

TITLE: The Politics of Teacher Professionalization: How Union Interests and the Structure of Education Governance Impact Teacher Pay and Evaluation Policies

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ABSTRACT: In recent years, education research has solidified the link between teacher effectiveness and growth in student achievement. However, less attention has been paid to understanding why some states and school districts adopt new policies aimed at improving teacher effectiveness, while others do not. Using the lens of political economy, this study asks: What impact do teacher unions have on teacher compensation and evaluation policies? Do governance reforms that centralize school accountability in the hands of mayors and governors shape those same policies? I find that centralized education governance and teacher union activism significantly influence state teacher policies, but not similar district-level policies. The implications for reforming teacher pay and evaluation and the future of education policy research more generally are discussed.

Introduction

While education research is perhaps now at its apogee in influence and sophistication (Hess, 2008), today's research is almost exclusively committed to disentangling the impact various policies have on student achievement. This focus is entirely appropriate; after all, public schools receive taxpayer dollars to help kids learn, so understanding how various policies impact student achievement is a researcher's primary concern. Research has, however, ignored an important and intimately related question: How do differing political contexts and key structural differences in the organization of education governance impact the likelihood that states and districts will adopt research-backed policy reforms? As Stanford political scientist Terry Moe has exhorted today's generation of education scholars:

The public schools have been studied to death for many decades now...but politics has pretty much been ignored, at least as a serious target of theory and research. This despite the fact that the public schools are agencies of government, and virtually everything about them—their organization, their programs, their funding—is determined through the political process (Moe, 2003).

This paper takes Moe's assertion seriously. In fact, it might not be too much of an exaggeration to suggest that politics—once famously characterized as the study of “who gets what, when, and how”—influences education policy more than any alternative domestic policy issue in American life. After all, education policy-making is a uniquely shared responsibility of local, state, and federal actors who collectively comprise a “tangled web” of school governance (Epstein, 2004). Consequently, the politics of education policy-making are messy; as organized interests, public-sector bureaucrats, and fragmented political authorities decide who gets “what, when and how” across three competing levels of government.

Consider the relationship between organized interests in the public sector and the policy-makers responsible for establishing the policies that govern the teaching profession. In one bi-

annual survey of state legislatures, legislators generally ranked their state's teacher union as the most powerful lobbying entity in the state capital, outpacing the business community, trial lawyers, doctors, utilities, bankers, environmentalists, and even state AFL-CIO affiliates (Thomas and Hrebenar, 2004). Meanwhile, at the local level, studies have shown that union-endorsed school board candidates win 76 percent of their elections compared with just 31 percent of non-union endorsed candidates (Moe, 2006). The extent of these political advantages results in an unusual and under-studied labor-management relationship in which teacher unions (i.e., labor) help elect the school district management (i.e., the school board) with whom they bargain. The upshot is that when state and local political authorities make decisions about the policies that govern the teaching profession (e.g., teacher pay and evaluation), structural (e.g., electoral) incentives *may* lead them to sympathize with organized teacher interests—and depart from what is best for students.

Without studying the impact of teacher unions on the policies that govern the teaching profession, policy-makers will continue to be guided by impressionistic accounts of ideologues—union critics, on the one hand, who argue that collective bargaining precludes policy-makers from experimenting with different teacher compensation policies; and union sympathizers on the other, who assert that organized interests are relatively powerless in blocking policy reforms for which there exists broad public support. Moreover, at a time in which states and school districts are experimenting with new models of education governance (e.g., mayoral control and state centralization) in an effort to better coordinate policy reform agendas, researchers and policy-makers know very little about how the organization of K-12 governance works in conjunction with union politics to impact education policy outcomes.

The paper is divided into five parts. In part one, I summarize existing politics-policy research, both at the state and local levels of education governance. In doing so, I highlight the limitations with the present state of knowledge and explain how this study fills in some important gaps. Next, I present some general hypotheses about how politics and governance arrangements in states and school districts might influence education policy outcomes. In the third section, I present my research design, data, and methods. In the fourth section, I present my findings: first explaining how school district politics and governance influence the policies that govern the teaching profession locally, then by extending that analysis to the geographic unit of state government where I uncover the most significant and interesting relationships. In the fifth and final section, I discuss the implications of these findings for policy-makers and offer suggestions for a future focus of education research.

Previous Research

Studies examining the role of politics and governance on state and local education-reform initiatives are few and far between. Moreover, the few efforts that do take politics and governance seriously rarely test their relationship to observable differences in the eventual policies that states and districts adopt to govern the teaching profession. For example, an education policy-maker interested in moving his or her state's teacher compensation policy toward a model that differentiates pay on the basis of student achievement would be hard-pressed to find research that can predict how politics and differences in education governance are likely to impact their reform efforts. Our hypothetical policy-maker might also want to know what factors are likely to explain a local school district's decision to adopt a teacher evaluation policy

that empowers school principals to consider student performance in their evaluations. I first summarize the research to-date on politics and education policy-making at the district-level.

As previously noted, the education politics research suggests that organized teacher interests are highly influential in local elections. Analyzing responses from a national sample of almost 900 school board members, Hess and Leal (2005) note that unions are typically the leading interest group in school board politics with almost 60 percent of board members characterizing them as “very active” or “somewhat active.” In his large-scale analysis of school board elections in California, Moe (2006) found that more than three-quarters of teacher union-endorsed candidates won a seat on the local school board, whereas only one-third of non-union favored candidates won election to the board. Although these studies provide evidence that teacher unions appear to influence the selection of education policy-makers, they fall short of telling us whether union electoral success translates into policy outcomes favorable to union interests. Answering that question is the first task of this paper.

Other research focusing on our second item of interest—education governance—has considered how different organizational approaches to school district governance, such as mayor-appointed school boards, influence district policy-making. Wong and Shen (2005, 2007) found that mayors were more effective in some areas of policy reform, such as raising the district’s overall level of student achievement, than in other areas where mayors have failed to alter staffing distributions and re-allocate district budgets. Despite much interest in mayoral control, to my knowledge there have not been any published studies that examine whether turning district governance over to mayors influences districts’ teacher pay or evaluation policies. More generally, education research has yet to consider whether governance arrangements that centralize accountability in a unitary and visible political authority influence

the policy-making process by attenuating the influence of special interests (e.g., teacher unions). In order to answer these questions we must remain cognizant of the fact that the policies governing the teaching profession (i.e., a school district's labor agreement or a board policies) cannot be viewed in isolation and instead must be considered within the context of the myriad state education policies that constrain local education policy-making (Cohen et al., 2008). Consequently, I now turn to consider the previous research on education governance and politics at the state level.

The state politics research has traditionally sought to explain variation in state policy outcomes by disentangling the effects of state-level political, economic, and social factors (Erikson, Wright, and McIver, 1993; Berry, 1998; and Gray et al. 2004). However, only a handful of education policy researchers have examined the relationship between organized political interests and variation in states' education policy outcomes (Mintrom, 1997 and 2000; Wong and Shen, 2006; Shober, Manna and Witte, 2006). Even less attention has been paid to understanding how the arrangements of state education governance and decision-making influence education policy outcomes. Manna (2006a) examined whether the structure of state education governance matters for student achievement and found that executive (gubernatorial) appointment of the state superintendent was significantly and positively associated with increased student achievement on the National Assessment of Education Progress (NAEP), (controlling for other factors). More recently, Manna (2008) used data from the National Council on Teaching Quality's (NCTQ) Teacher Yearbook to show that state policies governing teacher licensing and alternative certification are greatly influenced by the governing structure that a state uses to regulate its teaching profession (state boards of education versus independently appointed commissions).

Finally, a small group of scholars working at the intersection of politics and public policy-making have successfully employed event history analysis to demonstrate that state-level political factors, including teacher union opposition, influence the timing of state charter school law adoption (Mintrom, 1997 and 2000; Mintrom and Vergari, 1998; Wong and Langevin, 2005 and 2006). Although this technique is an attractive approach given its predictive ability to link conditions of political economy to the timing of important state-policy adoptions, it requires longitudinal data that measures policy change over time—something that is not readily available for this paper’s variables of interest: state teacher pay and evaluation policies. Given these limitations, this paper takes the approach most similar to Manna (2008) in which cross-sectional data on teacher policies are turned into additive indices and then modeled as a function of variation in teacher union opposition and the centralization of education governance. I now turn to the specific data, methods, and hypotheses of this study.

Theoretical Expectations and Hypotheses

Why might we expect variation in politics and governance to influence the types of policies states and districts adopt to govern the teaching profession? As previously mentioned, the politics of education policy-making are messy; as organized interests, public-sector bureaucrats and fragmented political authorities decide who gets “what, when and how” across multiple layers of government. Consequently, one might expect that states and districts with more highly fragmented systems of K-12 governance—systems in which political authority and therefore accountability is dispersed among several policy-makers oftentimes chosen in staggered elections—inhibits policy innovation. First, citizens are challenged to hold policy-makers accountable for enacting their policy preferences when the structure of educational

governance makes it difficult for the public to readily identify exactly which political authority or authorities are accountable for a given aspect of the education system. Fragmented governance may leave citizens asking, “Who’s in charge here?” as the editor of a recent book on education governance framed the debate (Epstein, 2004). Second, even in cases in which policy-makers wish to respond to citizen preferences for reform, fragmented systems pose coordination challenges to policy-makers whose decision-making authority may be confined to a single agency. Finally, policy-makers that reside in fragmented institutions like school boards and state boards of education face collective action problems in advancing a policy agenda that mayors and governors can simply avoid as a result of their unitary structure. For all of these reasons, we might suspect that teacher pay and evaluation reform policies will fare better in states and school districts that centralize education policy-making in the hands of mayors and governors.

Aside from these purely organization-driven hypotheses, the close relationship between structural choice in education governance and teacher union political activism offer additional reasons why we might expect governance structure to shape policy outcomes. Political science literature dating back to V.O. Key has argued that organized political interests are advantaged when political actors are elected in low-interest, low-turnout, non-partisan elections (Peterson, 2005). Local school board elections typically garner turnouts no greater than 15 percent of eligible voters; and for those states that elect chief state school officers or state board members elections never attain the same level of citizen participation as gubernatorial contests (Epstein, 2004). Consequently, since I expect that teacher union interests will fare better in electoral and policy-making settings governed by fragmented political actors elected in low-turnout elections, this study hypothesizes that states and school districts vesting education governance in the hands

of mayors and governors will, all else being equal, be more likely to have adopted teacher pay and evaluation reform policies.

Data, Methods, and Research Design

The dependent variables in my study examine both state and district policies governing teacher pay and evaluation and come from the National Council on Teacher Quality's (NCTQ) Teacher Rules, Roles and Rights database (TR³). The database includes information drawn from teacher contracts (i.e., labor agreements) in America's 75 largest school districts, as well as 25 additional school districts for a total sample of 100 districts including representation from all 50 states (at least one school district from each state is located within the sample). The database also includes data on those same policies at the state level, again for all 50 states. I use NCTQ's TR³ data to create indices that replicate the variables of interest identified by Hess and Loup in their 2008 study, *The Leadership Limbo: Teacher Labor Agreements in America's 50 Largest School Districts*. However, I create *two* sets of indices: a district-level and a state-level set that separately measure the policies that govern teacher pay and evaluation in states and school districts. The index components appear in full in Appendices A and B. Here, I present them briefly.

At the district level the index for teacher pay reform is a 0-17 scale¹ measuring the relative flexibility (from less flexibility to greater flexibility, where 0 is least flexible) on eight separate policies that consider whether the school district allows its administrators to compensate

¹ Note: As is apparent in the descriptive statistics found in Appendix C, unlike all of the other indices, the district pay policy index was transformed from a 0-17 additive index into a proportional index (a decimal score) to account for the fact that some school districts reside in states where state-level policy-makers have taken decisions out of the hands of district policy-makers (e.g., Florida's Merit Award Program requires school districts to implement a performance pay plan to be eligible for additional funding). Therefore, in the few instances in which a district's pay policy was engineered by a state incentive or mandate, the district was excluded on that measure so that its final score on the district teacher pay index was not biased in either direction (lower or higher).

teachers apart from the traditional “single-salary” schedule. Following Hess and Loup, I incorporate eight separate teacher pay policies into the pay flexibility index. For example, a school district earned a maximum flexibility score of 2 when it allowed administrators to give teachers additional pay for teaching certain high-demand subjects (e.g., mathematics and science). Districts in which the teacher contract remained silent on a given policy were assigned a score of 1 and districts that outright prohibited the more flexible pay policy were assigned a score of 0. Likewise, the index for teacher evaluation policy measured 0-16 and considered eight separate policies, such as the flexibility administrators are given to evaluate teachers on the basis of their students’ performance, with the same 0-2 coding scheme applied.

At the state level, the index for teacher pay is a 0-7 scale measuring the relative flexibility (from less flexibility to greater flexibility, where 0 is least flexible) on four separate state pay policies including: the legality of differentiating pay on the basis of performance, subject matter expertise, and a teacher’s willingness to work in a high-needs school. The index measuring the relative flexibility of states’ teacher evaluation policies is measured 0-16 and comprised of eight separate policies (once again for details of these indices see Appendix B). As opposed to the district-level indices that are comprised of policies drawn from local teacher contracts, these state-level policies were identified by NCTQ’s comprehensive analysis of state statutes and regulations.

District-Level Explanatory Variables

At the district level, I test the relationship between four explanatory variables measuring union politics and one explanatory variable measuring the degree to which school governance is centralized under a visible political authority. My measure of district governance centralization is a 0-1 dummy variable indicating whether an executive political authority (e.g., a mayor or

governor) appoints at least some school board members. The explanatory variables measuring teacher union politics include: the type of employee agreement the district uses (bargained or non-bargained), the local union's national affiliate (i.e., NEA, AFT or merged), the percentage of all civilian adult employees employed by the district, and union membership density. In accounting for the explanatory power of these five variables, I control for rival explanations including: student poverty, the racial makeup of the district, per-pupil spending, district size, student academic performance as measured by graduation rates, as well as whether the governing agreement was collectively bargained.

State-Level Explanatory Variables

At the state level, I test three explanatory variables relating to teacher union politics and three explanatory variables that measure the degree to which school governance is centralized under a state's governor. The explanatory variables measuring teacher union politics include: teacher union density, state policy on teacher collective bargaining, and a newly created measure of teacher union activism in state electoral politics. To test whether a state's political climate toward collective bargaining influences state policy outcomes on teacher pay and evaluation, I used NCTQ's state scope of bargaining database to create a 0-67 index that measures the degree to which state law empowers teacher unions (from no empowerment to full empowerment, where 0 is no empowerment) to bargain over a breadth of items governing teacher employment (see Appendix B for a comprehensive list of the indicators that comprise this index).

Additionally, because the literature to-date has considered only the role of collective bargaining and the density of union membership (Shober et al., 2006, Wong and Shen, 2006), I argue that researchers miss an entirely separate but equally important aspect of teacher union strength—union political activism. For example, Alabama state law does not explicitly require

that districts empower teachers to bargain collectively. Although some might conclude that Alabama teachers are thus necessarily politically weak, it would be a serious mistake to assume that the state's largest teachers union—the Alabama Education Association (AEA)—plays an insignificant role in state politics. In fact, the AEA is often considered the most powerful interest group by Alabama policy-makers who point to the fact that the AEA generally contributes a greater percentage of campaign contributions to state candidates for political office than any other organized interest in Alabama. In order to obtain a more precise proxy for how active a state's teacher union is in electoral politics, I used data from followthemoney.org—a campaign finance database that tracks donations in state politics—to generate a measure of state union PAC giving from 1998-2006 (see Appendix D for disaggregated campaign contributions data). To generate fair comparisons across states, I only include contributions in electoral years in which at least some state legislators are up for election (which in most states typically fall every two years) and do not include contributions made to federal candidates, state political parties, or ballot initiatives (see Appendices B and D for more details)

Turning to the variables used to measure the degree to which school governance is centralized under a state's governor, I independently test the effects of empowering the governor to appoint the entire state board of education, the chief state school officer, as well as both (what I will refer to as total gubernatorial centralization). Again these governance variables are designed to test whether—as the politics-policy literature suggests—reduced fragmentation and greater centralization of governance attenuates the power of organized interests, enhances organizational efficiency, and promotes the adoption of more policy reforms. In accounting for the explanatory power of these six explanatory variables, I control for rival explanations including: the partisan composition of state government (2004-2008), state per capita income, the

racial makeup of the state, state education spending, total public student enrollment, student academic performance as measured by graduation rates, as well as a state's collective bargaining policy. In addition to these standard control variables, I create a proxy for state-level public opinion measuring citizen support for federal school vouchers. This proxy enables me to control for the possibility that state policy outcomes on teacher pay and evaluation reform (far less controversial reforms than vouchers) are driven by differences in state-level public opinion toward education reform rather than my political and governance explanatory variables of interest. Because school vouchers are by far the most controversial policy reform proposal in education politics, it is highly likely that a state's level of support for vouchers underestimates the degree to which a state's citizens support differentiated teacher pay reform. Therefore, this control should actually bias me from finding support for my hypothesis that variation in state politics and governance influence policy outcomes.

Results

School Districts

I begin by using ordinary least squares regression (OLS) to test the relationship between my political and governance explanatory variables and the state and district policies that govern teacher pay and evaluation (measured by separate indices). Table 1 (below) presents my findings explaining the relationship of teacher union politics and district governance reform on the teacher pay policies found in local teacher contracts across the sample of 100 TR³ districts. The data show that teacher contracts negotiated between district policy-makers and American Federation of Teacher (AFT) affiliates are far more likely to grant flexibility to school leaders to differentiate teacher pay and depart from the single-salary schedule. The relationship is

statistically significant and increases a school district's score on the teacher pay reform index by a little less than one full standard deviation. Although to my knowledge this is the first study to present empirical evidence that school districts negotiate more pay reform-oriented teacher contracts with AFT union locals than they do with NEA locals, these findings are consistent with what some scholars note about the history of these two unions. For example, Kahlenberg (2006) chronicles the different approaches taken by NEA and AFT leadership after the release of *A Nation at Risk* in which then-AFT President Albert Shanker embraced the report's findings and set his organization on a reform-oriented path different from the one taken by the NEA. Moreover, this is in line with some previous research that has suggested the American Federation of Teachers and the National Education Association pursue different political strategies and share differing views on major education reform policies like No Child Left Behind (Koppich, 2005).

<INSERT TABLE 1>

Although these findings appear to show that the identity of a local union's national affiliation may impact policy-making on teacher pay, contrary to claims of union critics the data show that collective bargaining does not impede pay reform but rather is mildly associated with an increase in the likelihood that a school district has in place a policy allowing administrators to use differentiated compensation to recruit and retain effective teachers. These results are more consistent with the notions advanced by Hannaway and Rotherham (2007), as well as advocates of "new unionism" who note that collective bargaining is not in and of itself an impediment to reform but rather an integral element that policy-makers must get right if they wish to make long-term improvements in the policies that govern the teaching profession.

In addition to these findings regarding union politics and district policy-making on teacher pay, what explanatory role does reform and centralization of school district governance play? The relationship between appointed school districts is positively signed suggesting that mayor-appointed boards may do a slightly better job of securing flexible pay policies for district administrators; however, the results fall a bit shy of statistical significance and as a result no definitive conclusions can be drawn (p value = .120).

Table 2 (below) presents my findings examining the relationship of politics and school district governance on the amount of flexibility school boards give administrators to evaluate teacher personnel and hold them accountable for student performance. Despite anecdotal evidence about the potential for mayor-led districts to improve accountability and performance management, again the data suggest that appointed boards do no better than their elected counterparts at reforming teacher evaluation policies. As Table 2 (below) shows, appointed boards are no more likely than elected boards to grant school administrators additional flexibility to evaluate teacher personnel on the basis of student performance. Neither do district politics (union influence) seem to explain the observed variation in school district policies related to evaluation.

<INSERT TABLE 2>

Again these data suggest that collective bargaining does not inhibit districts from adopting reform policies that tie teacher evaluation to student performance and that local unions are not inhibiting these reform efforts. To summarize, findings at the district level indicate that only one dimension of local politics significantly impacts the likelihood of a more restrictive teacher bargaining contract: the identity of the local union affiliate being AFT rather than NEA.

Perhaps somewhat surprisingly, the data also show that reform efforts to centralize accountability for district governance in the hands of mayors had no impact on the policies used to pay and evaluate teacher personnel. These findings may, however, be consistent with Wong and Shen's (2007) analysis of mayor-controlled governance models that found mayoral efforts to improve resource allocation (both fiscal and human capital) were constrained by more pressing district needs in the aftermath of a mayoral takeover.

States

As this study has already noted, the policies that govern the teaching profession found in a district-teacher labor agreement cannot be viewed in isolation; instead, one must consider the myriad state education policies that govern the teaching profession (Cohen et al., 2008). I now turn to the results of my regression analyses testing the relationship of state politics and governance on teacher pay and evaluation policies, which are presented in Tables 3 and 4 (below), respectively.

<INSERT TABLE 3>

Most significantly, and consistently, I find that one type of teacher union activism—state-level political activism (as measured by union campaign contributions)—is statistically significant and negatively associated with the degree to which state education policy empowers school administrators to experiment with differentiated teacher compensation and evaluate teacher personnel on the basis of student achievement.

As the OLS coefficients for teacher union political activism show in Tables 3 and 4, as one moves from the state with the smallest percentage of teacher union campaign contributions (as a percentage of all campaign contributions to candidates for state office) to the state with the greatest share of contributions, the flexibility given to school leaders to pay teachers apart from the single-salary schedule and evaluate teachers more on the basis of student performance decreases one full standard deviation—on both policy indices.

<INSERT TABLE 4>

These results, as well as the lack of any relationship these models find for favorable collective bargaining laws, suggest quite strongly that while the politics of organized interests matter in state education policy-making, union critics may be misguided when they indict collective bargaining policies for stifling policy reform efforts.

Union supporters, however, should not be so quick to point to the absence of policy reform in non-unionized states (i.e., the South), as the data show that teachers, and other employees in the school system, have alternative venues available—in this case their activism in state electoral politics—to influence education policy outcomes that impact their profession. In fact, the control variable measuring state public opinion toward school vouchers is negatively signed (though not significant) suggesting that citizen opinion bears no relationship to the policy outcomes state policy-makers have adopted to govern the teaching profession. This finding suggests that democratic accountability—at least in regard to teacher pay and evaluation policies—is not alive and well in the arena of education politics and that organized interests may actually dilute policy responsiveness to the public.

Turning to our governance variables, to what degree can the structure of a state's education governance explain variation in its teacher pay and evaluation policies? The explanatory power of two of the three measures of centralized gubernatorial authority for K-12 education is quite strong—even stronger than the negative effects generated by increased teacher union political activism. The data in Tables 3 and 4 show a significant and positive relationship between a state empowering its governor with total appointment authority and a state's score on both the teacher pay and evaluation reform indices. All else being equal, moving from a state with no gubernatorial control to complete centralization under the governor moves a state approximately one full standard deviation higher on both indices. These results are consistent with our hypotheses and theoretical expectations regarding the relationship between centralized governance and policy innovation. Moreover, they are consistent with our expectations that organized interests (teacher unions) have more influence in systems in which fragmented political actors are elected in low-turnout, low-interest elections. Clearly then, the choices states make in arranging the institutions that govern their systems of public education have consequences for policy reform—a finding that policy-makers involved in governance reform ought to take seriously. It is worth making one more point about what these results have to say in regard to partisan politics. Interestingly, the controls for partisanship in state government proved relatively weak in explaining variation in states' education policy outcomes (at least for the policies governing the teaching profession). In other words, neither political party was significantly related to a more robust reform agenda for teacher pay and evaluation. Although this finding may be more of a shock to political scientists and political economists (who typically account for variation in state policy outcomes by focusing on the internal partisan politics of state government) than it is to education policy-makers, it is interesting nonetheless.

Additional Results: Predicting State Teacher Policy Outcomes

I have created two additional models to help policy-makers better understand my state-level findings and so that I can provide a better sense of how politics influences the specific teacher policies within the two indices. First, Table 5 presents OLS results that disaggregate both the teacher pay and evaluation indices into ten specific policies that state politics and governance influence.² These data show that certain policies within the pay and evaluation indices are influenced in different ways by different variations in state politics and education governance. For example, centralization of state education governance is positively related to the likelihood that a state defines teacher performance as student performance in performance pay plans. Additionally, states with gubernatorial-led K-12 systems are significantly more likely to incorporate measures of student performance on standardized achievement tests into the evaluation of tenured teachers.

<INSERT TABLE 5>

Finally, using a statistical program developed by Harvard University political scientist, Gary King, known as *Clarify*, Table 6 provides estimated predications of the likelihood that a state with total gubernatorial centralization or a politically active teachers union will adopt one of the ten specific teacher pay and evaluation policies presented in Table 5. *Clarify* makes it possible to predict the probability of observing states' policy outcomes under specified conditions by estimating shifts in the probability of a given policy outcome when the value for an

² Given the data generating process under study, it is worth noting that I obtained consistent results running these models with ordered logit specifications. However, because of the large number of categories in the ordered logit models, I have reported least squares results in this paper for interpretation purposes.

explanatory variable of interest is changed.³ Table 6 reports predicted probabilities after fixing all control variables (alternative explanations) at their mean values and then shifting the value of our explanatory variables of interest (union activism and gubernatorial centralization) from low to high. Consequently, *Clarify* can estimate the impact of a state moving from a governance model with absolutely zero gubernatorial appointment authority to a model of total appointment authority on each one of the ten teacher policies examined in Table 5. After setting all other explanatory variables at their mean values, moving from a state with no gubernatorial control to complete gubernatorial control increases the probability of a state adopting six of these ten teacher policies by as much as 70 percentage points. Effects associated with my measure of teacher union political activism (campaign contributions) are significant predictors for seven of the ten policies analyzed in Table 5. Again, all else being equal, moving from a state at the 25th percentile of teacher union political activism to the 75th percentile decreases the probability of a state adopting these policies anywhere from 14 to 24 percentage points.

<INSERT TABLE 6>

Conclusion and Discussion

This study began by asking why some states and districts reform policies governing the teaching profession, and others do not. Using the lens of political economy, I examined whether variation in labor politics and school governance account for some of the differences in state and

³ Running *Clarify* in STATA, I used Monte Carlo analysis to simulate sampling distributions of probit coefficient estimates derived from the original 50 policy outcome observations presented in Table 4 (M=1000). *Clarify* then uses these simulated distributions to estimate the predicted probability of observing each of the 10 teacher policy outcomes modeled in Table 5. For a full discussion of the method, see King, Tomz, and Wittenberg 2000). Note: in order to generate *Clarify* predictions on specific policy outcomes it was necessary to generate new dichotomous dependent variables (0,1) rather than the 0-2 measure employed in all other models in this study. This was done by re-coding states that were silent on a given policy from 1 to 0.

district pay and evaluation policy. In doing so, this study sought to provide an empirical account of these complex relationships amid a sea of anecdotal claims. Broadly, the results suggest that the relationship between politics and education policy outcomes is more complicated than either union critics or supporters typically claim. For example, while collective bargaining itself was not found to detract from reform efforts on pay and evaluation, the degree to which teacher unions dominated state electoral politics through their campaign contributions proved to have significant ramifications on the likelihood that these reforms were adopted. Interestingly at the district level, contracts negotiated by American Federation of Teachers (AFT) locals were significantly more reform-oriented on my variables of interest than those contracts negotiated by National Education Association (NEA) locals. These findings suggest that the historical trajectory of the national unions cycle down to their locals and over time shape the type of agreements and policies that govern the teaching profession. As Kahlenberg (2006) notes, the AFT and its iconic leader Albert Shanker took a very different strategy toward education reform that might still be relevant in the agreements AFT locals reach across the country today.

Next, this study looked squarely at education governance and tested whether centralizing control of state and district school systems in the hands of more visible, political leaders like mayors and governors improved the likelihood that salient teacher policy reforms would be adopted. In the final analysis, the policies obtained by mayor-controlled school boards appear no different than the ones approved by elected boards—in so far as teacher reform policies are concerned. Although the data suggest that centralized district governance is not associated with more reform, when this study turned its attention to the state policy landscape, the data told a different story. In states in which governors wrestled control of the state agency away from legislators and voters no longer elected state education policy-makers in low-turnout elections,

the policies adopted by states to govern teacher pay and evaluation included more differentiated compensation and greater teacher accountability.

Finally, this study seeks to foster more enthusiasm for education research at the intersection of politics and public policy. For too long, education research has sidestepped controversial discussions about politics, unions, and governance. The impact has been two-fold. First, the gap in scholarship analyzing the impact of politics on policy has too often been filled with the sort of ideological polemics that polarize policy-makers and pit “unions” on one side with “reformers” on the other. The data from this study demonstrate that this is a false choice and so future scholarship that considers the influence of politics can begin to reverse that trend. Second, because the bulk of today’s education research is almost exclusively focused on sorting out the impact various policies have on student achievement, policy-makers know little about the ways in which politics and governance increase or reduce the chance that research-backed policies will be adopted—something that, at the end of the day, can in and of itself have profound influence on improving student achievement.

TABLE 1. THE IMPACT OF DISTRICT POLITICS ON TEACHER PAY POLICY					
	(1)	(2)	(3)	(4)	(5)
<i>Control Variables</i>	<i>District Bargains Collectively</i>	<i>AFT Local Affiliate</i>	<i>Appointed School Board</i>	<i>LEA/District Share of Employment</i>	<i>Teacher Union Membership Density</i>
	0.070** [0.034]	0.046** [0.019]	0.083 [0.053]	0.011 [0.015]	0.005 [0.006]
Percent Non-White	0.130 [0.104]	0.105 [0.085]	0.122 [0.086]	0.124 [0.087]	0.169 [0.104]
Student Poverty	0.027 [0.104]	0.019 [0.101]	0.000 [0.105]	-0.030 [0.107]	0.032 [0.117]
Spending	-0.000 [0.000]	-0.000 [0.000]	-0.000 [0.000]	-0.000 [0.000]	-0.000 [0.000]
Graduation Rate	0.007 [0.001]	0.001 [0.001]	0.005 [0.001]	0.001 [0.001]	0.001 [0.002]
Total Enrollment	0.045** [0.018]	0.038** [0.019]	0.042** [0.019]	0.062** [0.061]	0.040* [0.022]
Bargains Collectively	n/a	0.078** [0.025]	0.065** [0.033]	0.091** [0.037]	0.051 [0.041]
Constant	-0.150 [0.262]	-0.076 [0.257]	-0.043 [0.268]	-0.413 [0.301]	-0.153 [0.291]
R ²	0.18	0.24	0.21	0.22	0.19
N	100	100	100	96	77

Dependent variable: 0-17 index measuring (from low to high) the relative flexibility a school district affords its administrators in paying teachers apart from the traditional “single-salary” schedule.
Cell entries are OLS estimates; standard errors in brackets.
* denotes $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$.

TABLE 2. THE IMPACT OF DISTRICT POLITICS ON TEACHER EVALUATION POLICY

	(1)	(2)	(3)	(4)	(5)
<i>Control Variables</i>	<i>District Bargains Collectively</i>	<i>AFT Local Affiliate</i>	<i>Appointed School Board</i>	<i>LEA/District Share of Employment</i>	<i>Teacher Union Membership Density</i>
	0.068 [0.621]	-0.042 [0.363]	-0.023 [1.003]	0.034 [0.293]	-0.161 [0.103]
Percent Non-White	-1.918 [1.622]	-1.689 [1.631]	-1.896 [1.63]	-2.221 [1.067]	-2.210 [1.901]
Student Poverty	1.044 [1.946]	1.118 [1.943]	1.118 [1.983]	1.462 [2.025]	0.859 [2.124]
Spending	0.000 [0.001]	0.001 [0.001]	0.001 [0.001]	0.001 [0.001]	0.001 [0.001]
Graduation Rate	0.001 [0.027]	-0.002 [0.027]	0.001 [0.027]	0.005 [0.028]	-0.005 [0.032]
Total Enrollment	1.019*** [0.355]	1.081*** [0.358]	1.021*** [0.359]	0.837** [0.406]	0.732* [0.412]
Bargains Collectively	n/a	0.543 [0.625]	0.638 [0.637]	0.717 [0.714]	1.291* [0.749]
Constant	-2.447 [4.907]	-3.104 [4.931]	-2.728 [5.091]	-1.12 [5.741]	1.832 [5.281]
R ²	0.10	0.11	0.10	0.22	0.12
N	100	100	100	96	77

Dependent variable: 0-16 index measuring (from low to high) the relative flexibility a school district affords its administrators to evaluate teachers and hold them accountable for student learning.

Cell entries are OLS estimates; standard errors in brackets.

* denotes $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$.

TABLE 3. THE IMPACT OF STATE POLITICS ON TEACHER PAY POLICY

	(1)	(2)	(3)	(4)	(5)	(6)
<i>Control Variables</i>	<i>Governor Appoints State Board</i>	<i>Governor Appoints Chief</i>	<i>Governor Appoints Both</i>	<i>Teacher Union Membership Density</i>	<i>Scope of Collective Bargaining</i>	<i>Teacher Union Political Activism</i>
	0.643 [0.411]	1.043** [0.432]	0.771*** [0.275]	-2.30** [1.074]	-0.831 [0.999]	-44.88*** [0.103]
State Public Opinion	-0.251 [0.069]	-0.024 [0.066]	-0.228 [0.065]	0.018 [0.071]	-0.026 [0.999]	-0.008 [0.065]
Graduation Rate	-0.047 [0.036]	-0.042 [0.032]	-0.055 [0.032]	-0.036 [0.034]	-0.034 [0.036]	-0.031 [0.033]
Bargaining Policy	-0.830 [0.981]	-1.259 [0.958]	-1.145 [0.927]	0.120 [1.054]	n/a	-0.624 [0.927]
Percent Non-White	-1.963 [2.240]	-2.110 [2.148]	-2.187 [2.100]	-3.043 [2.250]	-1.838 [2.277]	-2.531 [2.119]
Total Enrollment	-2.992* [1.577]	-2.687*** [2.364]	0.815*** [0.231]	0.806*** [0.239]	0.787*** [0.249]	0.749*** [0.231]
Legislature Party	-0.003 [0.004]	-0.004 [0.004]	-0.003 [0.004]	-0.006 [0.004]	-0.003 [0.004]	-0.002 [0.004]
Governor Party	0.005 [0.004]	0.006* [0.003]	0.006* [0.003]	0.005 [0.003]	0.005 [0.004]	0.006* [0.003]
Education Spending	-0.499 [0.344]	-0.495 [0.330]	-0.44 [0.324]	-0.516 [0.334]	-0.551 [0.349]	-0.655* [0.325]
Personal Income	-2.992* [1.577]	-2.687* [1.505]	-3.004** [1.474]	-1.518 [1.631]	-2.737* [1.599]	-2.871* [1.477]
Constant	30.611* [15.477]	28.968* [14.799]	31.362** [14.499]	14.894 [16.313]	28.506* [15.711]	30.311** [14.532]
R ²	.44	.48	.50	.47	.40	.50
N	48	48	48	48	48	47

Dependent variable: 0-7 index measuring (from low to high) the degree to which states differentiate teacher pay apart from the single-salary schedule.

Note: N is listed as 48 rather than 50 because a measure of state public opinion was not available for Hawaii and Alaska. However, consistent results were obtained when this control was dropped from the model and N=50.

Cell entries are OLS estimates; standard errors in brackets.

* denotes $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$.

TABLE 4. THE IMPACT OF STATE POLITICS ON TEACHER EVALUATION POLICY

	(1)	(2)	(3)	(4)	(5)	(6)
<i>Control Variables</i>	<i>Governor Appoints State Board</i>	<i>Governor Appoints Chief</i>	<i>Governor Appoints Both</i>	<i>Teacher Union Membership Density</i>	<i>Scope of Collective Bargaining</i>	<i>Teacher Union Political Activism</i>
	1.077 [0.991]	1.552 [1.074]	1.204* [0.690]	-3.039 [2.658]	-2.467 [2.374]	-93.704** [39.785]
State Public Opinion	-0.190 [0.069]	-0.189 [0.164]	-0.187 [0.162]	-0.133 [0.173]	-0.192 [0.166]	-0.155 [0.158]
Graduation Rate	-0.018 [0.087]	0.028 [0.084]	0.006 [0.085]	0.037 [0.085]	0.039 [0.085]	0.046 [0.081]
Bargaining Policy	-2.466 [2.368]	-3.104 [2.382]	-2.961 [2.330]	-1.210 [2.611]	n/a	-2.036 [2.521]
Percent Non-White	10.636* [5.410]	10.442* [5.341]	10.295* [5.278]	9.251* [5.565]	10.845* [5.410]	9.398* [5.149]
Total Enrollment	0.267 [0.599]	0.076 [0.587]	0.211 [0.578]	0.192 [0.591]	0.166 [0.592]	0.087 [0.561]
Legislature Party	0.004 [0.011]	0.002 [0.011]	0.003 [0.011]	0.000 [0.011]	0.004 [0.011]	0.005 [0.011]
Governor Party	0.017 [0.085]	-0.005 [0.010]	-0.005 [0.009]	-0.007 [0.009]	-0.008 [0.011]	-0.004 [0.009]
Education Spending	0.591 [0.833]	0.592 [0.821]	0.668 [0.815]	0.549 [0.009]	0.510 [0.830]	0.284 [0.791]
Personal Income	1.837 [3.801]	2.339 [3.744]	1.845 [3.706]	3.875 [4.036]	2.263 [3.797]	1.988 [3.591]
Constant	-10.967 [37.374]	-13.801 [36.801]	-10.014 [36.446]	-32.486 [40.369]	-14.489 [37.321]	-10.718 [35.307]
R ²	.24	.26	.28	.25	.23	.32
N	48	48	48	48	48	47

Dependent variable: 0-16 index that measures (from low to high) the relative flexibility states give to administrators to evaluate and hold teacher personnel accountable for their performance.

Note: N is listed as 48 rather than 50 because a measure of state public opinion was not available for Hawaii and Alaska. However, consistent results were obtained when this control was dropped from the model and N=50.

Cell entries are OLS estimates; standard errors in brackets.

* denotes $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$.

TABLE 5. THE INFLUENCE OF STATE POLITICS ON TEN SPECIFIC TEACHER POLICIES

<i>Effects on Specific Teacher Policies</i>	(1) <i>Governor Appoints Chief State School Officer</i>	(2) <i>Education Governance Completely Centralized under Governor</i>	(3) <i>Teacher Union Political Activism (Campaign \$)</i>
Performance Pay	0.161 [0.158]	0.157 [0.996]	-15.610*** [5.570]
Performance Pay Includes Measures of Student Performance	0.212 [0.151]	0.218** [0.092]	-5.921 [5.198]
Differentiated Pay: Hard-to-Staff Subject	.343* [0.183]	0.181 [0.119]	-16.591*** [6.797]
Differentiated Pay: Hard-to-Staff School	0.176 [0.176]	0.155 [0.111]	-3.062 [6.754]
Student Performance Factors into Untenured Teacher Evaluations	0.151 [0.289]	0.139 [0.184]	-24.181** [10.328]
Student Performance Factors into Tenured Teacher Evaluations	0.438 [0.293]	0.283 [0.187]	-22.691** [10.891]
Student Test Scores Factor into Untenured Teacher Evaluations	0.363 [0.273]	0.237 [0.174]	-22.910** [9.975]
Student Test Scores Factor into Tenured Teacher Evaluations	0.650** [0.261]	0.383** [0.169]	-21.332** [10.111]
Principals are Granted Additional Time to Evaluate a Teacher Before Tenure	0.006 [0.199]	0.005 [0.127]	-13.601* [7.264]
Negative Teacher Evaluation Triggers Remediation Plan	-0.065 [0.181]	0.037 [0.116]	3.049 [6.867]

Dependent variable: 0-2 measure on each policy reform where 2 indicates that a state has explicitly adopted the given reform, 1 indicates that state policy is silent on the given reform, and 0 indicates that the state prohibits the reform policy.

Cell entries are OLS estimates; standard errors in brackets (similar results were obtained using ordered logit specifications but presented in OLS for interpretation ease).

*denotes $p < .10$; ** $p < .05$; *** $p < .01$.

TABLE 6. PREDICTED PROBABILITIES FOR TEACHER POLICY REFORM AT SELECTED LEVELS OF SIGNIFICANT PREDICTORS

<i>Teacher Policy Outcome</i>	Predictor 1	Predictor 2
	<i>State Moves from Zero Gubernatorial Appointment Authority to Total Gubernatorial Control</i>	<i>State Moves from the 25th Percentile of Teacher Union Political Activism s to 75th Percentile of Activism</i>
	<i>Increased likelihood of adoption:</i>	<i>Decreased likelihood of adoption:</i>
Performance Pay	18%	-14%
Performance Pay Includes Measures of Student Performance	47%	No decrease
Differentiated Pay: Hard-to-Staff Subject	46%	-26%
Differentiated Pay: Hard-to-Staff School	42%	No decrease
Student Performance Factors into Untenured Teacher Evaluations	No increase	-21%
Student Performance Factors into Tenured Teacher Evaluations	31%	-17%
Student Test Scores Factor into Untenured Teacher Evaluations	No increase	-18%
Student Test Scores Factor into Tenured Teacher Evaluations	71%	-16%
Principals are Granted Additional Time to Evaluate a Teacher Before Tenure	No increase	-24%
Negative Teacher Evaluation Triggers Remediation Plan	No increase	No decrease

Appendix A: District-Level Variable Measurement and Data Sources

Dependent Variables	Measurement	Source
<i>Teacher pay policy index</i>	0-17 index measuring (from low to high) the relative flexibility a school district affords its administrators in paying teachers apart from the traditional “single-salary” schedule ⁴	
Private school experience (0-2) Professional experience (0-2) Postsecondary experience (0-2)	Coded 2 for districts that credit teachers on the salary schedule for job experience outside of K-12 public education. Districts that were silent on this policy were coded 1 and districts that prohibit it were coded 0	
Performance pay (0-2) Hard-to-staff schools pay (0-2) Market-sensitive pay (0-2)	Coded 2 for districts that differentiate teacher pay (outside of the single-salary schedule) a) on the basis of performance, b) for working in a school classified by the district as “high-needs,” and c) for teaching certain subjects. Districts that were silent on this policy were coded 1 and districts that prohibited it were coded 0	
Subject-area incentive pay (0-4)	Districts where the official teacher pay policy called for additional compensation for math, science, ESL or special education teachers earned 1 point in each case (maximum of 4)	
Defining teacher performance (0-1)	Coded 1 for districts that define teacher performance as “student performance,” and 0 otherwise	
<i>Teacher evaluation policy index</i>	Dependent variable: 0-16 index measuring (from low to high) the relative flexibility a school district affords its administrators to evaluate teachers and hold them accountable for student learning	National Council on Teacher Quality TR ³ Database; Hess and Loup (2008)
Student achievement and teacher evaluation Policy for tenured teachers (0-2) Policy for untenured teachers (0-2)	Coded 2 for districts that allow administrators to evaluate teachers on the basis of student achievement, 1 for districts that are silent on this policy, and 0 for districts that prohibit or discourage it	
Student test scores and teacher evaluation Policy for tenured teachers (0-2) Policy for untenured teachers (0-2)	Coded 2 for districts that allow administrators to evaluate teachers (at least partially) on the basis of student performance on standardized achievement tests, 1 for districts that are silent on this policy, and 0 for districts that prohibit or discourage it	
Teacher tenure policy (0-2)	Coded 2 for districts that allow administrators to extend the probationary period of untenured teachers if they are uncertain that the teacher should be promoted, 1 for districts that are silent in regard to this policy, and 0 for districts that prohibit or discourage the policy	
Consequences for a negative evaluation: Remediation (0-2) Transfer (0-2) Salary freeze (0-2)	Coded 2 for districts that gave administrators more flexibility in handing out consequences to teachers who received a negative evaluation including: a) placing the teacher on remediation, b) requesting that the teacher be transferred, and c) putting a hold on any immediate pay raise. Districts that were silent were coded 1 and districts that prohibited these interventions were coded 0	

⁴Note: as is apparent in the descriptive statistics found in Appendix C, this measure was transposed from a 0-17 additive index into a proportional index (a decimal score) to account for the fact that some school districts reside in states where state-level policy-makers have taken decisions out of the hands of district policy-makers (e.g. Florida’s Merit Award Program requires school districts to implement a performance pay plan to be eligible for additional funding). Therefore, in the few instances in which a district’s pay policy was engineered by a state incentive or mandate the district was excluded on that measure so that its final score on the district teacher pay index was not biased (either lower or higher).

Appendix A Continued: District-Level Variable Measurement and Data Sources

Independent Variables	Measurement	Source
Contract type	Coded 1 for districts with collective bargaining contracts and 0 for districts that have non-bargained board policies	National Council on Teacher Quality TR ³ Database
Local union affiliate	Identity of local union's national affiliate. Coded 2 for American Federation of Teachers (AFT), 1 for merged AFT-NEA, and 0 for National Education Association (NEA)	Union membership data provided directly from locals, either by e-mail or web site
Teacher union density	Number of union members per 1000 residents of the school district	Wong and Shen (2007)
Centralization (model) of school district governance	Coded 1 for districts where the mayor or governor appoint <i>at least</i> some members to the district board of education, coded 0 otherwise	Measurement constructed using NCES, CCD, and U.S. Census Bureau data
School district labor force	Percentage of the total civilian workforce (16 years and older) employed by the school district/LEA (2006)	
<i>Other Independent variables (Rival explanations)</i>		
District size (log student population)	Logarithm of the total number of public school students in the district	National Center on Education Statistics, (2005-2006)
Student academic performance	School district's high school graduation rate for the class of 2005	<i>Education Week</i> , "Diploma's Count," 2007
Per-pupil education spending	Real yearly dollar amount spent per pupil within the district	National Center for Education Statistics, (2005-06)
Racial/ethnic diversity	Percentage share of elementary and secondary students in the district who are racial or ethnic minorities (non-white)	National Center for Education Statistics, (2005-06)
Student poverty	Percentage of all students eligible for free and reduced lunch within the district	National Center for Education Statistics, (2005-06)

Appendix B: State-Level Variable Measurement and Data Sources

Dependent Variables	Measurement	Source
<i>Teacher pay policy index</i>		
Performance pay (0-2) Hard-to-staff schools pay (0-2) Market-sensitive pay (0-2)	0-7 index measuring (from low to high) the degree to which states differentiate teacher pay apart from the single-salary schedule Coded 2 for states that allow teachers to obtain additional pay a) on the basis of performance, b) for working in a school classified as "high-needs," or c) for teaching certain subjects. States that were silent on each of these policies were coded 1 and states that prohibited a given policy were coded 0	
Defining teacher performance (0-1)	Coded 1 for states that define teacher performance as "student performance," and 0 otherwise	
<i>Teacher evaluation policy index</i>		
Student achievement and teacher evaluation Policy for tenured teachers (0-2) Policy for untenured teachers (0-2)	0-16 index that measures (from low to high) the relative flexibility states give to administrators to evaluate and hold teacher personnel accountable for their performance Coded 2 for states that allow administrators to evaluate teachers on the basis of student achievement, 1 for states that are silent on this policy, and 0 for states that prohibit or discourage it	National Council on Teacher Quality TR ³ Database
Student test scores and teacher evaluation Policy for tenured teachers (0-2) Policy for untenured teachers (0-2)	Coded 2 for states that allow administrators to evaluate teachers (at least partially) on the basis of student performance on standardized achievement tests, 1 for states that are silent on this policy, and 0 for states that prohibit or discourage it	
Teacher tenure policy (0-2)	Coded 2 for states that allow administrators to extend the probationary period of untenured teachers if they are uncertain that the teacher should be promoted, 1 for states that are silent in regard to this policy, and 0 for states that prohibit or discourage the policy	
Consequences for a negative evaluation: Remediation (0-2) Transfer (0-2) Salary freeze (0-2)	Coded 2 for states that gave administrators more flexibility in handing out consequences to teachers who received a negative evaluation including: a) placing the teacher on remediation, b) requesting that the teacher be transferred, and c) putting a hold on any immediate pay raise. States that were silent were coded 1 and states that prohibited these interventions were coded 0	
Independent Variables	Measurement	Source
Teacher union density	Percentage of teachers in state belonging to a union: 2000-07 (average taken)	NCES, NEA Membership Handbook, U.S. Dept. of Labor Statistics
Collective bargaining index (0-67)	0-67 index measuring (from low to high) how favorable state policy is in regard to collective bargaining rights for public school teachers. On each issue (e.g. salary and wages) whenever a state required collective bargaining it earned a 3; a 2 if bargaining was permissive but not required, a 1 if the state had no specific policy, and 0 if the state outright prohibited an issue from being bargained	National Council on Teacher Quality TR ³ Scope of Bargaining Database
Teacher union political activism	Total percentage of campaign contributions given to all candidates for state office donated by the state's largest teachers union (1998-2006: average taken)	Measure created using the National Institute on Money in State Politics database, available at www.followthemoney.org

Appendix B Continued: State-Level Variable Measurement and Data Sources

Governor appoints chief	Coded 1 for states where the governor has sole authority to appoint the state superintendent, coded 0 otherwise	Council of Chief State School Officers (CCSSO); National Association of State Boards of Education (NASBE)
Governor appoints state board	Coded 1 for states where the governor has sole authority to appoint members to the state board of education	
Governor appoints both	Coded 2 for states where the governor has total appointment authority, 1 for states that give the governor control over one office and 0 for states with no gubernatorial appointment authority	
<i>Other Independent variables (Rival explanations)</i>		
Republican legislature	Percentage of years (2004-08) that Republicans controlled both houses of the state legislature	National Council of State Legislatures
Republican governor	Percentage of years (2004-08) that a Republican held the governorship	National Governors Association
State academic performance	State's high school graduation rate for the class of 2005	<i>Education Week</i> , "Diploma's Count" (2007)
Racial/ethnic diversity	Percentage share of elementary and secondary students in the state who are racial or ethnic minorities (non-white)	National Center for Education Statistics, (2005-06)
State education spending	Percentage of taxable resources (state) spent on K-12 education	<i>Education Week</i> , "Quality Counts"
State enrollment (log student population)	Logarithm of the total number of public school students in the state	National Center on Education Statistics, (2005-2006)
Collective bargaining index	Index outlined above (measure of state collective bargaining policy)	National Council on Teacher Quality TR ³ Database
Log per capita personal income	Logarithm of the state's per capita personal income in real dollars	Bureau of Economic Analysis (2006)
State size (log student population)	Logarithm of the total number of public school students in the state	National Center on Education Statistics (2006)
State public opinion	Percentage of state's residents that support private federal school vouchers as a policy reform proposal	Measure created by pooling 2000 and 2004 Annenberg National Election Study survey data disaggregated by state of respondent (median N per state = 1847 respondents)

Appendix C: Descriptive Statistics

Variable	Mean	Standard Deviation	Min	Max
<i>Dependent</i>				
District teacher evaluation policy index	9.71	2.63	3	15
District teacher pay policy index	.541	.148	.29	.93
State teacher evaluation policy index	9.5	3.05	3	14
State teacher pay policy index	4.1	1.46	1	7
<i>Independent (explanatory)</i>				
District teacher union density	9.16	3.36	1	20
District teacher union affiliate	.59	.81	0	2
District governance – appointed board	.12	.33	0	1
District percent of school board elected	.88	.32	0	1
District percent of adults employed by school system	3.96	1.10	1.17	7.32
District policies are collectively bargained	.71	.46	0	1
District student racial makeup (percent non-white)	.60	.26	.10	.98
District graduation rate	62.61	12.8	34.4	90.1
District enrollment (log student enrollment)	11.15	.85	8.16	13.83
<hr/>				
State teacher union density	.54	.25	.10	1.17
State scope of collective bargaining	.34	.22	0	.64
State teacher union political activism (\$)	.12	.01	.005	.037
Governor appoints state chief school officer	.22	.42	0	1
Governor appoints state board of education	.64	.48	0	1
Governor appoints both chief and board	.86	.67	0	2
Republican legislature	33	44.73	0	100
Republican governor	47.5	45.81	0	100
State graduation rate	71.16	8.16	45.4	83.3
State education spending	3.622	.59	2.2	5.2
State student racial makeup (percent non-white)	.35	.18	.05	.8
State enrollment (log student population)	13.3	1.04	11.35	15.67
State log per capita personal income	10.4	.14	10.11	10.77
State public opinion (support for school vouchers)	46.41	3.89	37.59	53.93

Appendix D: Percentage of Campaign Contributions Contributed to State Candidates for Political Office by State's Largest Teacher's Union (1998-2006)

State	Total Percent	State	Total Percent
Alabama	3.15%	Missouri	0.31%
Alaska	0.18%	Montana	0.71%
Arizona	0.25%	Nebraska	3.29%
Arkansas	0.47%	Nevada	2.87%
California	1.06%	New Hampshire	0.22%
Colorado	1.21%	New Jersey	2.56%
Connecticut	1.05%	New Mexico	0.68%
Delaware	0.28%	New York	0.57%
Florida	0.55%	North Carolina	0.37%
Georgia	0.38%	North Dakota	2.83%
Hawaii	1.03%	Ohio	1.04%
Idaho	1.95%	Oklahoma	0.40%
Illinois	3.23%	Oregon	3.69%
Indiana	3.37%	Pennsylvania	1.54%
Iowa	0.92%	Rhode Island	1.69%
Kansas	1.06%	South Carolina	0.18%
Kentucky	1.60%	South Dakota	1.17%
Louisiana	0.59%	Tennessee	1.07%
Maine	0.27%	Texas	0.61%
Maryland	0.20%	Utah	2.96%
Massachusetts	0.22%	Vermont	0.05%
Michigan	1.17%	Virginia	0.38%
Minnesota	0.53%	Washington	0.65%
Mississippi	*data not available	West Virginia	1.74%
Missouri	0.31%	Wisconsin	1.00%
New Mexico	0.68%	Wyoming	3.18%
New York	0.57%		

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