SCHOOL CHOICE 4 (2003); WILLIAM G. HOWELL & PAUL E. PETERSON, THE EDUCATION GAP 143–44 (rev. ed. 2006).

39 See Wong & Langevin, *supra* note 14, at 452.

40 See *id.*

41 See *id.*

An additional education factor—the presence of private schools—likely influences the prospects of passing charter school legislation in a state.⁴² Not only do private schools make any voucher programs a practical possibility, but the private schools' market share reflects the degree to which families can select out—and have selected out—of public school options.⁴³ Thus, private schools' market share also serves as an imperfect proxy for parental (and student) demand for alternatives to traditional public schools, including public charter schools.⁴⁴

The final sub-group of individual variables attempts to measure temporal dependence. The need to account for temporal dependence is underscored by the variation in the hazard rate for event occurrence over time (see Figure 2, below).⁴⁵ Wong and Langevin describe the various options for measuring temporal dependence.⁴⁶ To maximize comparability with the Wong and Langevin study and to reduce analytic stress on assumptions regarding the functional form of time, analyses in this study use a control variable—duration dependency—to account for any temporal dependence among observations across time.

B. Methodology

Event history analysis seeks to lever comparisons of the relative contributions of internal and external variables presumed to influence state legislative processes through the hazard rate. The hazard rate reflects the probability of a state adopting charter school legislation conditioned on prior event nonoccurrence as well as other covariates. Put more plainly, in this study the hazard rate provides a measure of the relative likelihood of a state adopting charter school legislation over time.

As the dependent variable is dichotomous (that is, in any given year a state either did or did not adopt a charter school program), logit or probit are the standard regression models. However, as Powers and Xie note,⁴⁷ fitting a maximum likelihood complementary log-log model is an appropriate alternative to a logit or probit model

42 See *id.* at 452–53.

43 See Michael Mintrom, *Policy Entrepreneurs and the Diffusion of Innovation*, 41 AM. J. POL. SCI. 738 (1997).

44 See *id.*

45 For a more technical discussion, see JANET M. BOX-STEFFENSMEIER & BRADFORD S. JONES, *EVENT HISTORY MODELING* (2004).

46 See Wong & Langevin, *supra* note 14, at 454–55.

47 See DANIEL A. POWERS & YU XIE, *STATISTICS METHODS FOR CATEGORICAL DATA ANALYSIS* 83–84 (2000).

where, as here, a positive (or negative) dependant variable outcome is heavily skewed.⁴⁸ Moreover, as Wong and Langevin observe, fitting a complementary log-log model is preferable for theoretical reasons as well. Specifically, the complementary log-log model's asymmetrical response curve better fits the "theoretical basis of policy diffusion in the American federal system."⁴⁹

While the rationale for Wong and Langevin's decision to prefer a complementary log-log strategy over the more conventional logit and probit regression models makes sense, technical questions persist about the appropriate strategy to account for the temporal dependence among states. Though Wong and Langevin acknowledge plausible alternatives, for perfectly defensible reasons they adopted the Box-Steffensmeier approach.⁵⁰ To insure that results from this study are robust to model specification, this study also incorporates one alternative approach (King and Zeng's rare event logit⁵¹) as a strategy to address the temporal dependence challenge and compares results from both alternatives.

Finally, alternative specifications are explored for each model. While all school voucher programs can quite plausibly be classified similarly, whether a school voucher program is publicly or privately funded may influence a state's political attraction to public charter school programs.

III. RESULTS AND DISCUSSION

The presentation of results begins with a graphical description of the growth of various school choice programs over time. Regression results follow the descriptive results.

A. *Descriptive Results*

Minnesota passed the nation's first charter school legislation in 1991. Despite charter schools' head start, the number of (modern) school voucher programs caught and surpassed the number of states enacting charter school laws by the next year (1992). Beginning in 1994, the number of states adopting charter school legislation increased steadily until 1999, while the number of voucher programs remained comparatively static. The number of states adopting charter school legislation topped-out in 2003 at forty. In addition to present-

48 In Stata 12.0, the command is "cloglog." Of the 343 observations, the dependent variable in thirty-nine cases involves non-zero outcomes.

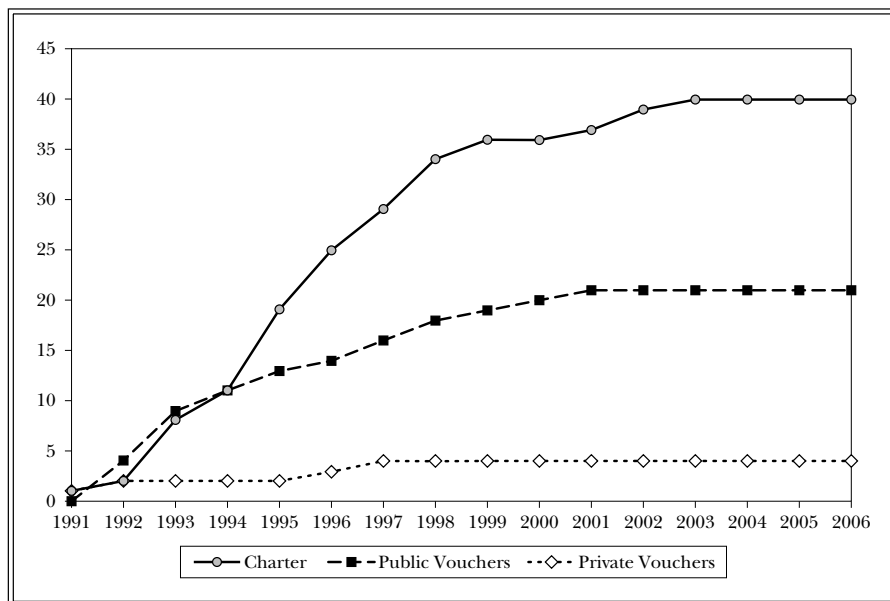
49 Wong & Langevin, *supra* note 14, at 447.

50 *See id.* at 454–55.

51 *See* King & Zeng, *supra* note 20, at 137–63.

ing raw frequency counts of the three major forms of school choice programs over time, over-layering the three trend lines creates a single graphic (Figure 1) that provides a helpful comparative perspective.

FIGURE 1: CUMULATIVE FREQUENCY DISTRIBUTION OF ADOPTION OF CHARTER SCHOOL LAW, PUBLICLY-FUNDED VOUCHERS, AND PRIVATELY-FUNDED VOUCHERS (1991–2006)

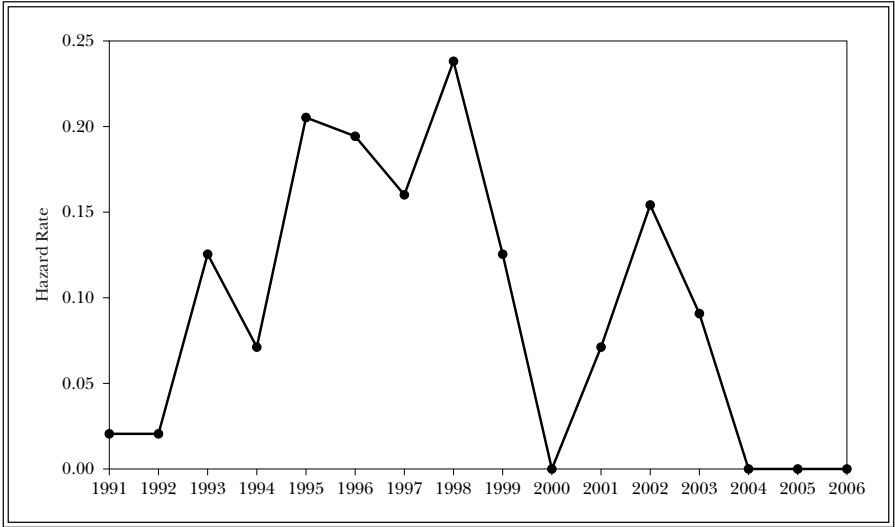


While Figure 1 describes the increase in the number of states with publicly- and privately-funded voucher programs as well as charter school legislation over time, the specific dependent variable of interest is whether a state enacted charter school legislation and, if it did, when did it do so. The main research hypothesis is that the existence of some form of a school voucher program in a state increased the probability that the state would adopt charter school legislation. On this latter point, Figure 2 provides a graphical description of the discrete hazard rates of state charter school adoptions over time.

As Wong and Langevin note, the hazard rate in Figure 2 is nonmonotonic and characterized by multiple peaks and troughs.⁵² The multiple peaks as well as the basic shape of the hazard rates imply that a state's adoption of charter school legislation was neither wholly random nor independent of time.

52 See Wong & Langevin, *supra* note 14, at 458.

FIGURE 2: HAZARD PROBABILITY FOR STATE CHARTER SCHOOL LAW ADOPTION



B. Regression Results

While the descriptive results presented in Figures 1 and 2 provide helpful general information and hint at possible relations among various forms of school choice policies, assessing specific independent influence of various factors requires more sophisticated analyses. The key independent variables of interest—and what distinguishes this study from Wong and Langevin’s prior work—involve the possible impact of voucher programs on a state’s inclination to adopt charter school legislation.

The results, presented in Table 1, make clear how the existence of school voucher programs influenced the likelihood of a state’s adoption of charter school legislation. Notably, this association is particularly strong for publicly-funded voucher programs. Finally, that the main findings persist across both methodological approaches enhances the core findings’ robustness. That is, the selection of any particular statistical test did not influence the core findings.

Results presented in Table 1 support three main substantive findings. First, the existence of a voucher program in a state achieves statistical significance and in the hypothesized (positive) direction. When privately- and publicly-funded voucher programs are considered separately (models 2 and 4), however, the results illustrate the particular salience of publicly-funded programs.

TABLE 1: COMPLEMENTARY LOG-LOG AND RARE EVENT LOGISTIC REGRESSION MODELS OF STATE ADOPTION OF CHARTER SCHOOL LAWS (1991–2006)

	(1) Complementary Log-Log	(2) Complementary Log-Log	(3) Rare Event Logit	(4) Rare Event Logit
Voucher program (all)	1.01** (0.36)	—	1.13* (0.47)	—
Voucher program (public funds)	—	1.25** (0.37)	—	1.35** (0.42)
Voucher program (private funds)	—	0.93* (0.44)	—	1.02 (0.53)
Republican governor	1.08* (0.46)	1.01* (0.47)	1.07* (0.49)	1.00* (0.51)
Gubernatorial power	−0.46 (0.45)	−0.47 (0.47)	−0.46 (0.49)	−0.47 (0.50)
State share of total educ. spending	0.18 (1.23)	0.14 (1.22)	0.28 (1.32)	0.21 (1.31)
Classroom-level spending	−12.69** (4.46)	−11.95* (4.89)	−12.43* (5.41)	−11.69* (5.61)
Pupil-teacher ratio	0.14 (0.09)	0.14 (0.09)	0.14 (0.09)	0.14 (0.09)
School finance litigation	0.11 (0.12)	0.10 (0.12)	0.09 (0.15)	0.09 (0.15)
Minority representation	2.40* (1.07)	2.68* (1.07)	2.49* (1.20)	2.75* (1.20)
Personal income (log, per capita)	1.51 (1.41)	1.66 (1.40)	1.72 (1.48)	1.87 (1.47)
Private schools	5.90* (2.65)	5.29* (2.55)	5.57* (2.83)	4.92 (2.76)
Duration dependence	15.40** (4.51)	16.15** (4.51)	15.77** (4.68)	16.39** (4.82)
(Constant)	−15.11 (15.25)	−17.12 (15.21)	−17.19 (16.17)	−19.22 (16.00)
(N)	343	343	343	343

NOTES: * $p < 0.05$; ** $p, 0.01$. Robust standard errors in parentheses.

The second central finding is that the main results are substantially robust across competing models (complementary log-log versus rare event logit). While it may be easy to ascribe this finding to technical statistical minutiae, its importance partially resides in buttressing the robustness of the main findings across various (and competing) modeling specifications. Consequently, these findings enhance the confidence that the results are, in fact, real and neither model-dependent nor statistical artifacts.

A third notable finding is that expanding the original data set to include school voucher program data did not dislodge the main thrust of Wong and Langevin’s prior findings. More specifically, although the new independent variables of interest—school voucher programs—achieve statistical significance, they do not eliminate Wong and Langevin’s emphasis on various political, economic, and

social variables that also correlate with a state's adoption of charter school laws. Notably, similar to what Wong and Langevin found, in this study coefficients for a Republican governor, classroom-level spending, the percentage of minority students, private schools' market presence, and durational dependence persisted in achieving varying levels of statistical significance in the predicted direction. Thus, if anything, findings from this study illustrate that Wong and Langevin's findings persist even after introducing the influence of school voucher programs into the models.

C. Discussion

The influence of school voucher programs on a state's appetite for charter school legislation, hinted at in the descriptive findings, survives regression analyses that simultaneously account for multiple factors. As this study focuses on the 1991–2006 time period, the data capture only the initial cohort of voucher programs and charter schools. Nevertheless, interpretations of charter school legislation's emergence across the country during those years need to account for school voucher programs' influence, particularly in states that operated publicly-funded voucher programs.

That the existence of a voucher program increased the likelihood that a state would adopt charter school legislation comports with common sense. That publicly-funded school voucher programs increased this likelihood even more than privately-funded programs, however, raises an array of related questions. One question, posed by Wong and Langevin, is whether states adopted charter school legislation "as a political compromise to private school voucher[]" programs.⁵³

What is ironic from a policy perspective is that many school voucher supporters, especially those behind privately-funded voucher programs, made clear their desire for such programs to stimulate broader, comprehensive publicly-funded voucher programs.⁵⁴ For an array of reasons that desire did not come to pass. What did emerge over time, however, was a different *form* of school choice—charter schools. What actually motivated and explains the emergence of charter school legislation—some of it in states with school voucher programs—is not particularly amenable to precise empirical testing. A closer look at the salient political-economic context in general and the role of suburbs and suburban schools in particular, however, reveals important clues.

⁵³ *Id.* at 466.

⁵⁴ See Terry M. Moe, *Private Vouchers*, in PRIVATE VOUCHERS 9 (Terry M. Moe ed., 1995).

D. *Charter School Legislation as Political “Compromise” or “Reality”*

To consider whether the emergence of charter school legislation was a political “compromise” by those seeking to deflect the more dramatic and structural changes posed by school voucher programs necessarily implies that the prospect of school voucher programs constituted a politically meaningful and viable option. Experience suggests otherwise, however, and the political economy of school vouchers suggests why this is so. What remains critical to understanding the comparative demise of school vouchers and emergence of charter school legislation, as Professor Jim Ryan and I noted previously, is the key role played by suburbs (and suburban public school districts).⁵⁵ More to the point, suburban interests largely impeded significant expansion of school voucher programs.⁵⁶ As such, the expression of suburban interests in the politics of education in the United States supplies helpful context for the interpretation of the empirical results from this study.

It is important to begin by observing that the political process has been quite hard on school voucher proposals. Far more voucher plans have been rejected than have passed. Between 1990 and 1993 alone, for example, fourteen state legislatures considered and ultimately rejected voucher proposals. Voucher or tax-credit initiatives also appeared on a number of state ballots in the 1990s, including ones in California, Colorado, Oregon, and Washington. In each case, voters not only rejected the proposals, but did so by wide margins.⁵⁷ Finally, virtually every proposal to provide vouchers on a large scale has failed.⁵⁸

Understandably, and with considerable justification, school choice supporters reflexively blamed teachers unions for school voucher initiative losses at the ballot boxes. After all, unions greatly outspent voucher proponents on voucher initiative campaigns.⁵⁹ In addition, teacher unions’ formidable financial resources lubricated efforts to get unions’ substantial membership lists to the polls. The combination of resources, sheer numbers, and political and profes-

55 See James E. Ryan & Michael Heise, *The Political Economy of School Choice*, 111 YALE L.J. 2043, 2088–91 (2002).

56 See *id.* at 2080–81.

57 See *id.* at 2079–80 (citations omitted).

58 For a discussion of the failed proposals, see TERRY M. MOE, SCHOOLS, VOUCHERS, AND THE AMERICAN PUBLIC 37 (2001); John J. Miller, *Why School Choice Lost*, WALL ST. J., Nov. 4, 1993, at A14.

59 See MOE, *supra* note 58, at 366–69.

sional motivation gelled into an important barrier to school voucher initiatives.

While it remains quite difficult to overstate the effect of teacher unions' opposition on voucher initiative political failures, it remains possible to do just that. Teacher unions could not have been solely responsible for the political deaths of school voucher initiatives. In California, for example, the voucher initiative was crushed at the polls by a seventy-one to twenty-nine percent margin.⁶⁰ The substantial margin of defeat suggests that:

[v]oucher ballot initiatives lost in California (and elsewhere) not only, and perhaps not even primarily, because teachers' unions opposed them, but *also* because suburbanites opposed them as well. As John J. Miller, associate director of the pro-voucher Manhattan Institute, explained after the defeat of the 1993 voucher ballot initiative in California: "School choice failed in California because Republican voters didn't want it." Some voucher proponents explained the defeat by pointing to teachers' unions and the biased media, but Miller argued that the real explanation had more to do with suburban apathy:

Most suburbanites—the folks who make up the GOP's rank and file—are happy with their kids' school systems. Their children already earn high good grades, score well on tests, and gain admission into reputable colleges and universities. Moreover, suburban affluence grants a measure of freedom in choosing where to live and thus provides at least some control over school selection.⁶¹

Despite formidable teacher union and suburban political opposition, however, a few school voucher programs emerged. While important and notable exceptions exist, in general where school voucher programs have emerged they have done so in discrete, bounded contexts.⁶² Or, more to the point, where voucher programs took root they did so in places and in ways that posed comparatively less of a threat to suburban interests.⁶³ For example, both privately- and publicly-funded voucher programs arose with frequency in urban jurisdictions noted for struggling public schools and high concentrations of poverty.⁶⁴ For either political or logistical reasons, many (but not all)

60 See *id.* at 366.

61 Ryan & Heise, *supra* note 55, at 2080–81 (citations omitted) (quoting Miller, *supra* note 58); see also David Barulich, *Four Reasons Why Voucher Plans Lose Elections*, EDUC. WK., Sept. 6, 2000, at 58, 64 (describing common political objections to school voucher programs).

62 See Ryan & Heise, *supra* note 55, at 2083.

63 See *id.* at 2084.

64 See *id.*

voucher pilot programs are geographically limited to urban school district boundaries.⁶⁵ In the one large-scale voucher program that does permit eligible students to access public schools in neighboring more affluent suburbs, Ohio law leaves it to those suburban school districts to decide whether to participate in the Ohio program and accept voucher-funded students who reside in Cleveland.⁶⁶ If any eligible students attend non-Cleveland schools, the number of such students is exceptionally small. Moreover, in states that implemented state-wide voucher programs, such as Florida, across-district participation was dampened by the absence of student transportation assistance and the ability of public schools already operating at capacity to decline student transfers.⁶⁷

An effort to gain a clearer understanding of why suburbs might be structurally opposed to voucher initiatives requires taking suburbs' political economic interests seriously. Most suburban homeowners "paid a premium in purchasing their homes [partly] to ensure that their children [could] attend good public schools, and they—like their neighbors—want to protect [their suburban public] schools and [residential] property values."⁶⁸ "A wide-ranging voucher program, which allows resident students to exit freely and nonresident students to enter suburban schools," poses at least two distinct threats to suburban interests.⁶⁹ First, at some point voucher programs might siphon public dollars away from suburban public schools.⁷⁰ Second, high-performing suburban public schools might attract voucher-eligible students geographically assigned to lower-performing urban public schools.⁷¹ Many students assigned to and attending lower-performing urban public schools are non-white and from lower-income households.⁷²

The extent to which a voucher program facilitates student migration from lower-performing urban public schools to more attractive suburban schools reduces school voucher programs' attractiveness to

65 See *id.* at 2083–85.

66 See OHIO REV. CODE ANN. §§ 3313.974–.979 (LexisNexis 2009).

67 See John Mullen, *School Vouchers: An Intractable Dilemma?*, HUM. RTS., Summer 1999, at 16, 18.

68 Ryan & Heise, *supra* note 55, at 2081; see also Thomas W. Hazlett, *Class Warfare: It's Soccer Moms vs. Poor Kids—In a Rout*, REASON, Feb. 1997, at 66, available at <http://www.reason.com/9702/co.hazlett.html> (calling this "the ugly financial story lurking behind the soccer-mom pandering on education").

69 Ryan & Heise, *supra* note 55, at 2081.

70 See *id.*

71 See *id.*

72 See James E. Ryan, *Schools, Race, and Money*, 109 Yale L.J. 249, 272–73 (1999).

many suburban parents and homeowners alike.⁷³ Indeed, one critical factor that attracts many families to suburbs—suburbs’ ability to control access to suburban schools—is directly threatened by voucher policies.⁷⁴ Robust school choice policies degrade the link between suburban homes and access to neighboring suburban schools.⁷⁵ For many (but certainly not all) suburbanites, especially those with school-age children, this turns at least part of the logic of locating to suburbs on its head.⁷⁶

By contrast, the typical charter school program poses far less of a threat to suburban interests in general and the link between suburban homes and their neighboring schools in particular. Owing partly to geography, many charter schools locate in urban areas to leverage the market of students assigned to struggling urban public schools.⁷⁷ When charter schools do venture into suburban areas, however, while they typically do open their school doors to nonresident students, suburbs still retain control over access to their suburban schools. Thus, while the emergence of charter schools in suburban areas pose some level of threat to the overall funding of suburban public schools as well as the introduction of nonresident students into suburban-based charter schools, suburbs still maintain control over access to their suburban public schools. Consequently, the deleterious implications for suburban home prices are dampened. While the emergence of school choice policies is far from ideal for many suburbs, charter schools are comparatively more palatable as they pose comparatively less of a threat to suburbs’ interests.

These key structural differences between voucher and charter school policies provide one account of the relevant political dynamics.

Within the realm of state and local politics, few if any issues are more highly visible than those concerning schools and education. [As a result,] electoral majorities are keenly interested in education issues. [In many states] suburban legislators possess . . . the political power, as well as the political incentives, to protect their constituents’ interests.⁷⁸

73 See *supra* notes 68–72 and accompanying text.

74 See *id.*

75 See *id.*

76 See Hazlett, *supra* note 68.

77 See Ryan & Heise, *supra* note 55, at 2075.

78 *Id.* at 2088–89; see also David M. Herszenhorn, *Rich States, Poor Cities and Mighty Suburbs: In Connecticut and New Jersey, Urban Poverty Confronts Leafy Affluence*, N.Y. TIMES, Aug. 19, 2001, §1, at 39 (describing suburban political dominance in New Jersey and Connecticut and the reluctance of suburban legislators to devote resources to urban areas, including urban schools).

Thus, in a contest between school voucher and charter school policies, why many governors—particularly Republican governors—often prefer the latter over the former is easily understood.

Governor Wilson, for example, opposed the 1993 California ballot initiative, just as Republican Governor Engler (as well as Republican Senator Spencer Abraham) opposed the recent voucher initiative in Michigan. Similarly, Governor Whitman toyed with a modest voucher proposal for New Jersey students, but ultimately let it die in the face of legislative opposition from both Democrats and Republicans. . . . Surely these Republican leaders were not trying to court the teachers' unions by opposing or dropping their calls for vouchers. More likely, these Republican governors responded to the less-than-enthusiastic message sent by their suburban constituents.⁷⁹

For whatever the reasons, while results from this study do not speak to the relation (likely positive) between Republican governors and school voucher programs, they do illustrate that a Republican governor increased a state's likelihood of passing charter school legislation.

With these political and economic dynamics in mind, it becomes easier to understand why the three publicly-funded voucher programs operating today look the way they do. The programs in Milwaukee and Cleveland offer vouchers to a limited number of poor students to attend private schools. The Milwaukee plan explicitly limits the use of vouchers to private schools within city boundaries, thus assuring that Milwaukee voucher students will not enter suburban schools. While the Cleveland plan allows students to use the vouchers at any school within Cleveland and also at any suburban public school that agrees to accept voucher students, the overwhelming majority of participating students attend private and religious schools. Florida's plan, which is the most recently adopted and the only ostensibly statewide program, allows students in failing schools to use vouchers at private or public schools. The program pushes students to choose nearby public or private schools, however, as it fails to provide transportation to private schools and explicitly requires parents to transport their children to public schools in other districts, which must accept voucher students only if space is available.

Just as these programs are not designed to send voucher students to the local equivalents of, say, Exeter, Hotchkiss, or Choate, it is also obvious that these programs are not meant to avail suburban public schools to inner-city students. This fact is apparent from the structure

79 Ryan & Heise, *supra* note 55, at 2082 (citations omitted).

of the programs, and it is understandable in light of the political forces that shaped the plans.

In Milwaukee and Cleveland, for example, minority leaders teamed with state and local Republican leaders to create these programs, which in turn reflect their respective interests. The minority leaders pushing for the programs were interested primarily in improving the educational opportunities available to students in failing schools, and they tended not to be interested in enhancing opportunities for racial integration. Republican leaders, meanwhile, seized the opportunity to support a market-based educational reform that would operate largely within the confines of urban school districts. Urban vouchers allow Republican leaders to push a policy that is ideologically attractive and politically low-risk, as it leaves suburbanites alone. If anything, urban vouchers will win the support and votes of suburbanites, because they offer assistance to urban students. [Many] [s]uburbanites continue to express support for programs that offer greater assistance to inner-city students in failing schools. At the same time, however, criticizing the bureaucracy of urban school districts as inefficient and corrupt is a popular sport among many legislators and governors, some of whom must believe that doing so plays well in the suburbs. All of which suggests that a reform that does not provide large sums of money to city-school bureaucrats, but instead allows parents to escape the clutches of those bureaucrats, is likely to be pretty popular among suburbanites—provided, however, that urban kids [remain] in urban schools.⁸⁰

CONCLUSION

The current and growing taste for increased education choice is clear. While the world of education choice includes numerous variants, voucher and charter school policies emerged with significant fanfare in the early 1990s and dominated educational reform debates. Notwithstanding competing (and sometimes confusing) claims about the respective efficacy of voucher and charter school policies, by 2006 it was clear that charter school advocates had won the political battle of ideas and largely displaced voucher programs from a central position in current educational reform policy discourse.

Prior empirical accounts of the nation-wide spread of charter school legislation emphasized politics, classroom spending, school finance litigation, and the supply of private schools. Results from this study comport with prior research and introduce school voucher programs as an independent factor contributing to the expansion of char-

80 *Id.* at 2083–85 (citations omitted).

ter school legislation across states. Moreover, the presence of a publicly-funded voucher program exerted a stronger influence on the likelihood of charter school legislation in a state than did a privately-funded voucher program. Finally, the influence of voucher programs on the passage of charter school legislation persists across competing statistical models.

It is not without irony that school voucher programs helped stimulate the emergence of charter school programs and that charter school programs quickly became the most politically popular form of school choice. After all, one important motivation for early, and typically small, pilot school voucher programs—particularly privately-funded programs—was to help stimulate and contribute political momentum for the development of broader, state-wide publicly-funded school voucher programs.

That school voucher programs contributed to the spread of charter school legislation across much of the United States maps onto suburbs' political-economic interests. At the level of real politics, school voucher proposals confronted often fatal opposition from the existing public education status quo (notably teacher unions) as well as suburbanites. Voucher programs directly threaten public education interests; the negative implications for suburbs, while perhaps more subtle, are nonetheless both important and real. The introduction of school vouchers implicates suburbs in two important ways. First, setting aside the eventual negative per pupil spending implications for suburban schools, voucher programs degrade suburbs' control over access to suburban schools. Second, to the extent that suburban home values reflect control over access to the typically comparatively better-performing suburban public schools, reduced control over access to suburban schools dilutes suburban residential real estate values. In contrast, the typical charter school program poses comparatively far fewer adverse consequences for suburbs and suburban schools. From the perspective of suburban political-economic self-interest, the preference for charter schools over voucher programs is predictable.

Americans' appetite for educational reform persists. During the past few decades, reformers' aversion to harnessing market forces into the service of educational reform has lessened. The introduction of greater market pressures in the education context can take many forms, and important differences distinguish charter and voucher programs and policies. While it is clear charter school policies eclipsed school voucher programs between 1991 and 2006, why this happened is less understood. An accounting and deeper understanding of why charter school policies eclipsed school voucher policies are important for those seeking to craft educational policy in the future.

APPENDIX

TABLE A1: DESCRIPTIVE STATISTICS OF VARIABLES

	<i>Mean</i>	<i>SD</i>	<i>Min.</i>	<i>Max</i>	N
Voucher program (all)	0.07	0.28	0	1	343
Voucher program (public funds)	0.01	0.11	0	1	343
Voucher program (private funds)	0.06	0.24	0	1	343
Republican governor	0.47	0.50	0	1	343
Gubernatorial power	3.47	0.44	2.30	4.70	343
State share of total educ. spending	0.49	0.13	0.08	0.90	343
Classroom-level spending	0.62	0.03	0.50	0.68	343
Pupil-teacher ratio	16.21	2.29	11.30	24.90	343
School finance litigation	1.18	0.93	0	5	343
Minority representation	0.22	0.15	0.02	0.76	343
Personal income (log, per capita)	10.24	0.14	9.90	10.60	343
Private schools	0.20	0.08	0.07	0.38	343
Duration dependency	0.10	0.04	0.02	0.15	343