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UNIVERSITY OF CALIFORNIA, SAN DIEGO

**Voting Alone: The Effects of Secret Voting Procedures on Political
Behavior**

A Dissertation submitted in partial satisfaction of the
requirements for the degree
Doctor of Philosophy

in

Political Science

by

Scott M. Guenther

Committee in charge:

Professor James Fowler, Chair
Professor Samuel Kernell, Co-Chair
Professor Julie Cullen
Professor Seth Hill
Professor Thad Kousser

2016

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The Dissertation of Scott M. Guenther is approved, and it is acceptable in quality and form for publication on microfilm and electronically:

Co-Chair

Chair

University of California, San Diego

2016

DEDICATION

To my parents.

EPIGRAPH

*Three may keep a secret,
if two of them are dead.*

– Benjamin Franklin

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ABSTRACT OF THE DISSERTATION

Voting Alone: The Effects of Secret Voting Procedures on Political Behavior

by

Scott M. Guenther

Doctor of Philosophy in Political Science

University of California, San Diego, 2016

Professor James Fowler, Chair
Professor Samuel Kernell, Co-Chair

Many argue that institutional rules can forcefully shape the calculus of voters and the individuals seeking their vote. In this dissertation I explore how a specific electoral rule - vote secrecy - can significantly alter the extent voters take into consideration the preferences of other political actors leading to substantial changes in political behavior. In three cases spanning time and political context, I examine how changes to secrecy rules filter and amplify voters' interpersonal considerations. In Vermont town meetings, where public voting was historically the norm, communities'

adoption of secret voting produces a sharp drop in support for public schools. The decreased education spending following the transition to secret voting is greatest in communities where most voters do not have school aged children, illuminating how secret voting allow voters to hide their self-interested vote choice. The impact of electoral rules on social pressure and political outcomes is not exclusive to voting patterns in town meetings. I find House committee chairs report bills more representative of the majority party caucus following the adoption of secret votes in 1973 for their reappointment elections. The finding suggests that the power of legislative parties to engage in agenda setting is contingent not only on the rank-and-file's ability to effectively monitor and sanction wayward committee chairs, but also on committee chairs inability to observe the opposition against them. Finally, in examining the adoption of the secret ballot in the late nineteenth century for state and national elections I find evidence that public voting boosted turnout even in the absence of incentives for party mobilization incentives. Increased transparency of voting prior to the adoption of the secret ballot appears to have increased adherence to social norms for civic participation and engagement. Collectively these findings illustrate the multifarious impacts ballot secrecy can have on voter behavior.

Chapter 1

Introduction: Secrecy and Voting

Secret voting is the most frequent form of political expression in modern democracy. But the use of a secret ballot for the selection of elected representatives belies the wide array of voting procedures employed to aggregate and translate voter preferences. Though a voter for any national election will enter into a polling booth accompanied by only their thoughts, in nearly every other step of the democratic process political actors make choices in public. Citizens, their representatives, and their bureaucratic delegates often decide not from behind the veil of secrecy afforded by an anonymous paper ballot, but in a manner that is in some way transparent.

Elected officials, from city councilors to members of Congress, overwhelmingly vote publicly. Similarly, laws frequently require some degree of transparency in bureaucrats' decisions. Citizens' decisions to vote, to donate money, and to burnish yard signs and bumper stickers are all transparent acts. In a variety of political settings outside the national election cycle, from Iowa's Democratic Presidential Caucus to New England town meetings to juries across the country, everyday citizens debate, haggle, and vote without full secrecy protections. Indeed, participation in the earliest

democracies rarely occurred behind secret voting procedures. Both Athenian and Roman democracy employed public voting, whether by citizens or representatives. Prior to the twentieth century public voting, in one form or another, was the norm in most democracies.

The modern democratic state employs a variety of decision rules, from voting procedures to bureaucratic decision making rules, that ensure varying levels of secrecy to the political preferences of political actors. Despite the manifest differences between secret and public voting on the transparency of individual decisions, few systematic examinations of their consequences exist. Fewer yet spell out the myriad ways these rules governing transparency of decisions may influence political actors to behave differently. There is no common language for understanding the differences in voter behavior across the spectrum of voting transparency. This project begins with trying to better understand the complex ways secrecy and transparency can affect political behaviors and political outcomes. Doing so provides a framework for understanding how moving between secret to public decision making procedures alters behavior and when the consequences of these shifts matter.

1.1 History of Secret Voting

The promise of democratic governance is that the preferences of citizens motivate the state to take action. In its ideal form, a democratic state would solicit the wide ranging intelligence and special knowledge of its citizens in crafting optimal public policy. Though the mechanisms by which democratic institutions aggregate the preferences of the citizenry are infinitely diverse, a unifying tenet of democratic theory is the wisdom of collective preferences. Even when the quality of inputs into

the system may be low, the outcome may still approximate the ideal. But involving all citizens in collective decision making requires institutional procedures that inevitably produce tradeoffs in the aggregation and representation of citizen preferences. In fact, the modern democratic norm generally limits the degree to which citizens engage directly in the selection of policies, instead relying on elected representatives to translate and express the voice of the people.

The expansion of the electorate participating in representative democracy was critical to changes in vote secrecy during the development of the democracies in the nineteenth century. Prior to the wide adoption of the Australian ballot - named such for Australia having first implemented secret voting in 1856 - in the late nineteenth century, citizens would either publicly declare by voice their vote intentions or political parties would print and distribute ballots for voters to take to the polls (Bourke and DeBats, 1977). In either case the voting process was transparent. But the electorate reflected a narrow, often landholding and male, slice of the total population. With electorate expansion to lower classes in the late 19th century, ballot secrecy soon followed. But the reasons why are complicated. The relationship between expansion of the electorate and vote secrecy protections for two diverging reasons.

On one hand, secrecy of voting allowed newly enfranchised voters to vote against the wishes of elite actors already engaged in the political process. Proponents of the Australian ballot argued that vote secrecy enhances the democratic process by protecting citizens from coercion and other illicit activities such as bribes and threats. Progressive reformers also believed ballot secrecy would reduce the ability of machine bosses to buy votes and intimidate voters (Argersinger, 1992; Keyssar, 2009). As a result, secret voting allowed voters are able to express their true preferences in a way

that existing public voting systems could not.

But on the other, One historical reason for public voting was the technical difficulty of administering a secret ballot to an illiterate population. Thus adopting secret voting was a tool to disenfranchise illiterate voters from participating. For this reason, the secret ballot was adopted in the South - along with literacy requirements and poll taxes - as a way to disenfranchise African Americans (Kousser, 1974). Similarly Gingerich (2013) finds that adoption of the Australian ballot in Brazil was motivated by a desire to disenfranchise illiterate and poor voters. In a cross country analysis of secrecy protection reforms Przeworski (2015) finds that as long as the voting population remained homogenous in terms of income and property ownership, voting tended to remain public. In the end, the simultaneous expansion of the electorate and secret voting was thus motivated by strongly countervailing motives. Regardless of the underlying motivation for adoption, implementation in the was swift. In the US, the first use of the Australian ballot was in municipal elections in the mid-1880s. But the spread of the secret elections was swift. The first statewide adoption occurred in 1888. By 1892 75 percent of the states with 72 percent of the voters had adopted secret voting, and those proportions rose to 89 percent of the states with 92 percent of the voters by 1896 (Kleppner, 1982). By 1912, only four former Confederate states had not yet introduced it.

Two important causal questions arise when considering the switch from public to secret voting practices: What led to the adoption of this reform? What are the effects of the reform? The preceding section offers a generalized answer to the adoption question. And the consequences of reform are similarly complicated. The following section outline conceptual issues for understanding the difference of public

and private political actions. To the extent the questions of cause and effect are inter-related, in that the voting system was chosen with the intent to alter behavior, how might a reform driven by strategic concerns also produce unexpected or unintended effects? The present project bridges the literature linking institutional arrangements and voting behavior with the body of work investigating social influence and political decision making, such that both purposive and actions. By taking advantage of variation in electoral rules that mediate vote secrecy from potential social influences this dissertation provides a better understanding into how, when, and to what degree social considerations affect voting decisions more generally.

1.2 Conceptual Issues

A voting procedure ensures secrecy if it is impossible for a voter to communicate authoritatively to others how she votes, and thus impossible for others to shape her behavior. A political action is minimally public if at least one additional person beyond that individual taking the action is aware of the individual's choice. Conversely, an act is maximally public if no barriers are present to any individual's observation of the political act. In practice these barriers can be physical, temporal, or possibly even perceptual. Physical barriers - like that of a polling booth or secret ballot - mediate secrecy in obvious ways. Preventing visual inspection of an action reduces the transparency of the act. An additional barrier is one of time. Levels of secrecy can be guaranteed for varying durations of time. Financial disclosure rules for campaigns, for instance reveal donations in the last quarter of an election after election day giving donors during this period a level of anonymity prior to the outcome of the election. The nature of secrecy also involves a psychological component, in that

individuals' perception of an act's secrecy is as likely influential to their behavior as the true levels of secrecy. Gerber et al. (2013) show that the misperception of a lack of vote secrecy increases the likelihood of voter abstention in elections. Ultimately, the dynamics of secrecy and transparency of voting can be refined to "*Who knows what about whom when*".

To help clarify the variation in secrecy across democratic decision making rules consider two venues of secrecy that a rule may augment, that which is internal to decision makers (internal secrecy) and that which is external to decision makers (external secrecy).

1.2.1 Internal Secrecy

Internal secrecy refers to the degree a decision is secret among the participants of the decision making process. That is, if no other individual participating in the decision knows the decisions of others, a rule would provide high levels of internal secrecy. A voting rule can provide complete internal secrecy, the complete absence of internal secrecy, or somewhere in between. A vote for a member of Congress under current use of the Australian ballot has a high level of internal secrecy, in that no other participants decisively know the choice of fellow participants. Conversely, the recorded roll call votes taken by members of Congress have low levels of internal secrecy. Each member of the participating population is aware of every other member's vote choice. By comparison a voice vote on the House or Senate floor, though typically employed for broadly supported proposals where the outcome is all but certain, provisions a level of secrecy in between the absolute secrecy of the Australian ballot and the complete transparency of roll call vote. Though a member's immediate neighbors

may have a sense of how one voted in a voice vote, it would be virtually impossible for every member of the vote to simultaneously know the decision of every participant. If nothing else, the voice vote provides a level of plausible deniability, which is quite relevant to the second dimension of secrecy - external secrecy.

The internal secrecy of decision matters for a variety of reasons. First, there is information embedded in other people's choices. A voter can cue on the decision made by someone they regard highly or if that individual has greater knowledge about the issue. Second, participants to a decision may care less about the outcome of a decision than they care about maintaining consistency with others. Such bandwagoning behavior is common when the content of the decision is of relatively low importance. Third, individuals' reputations can likely stimulate decision making that takes into account the beliefs of others in the room. Lower internal secrecy increases the exposure of an individual's reputation. Each of these considerations illustrates the different cognitive processes involved when decisions in a more public manner. This is not to say similar processes are not involved in the calculus underlying private decisions, but rather the degree to which these considerations arise increases as a function of transparency for the typical individual.

1.2.2 External Secrecy

External secrecy is the degree to which an individual's choice is known to those individuals who are not participating in the decision making process, or are in other ways external to the final tabulation of votes. As with internal secrecy one can characterize a voting procedure as providing higher or lower levels of external secrecy. For example, the typical Australian ballot election provides a high level of external

secrecy, in addition to its provision of high internal secrecy previously mentioned. No individual or entity can decisively know the content of a voter's choice. Not all electoral procedures provide high levels of external secrecy, however, as most elected representatives, whether city council members or senators, vote with the expectation that their vote choice is transparent to all individuals.

The variation by which institutional designers go to structure the unveiling of vote participants' decisions is far more complex than simply the presence or absence of a blanket protection of vote secrecy. Bifurcating the provision of secrecy along the internal-external dimension offers a simple, but intuitive way for understanding the multiple influences the voting rule exposes a voter to.

1.3 Electoral Regimes

A dizzying array of voting rules for translating voter preferences exist in the modern democratic state. Not every voting procedure varies in meaningful ways with respect to decision secrecy. But among those procedures that do, a surprisingly breadth of secrecy protections exist. Table 1.1 references a selection of cases where voting rules produce varying levels of internal and external secrecy. In the far from exhaustive list of procedures, nearly every possible arrangement of secrecy is achieved, ranging from complete protection of anonymity in perpetuity to immediate full disclosure to situations that delimit protection to just participants or just the audience. Of equal importance, however, is that the variation in vote secrecy exists across each dominant venue of the political process, from citizen voting to representative voting to delegated decision making. The following section highlights a few noteworthy procedures in each domain of decision making.

1.3.1 Citizen Participants

With its rapid and nearly ubiquitous adoption in the US and abroad around the beginning of the twentieth century, the **Australian ballot** ushered in an era of widespread secret voting. The Australian ballot provides secrecy to voters through two important mechanisms. First, the ballot is printed by the state, eliminating the role of political parties in the creation and dispersal of the ballot. In the era preceding Australian ballot adoption in the US, political parties printed unique ballots with only their candidates listed. Unique colors, shapes, and sometimes perfumes were employed to aid party poll watchers in determining the voter's party support when arriving at the polling station to deposit the ballot (Argersinger, 1992).

In many towns across New England citizens gather annually to participate in one of the oldest forms of democratic participation: the **town meeting**. These plebiscite assemblies have managed municipal operations in towns dating back to before the American revolution. More importantly, participating citizens routinely vote by voice or show of hands on vital municipal issues ranging from the passage of school budgets to line-item appropriations in the town budget. These public votes offer minimal protections of secrecy. Within the assembled voters a public vote by show of hands may effectively serve as a roll call vote, in the sense that the procedure offers no internal secrecy. Voice votes may offer slightly greater internal secrecy, to the extent other participants can hear the individual voices of their peers. Though there is no formal roll call in the town meeting for recording individual vote choices, town clerks keep minutes from the town meeting, which by law are later disseminated to town residents. The names of the handful of voters who find themselves on the short end of a lopsided vote, especially in smaller towns, are often recorded in the

minutes. In such situations, the voting procedure provides neither the internal nor external secrecy for participating voters. The public voting procedures still employed in town meetings guarantee no secrecy even if in practice anonymity of the crowd allows voters plausible cover in many circumstances.

1.3.2 Elected Participants

Recorded **floor votes** in Congress guarantee neither internal nor external secrecy. This is the hallmark of most (though not all) republican legislatures. The transparent voting rule allows for both accountability to representatives' electors (external transparency), in addition to their fellow members of the assembly (internal transparency). The development of party whip organizations to ensure party-line voting on behalf of its members suggests that the internal transparency afforded by floor roll call votes is at least as important as the external transparency by which voters may hold accountable members. The multiple levels of accountability leave members of Congress particularly exposed to the cross pressures of party fealty and district representation. Though legislative parties often structure vote sequences for the strategic position-taking interests of their members (Mayhew, 1974) the public roll call vote can and often do put legislators in a bind of satisfying competing interest.

A less prominent voting procedure in legislative bodies is the **voice vote**, but no less common, is the voice vote. A voice vote on the floor offers considerably less transparency both internally and externally than the roll call vote. Whereas roll calls leave both constituents and voting participants full informed about the decisions of each member, the transparency of a voice vote extends only so far as a member's shouting carries. Though the practice of voice voting is typically reserved for un-

controversial items on the agenda over which individual accountability is relatively unimportant, the potential exists for House and Senate leaders to strategically employ voice votes to obfuscate the sources of support for a proposal. One case of this practice occurred for a 2010 extension of sanctions on Iran, which passed in the Democrat-controlled Senate over the objections of President Obama (Rozen, 2010). Senate Democrats leery of going on the record in opposition to President Obama's Iran policy, structured the passage of the sanctions by voice vote to obscure individual responsibility.

1.3.3 Delegated Participants

The variation of secrecy protections afforded by voting procedures is perhaps no greater than for the decision making of delegated and appointed individuals. The modern **jury deliberation**, where twelve appointed citizens meet behind closed doors to assess the guilt and innocence a plaintiff and defendant, is highly secretive externally, in that the decisions of no single juror are definitively known to those outside the jury room. Internally, however, the process is much more transparent with each voter fully informed of one another's preferences by the end of the deliberation. The practical implications of this internally public deliberation, at least as shown in experimental work, is that vote transparency influences pivotal jurors for building coalitions, but also has the effect to increase general leniency with respect to culpability (Davis et al., 1989).

Expert advisory committee voting in the Food and Drug Administration since 2007 provides a unique example with low external secrecy and high internal secrecy. In 1972 the Food and Drug Administration (FDA) adopted the use of advisory

committees to provide outside council on delicate evaluations, such as in the cases of approving controversial drugs, noteworthy diseases recommendations, or on cases when available science is ambiguous. These 11-person FDA committees comprise of industry, science, and public health experts. Fundamentally, the deliberations and votes of the committees are intended to be public, but that same publicity in the moment of voting introduces opportunity for conformity. Urfalino and Costa (2015) identify a 2007 reform that replaced the previously employed public voting procedure with a dual system of ex ante secrecy and ex post transparency. In this “secret-public” process members of the committee vote simultaneously and publicly. After the simultaneous vote, which committee members observe, each member of the panel then provides an oral explanation behind their choice (Urfalino and Costa, 2015). Though the act of voting remains public, the influential aspects of the preference transparency are reserved to the accountability of voting yea or nay. The process purposefully provides low levels of external secrecy as well as high levels of internal secrecy up to the point the committee votes.

Transparency in bureaucratic decision making may have clear benefits by making members more accountable to outside observers. But a downside to this accountability is the reputation costs of staking out minority positions. In another case of bureaucratic reform, publishing records of internal deliberations in the **Federal Reserve Open Market Committee** increased members’ reluctance to offer dissenting opinions (Meade and Stasavage, 2008). The fear of appearing out of step with the majority to an external audience likely limits the full breadth of expression.

Figure 1.1 illustrates the range of internal and external secrecy possibly afforded voters under several voting procedures. We can identify a decision rule that

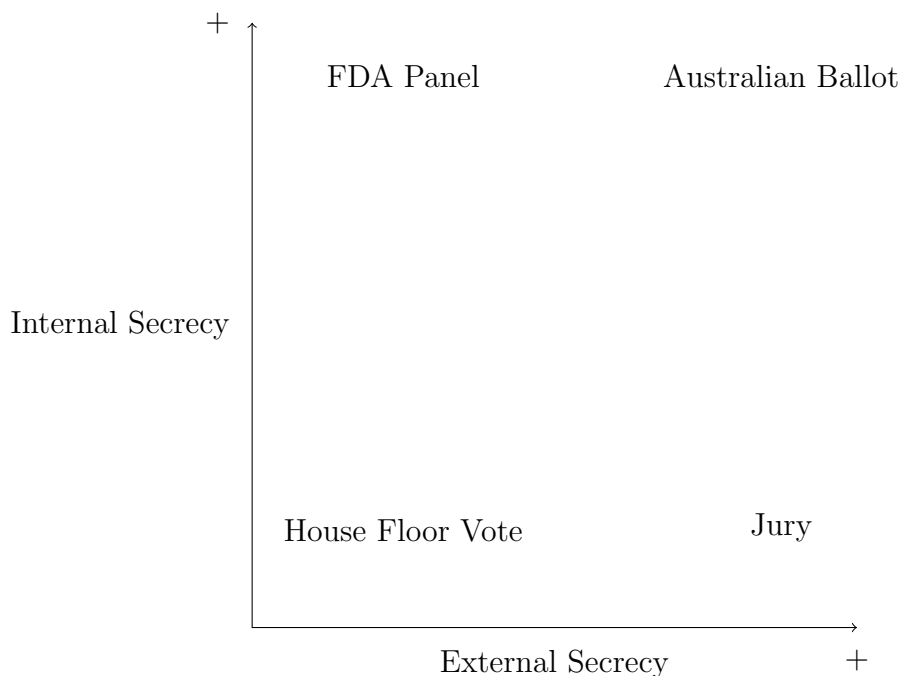


Figure 1.1: Internal and External Secrecy of Voting

provides in turn high and low levels of internal and external secrecy. Ultimately the degree to which a decision is secret is not simply a function of the degree of internal and external secrecy, but also the size of the population, the level of importance to the voter, and whether the procedure differentially affects the influence of important actors. How these interact to affect voters depends partly on the nature of the social influence impressed upon the individual. In the next section I review the underlying processes of social influence and connect these effects with the changes in secrecy and publicity provided by decision making rules.

1.4 Influence

What is meant by social influence? Any number of behaviors and effects can be attributed to social influence, but defining the exact mechanisms can prove difficult.

Social influence, by definition arise from person-to-person interactions. That such an interpersonal interaction produces some manner of influence presupposes that the interaction is consequential in the first place. But given that a social interaction is consequential, what mechanisms are involved? Social psychology points to several important channels internal to social influence. First, social interactions are a well-understood mechanism for learning new information - e.g. Bandura and McClelland (1977). Social interactions allow for an actor to acquire new information, or rely on the cues given by the better informed. Second, social pressure is a distinct form of influence. Under the mechanism of social pressure the actor is not necessarily learning new information from the social actor but nevertheless alters their behavior. The ability to monitor behavior is essential to this mechanism, as shown in the famous Milgram (1974) experiments on obedience to authority. A third mechanism of social influence is subliminal cues where an actor is unconsciously altering their cognitive processes in the presence of others, but would not be able to attribute the changes to new information or overt pressure. In such a case an individual may not be aware of the origins of their own opinion shift, unless forced to engage in a more concerted cognitive deliberation (Damasio, 1999).

Social interactions prove consequential when new socially-derived considerations enter an individuals mind and that these considerations alter decisions and behavior. When and why social interactions may prove influential to an actor extend beyond the scope of this discussion, but a stylized version of social interaction can help disentangle the formative from uninformative interactions. Social influence models typically treat opinion change as a function of an actor's interaction with their social network (Friedkin and Johnsen, 1990). Social influences should be more

apparent on voter choices if the aggregate opinion in their network while making a selection is predominantly in one direction over the other.

The influence of others' opinions on a voter's choices is not uniform. Rather, each network member's influence on an actor is affected by his or her social proximity to the voter and his or her relative prominence in the actor's network. More socially proximate network ties family, friends, discussion partner's have greater influence on decisions because of the higher weight given to those opinions by the individual. The more public a political behavior becomes as a consequence of institutional structure the probability an actor is subject to interpersonal influences of consequence increases. One can also expect to see electoral rules differentially obscuring or revealing particular parts of an actors network. Not only does the institutional structuring of social influence offer a new way of looking at institutional consequences for political behavior, but it also allows for a more robust test of what aspects of social influence are most consequential on voter's decision making. Findings from behavioral economics largely corroborate the relationship of network structure and decision making (Dawes, 1980; Andreoni, 1995; Güth, Schmittberger and Schwarze, 1982).

Institutionally revealed information about the preferences of the voter's social ties serves as the pathway for mechanism of the social influence. Irrespective of the mechanism, the degree to which a voter interested in the opinions of others or would be persuaded by the opinions of others is capable of cueing off of their network ties is bound by the institutional circumstances in which their decision is made. Knowing that others know (or will soon be capable of knowing) one's political decision may also factor into a decision. A voter's public decision (or simply the belief that their decision may be revealed) can serve to reveal new information to their social ties.

1.5 Outline

The remaining three chapters explore specific changes to voting procedure affecting secrecy. Observing political behavior over the course of these reforms show the way the procedures filter and amplify interpersonal considerations and impact political outcomes. In Chapter 2, I exploit variation in the adoption of secret balloting rules in Vermont towns where municipal budgets are amended and enacted by citizens attending annual town meetings. The data show the adoption of secret voting procedures in these town meetings leads to reduced social conformity in voting and a sharp and lasting decline in the financial support for public schools. I further find that the decrease in education spending following secret ballot adoption results in lower standardized test scores in the public school system. The spending disparities are greatest in communities with a small share of students, which suggests that secret voting rules allow voters without children to hide their self-interested vote choice. The results demonstrate how electoral rules alter the roles of monitoring in the management of common pool resources like education. One fear that arises under the public monitoring granted by public voting is whether a type of hostage taking occurs where a minority of voters extract exorbitant concessions from an acquiescing majority. The pattern of school spending suggests this is not the case.

Having shown the consequences of public voting in the uncommon setting of town meetings, I pivot to examine more traditional contexts of political contestation. In Chapter 3 I assess the impact of adoption of secret elections in the majority party caucus for House committee chairs. Prior to 1971 congressional committee chairs were selected from the majority party following a norm of seniority. In 1971, the committee chairs were put up for a vote, but one which was not secret. At the

beginning of the next Congress two years later, the party caucus switched to secret ballot votes. Drawing on the legislative histories of tens of thousands of congressional bills introduced before, during, and after this period of reform, I detect a unique shift in the composition of bills reported out of committees toward the preferences of the majority party only once voting is made secret. Substantively, the secrecy reform allowed the majority party to tighten its grip on the ideological composition of bills reported out of committees. Regardless of whether committee chairs were replaced or retained, the secrecy rule strengthened the ideological fidelity of the chairs by protecting backbench members from the potential retribution following their selection. The results suggest that the power of legislative parties to engage in positive and negative agenda setting begin with the power to effectively monitor and sanction committee chairs. Building on theories of legislative party behavior, these findings are an important contribution to our understanding of how institutional changes reinforce party strength and may exacerbate the effects of political polarization.

Lastly, in Chapter 4 I examine the adoption of the Australian ballot in the late nineteenth century for national elections. The test provides a more generalizable case of how changes in secrecy alter interpersonal influences during the voting process. Prior to Australian ballot adoption, political parties printed and distributed unique ballots to voters and then monitored their return to polling stations. Prevailing research shows that electoral turnout dropped following reform, and broadly attribute this change to the declining efficiency of party mobilization strategies like vote buying. To test whether the reform also produced changes in the social motivations to participated I examine the effects of reform on voter turnout in uncompetitive elections where there would be little demand for parties to spend resources mobilizing

voters. For this test I employ a hierarchical model that nests state house districts from eighteen states within congressional districts to exploit variation in down ballot mobilization effects. The results show that the post-reform decreases in turnout often occurred independent of the incentives for party mobilization. Moreover, the adoption of ballot secrecy also appeared to have increased the competitiveness of local elections, suggesting increased social conformity in the vote choices of voters when voting publicly.

1.5.1 A Note about the Chapters

The structure of each of the subsequent chapters was written to stand as an independent article. Each chapter begins by introducing a specific question in the context of relevant scholarship related to that field of inquiry. As the preceding discussion of Chapter 1 emphasizes, however, each study shares a common theme - the consequence of vote secrecy on political behavior. The centrality of vote secrecy to the observed phenomena varies across the chapters, as does the nature of secrecy's influence on political behavior.

Table 1.1: Internal and External Secrecy by Voting Rules

Case	<i>Actors</i>		<i>Secrecy Level</i>	
	Participants	Affected Population	Internally	Externally
<u>Self-selected Individual</u>				
Australian Ballot Vote	Registered Voters	State Citizens	High	Low
Traditional New England Town Meeting	Registered Voters	Town Residents	Low-Medium	Medium-High
<u>Elected Individual</u>				
Congressional Floor Vote	Member of Congress	Constituents	Low	Low
Congressional Voice Vote	Member of Congress	Constituents	Medium	Medium
Italian Parliamentary Vote (1979-1988)	Member of Parliament	Constituents	High	Low
<u>Delegated Individual</u>				
Jury	12 Selected Jurors	Defendant & Plaintiff	Low	High
FDA Advisory Committee (2007-current)	11 Panel Appointees	Public	Medium-High	Low
Open Market Committee (1976-1993)	Federal Reserve Board	Public	Low	Medium-High

Chapter 2

Vote Transparency and Political Outcomes in Vermont Town Meetings

“Town meetings are to liberty what primary schools are to science; they bring it within the people’s reach, they teach men how to use and how to enjoy it.”

Alexis de Tocqueville (1835)

2.1 Abstract

Adoption of vote secrecy stands as one the most important reforms in modern Western democracy, due largely to its protection of voters from unscrupulous political machines. The practice of public voting, however, continues on today in a variety of settings and offers an opportunity to better understand how institutional rules governing vote secrecy affect interpersonal influence and its impact voter deci-

sion making. Drawing on insights from behavioral economics, which show a tendency toward greater willingness to give and to cooperate in public decisions, I hypothesize that public voting allows voters to overcome the free rider problem that results in the under provisioning of public services. I test this theory in one of the oldest and most venerated American institutions: town meetings. Since Vermont's founding in 1791, local governance has been conducted by annual town meetings open to all registered voters. In the 1970s, towns began introducing secret voting procedures for budget votes in the town meetings. Exploiting the variation of voting rule transition, I find that the adoption of secret voting for the passage of a town's school budget leads to significant \$420 per pupil decrease in local education spending, lower property tax rates, and ultimately lower standardized test scores. The difference in education spending between public vote and secret vote towns is greatest where only a minority of voters are parents. The results open a new field of inquiry regarding how institutional rules structure the social context of political decision making.

2.2 Introduction

The adoption of the Australian ballot in the U.S. at the end of the nineteenth century was a transformative event for American democracy. By creating a state-printed ballot, the Australian system gave voters the opportunity to vote for a party of their choice free from the influence of political machines. This newfound vote secrecy made important strides in limiting the untoward pressure of political machines seeking to buy voter loyalty and intimidate defecting party loyalists. Secrecy of the vote has come to be viewed as an essential feature of the American political system.

It is easy to forget that public voting is not altogether dead. Nearly all elected

representatives vote publicly, as do many institutional boards and Iowa caucus attendees. Throughout much of rural New England public voting remains in the annual town meeting, a form of municipal governance rooted in the congregational protestantism of the region's early history (Zimmerman, 1999). In these annual meetings, citizens frequently cast binding votes publicly allocating funding to the core responsibilities of local government. Recently, some towns have used secret voting procedures for deciding these issues. Because of this variation in voting rules between towns and across time, the modern town meeting offers a unique opportunity to better understand what influence transparency and secrecy respectively have on voter behavior.

Precisely how the secrecy of choice influences the behavior of voters is rarely studied in modern American politics. The absence of research does not reflect a lack of theoretical interest. The range of theoretical expectations on the effects of private and public decision making in politics suggests broad impacts of secret ballot rules: common pool resource management (Ostrom, 1990), voter mobilization (Gerber, Green and Larimer, 2008), deliberation (Mansbridge, 1980), social information (Beck et al., 2002), altruistic behavior (Morton and Ou, 2013), and clientelism (Stokes, 2005). Yet how changing electoral rules may affect these political and behavioral outcomes is unclear. Under what circumstances will casting a vote publicly affect the voter? How does this public action influence the preferences of other voters? Can ballot secrecy mitigate social influence and conformity to produce measurable changes in policy?

I begin the next section (II) by reviewing the disparate veins of scholarship on the social influences on preferences and behaviors and on the institutional structuring of voter decision making. In their intersection I identify an under-appreciated field of inquiry regarding the institutional determinants of social considerations during polit-

ical decision making. In Section III, I develop an intuitive model of political decision making that incorporates a mechanism for social influence to alter preferences and a way in which institutional rules can amplify or dampen the salience of social considerations. This stylized version of decision making in public versus private settings hews closely to essential features of the Vermont town meeting. The theory provides choice dependent, tractable hypotheses for empirical testing on the relationship between voting rules and behavioral outcomes.

In section IV, I justify the use of Vermont town meetings to test the broader argument that vote secrecy may alter policy choices by insulating voters from social pressures. I outline the data necessary to test these claims and the time series cross sectional design used to test the theoretical model. Section V presents several sets of findings on the impact of town meeting voting rules on policy outcomes. I show that the adoption of secret voting for school budget passage leads to significant reductions in the local property tax rate dedicated for public education. This in turn significantly decreases per pupil spending and marginally reduces standardized test scores. Robustness analyses show that the rule switch for school budget votes has no impact on other non-school municipal spending decided in the town meeting. I conclude in Section VI by situating the findings in the existing literature, discussing their inferential limits, and the opportunities for future study.

2.3 Institutional Structure of Political Behavior

While many argue that electoral institutions shape the strategic calculus of voters and the parties seeking their vote, there is a dearth of research asking how these same institutional arrangements affect behaviors originating from interpersonal

interactions. The gap in the literature is rather surprising given the long history of research examining the role of social context on voting behavior (Gosnell, 1926; Berelson, Lazarsfeld and McPhee, 1950; Campbell and Center, 1960) and the role of institutions influencing voter behavior (Downs, 1957; Cox, 1997, 1999). The intersection of these well-established fields, however, creates a host of new questions the literature on political behavior and electoral structures leave unanswered.

Analyses of voter behavior have well established that more proximate social ties correlate closely with individuals' political discussion partners and vote choice. The political attitudes of conversation partners (Beck et al., 2002; Huckfeldt and Sprague, 1987), their degree of political sophistication (Kenny, 1992), and the resulting level of political homogeneity found within a discussion network (Huckfeldt, Johnson and Sprague, 2002; Mutz, 2002) all significantly predict a voter's participation and candidate choice. The more politically engaged, sophisticated, and ideologically homogenous a potential voter's peers are the more likely that individual will conform with their peers in the decision to and content of their vote. Similarly, recent field experiments on voter mobilization provide clearer causal inference on the link between individuals and their social referents (Gerber, Green and Larimer, 2008; Bond et al., 2012; Gerber and Rogers, 2009; Nickerson, 2008). Across these GOTV studies, the ability to monitor and to be monitored stimulates greater participation. Yet how institutions structure these various social forces lies beyond the scope of their analysis.

On the other hand, studies of voter behavior that begin with institutional structure typically give scant attention to the potential interplay between electoral institutions and the social context they structure. The volume of previous work

focuses primarily on incentives of parties to mobilize voters and voters' incentives to make their vote count. Variation in electoral laws shape both the strategic calculus of political parties to mobilize voters (Aldrich, 1995; Cox, 1999; Engstrom and Kernell, 2005) and the incentives of voters to vote strategically (Abramowitz, McGlennon and Rapoport, 1981; Abramson et al., 1992; Cox, 1997).

Only recently have scholars turned to asking how electoral rules can stimulate behavior by means other than increasing the strategic incentives for participation. Indeed, voter indifference toward cues showing their vote may be pivotal for the election outcome indicates many voters choose to participate for reasons unrelated to affecting the outcome (Enos and Fowler, 2014). But in field experiments that prime voters with information about electoral rules affecting vote transparency there are distinct consequences for increasing the salience of voting privacy. Providing assurances about ballot secrecy, which would prohibit monitoring by others, served to stimulate turnout (Gerber et al., 2013). Employing a similar design, Karpowitz (2015) found that informing registered voters about the public nature of the Iowa presidential caucus led to lower participation rates among message recipients. The studies reveal that when electoral rules affect non-strategic behavior, they do so in a manner that capitalizes on the social nature of voting.

Voting rules can also structure the social considerations of elite actors during decisions. Masket (2008) finds that a historical legacy of desk sharing and alphabetical seating in the California Assembly, coupled with public voting procedures, led to more moderate voting behavior among members sharing a desk with someone across the proverbial political aisle. The legislative cue-taking in this setting was dependent on the interpersonal transmission of information facilitated by proximity to opposing

political preferences, but also the capacity for those preferences to be made known and the response of the cue-taker monitored through public voting. The ability to monitor an actor's behavior may increase or decrease that actor's willingness to engage in the behavior, depending on the audience costs and credible signals they can send. Congressional committee chairs facing newly organized elections for their seats respond to the increased monitoring of their peers (Crook and Hibbing, 1985), and their caucus peers are only willing to vote against these powerful members once they can do so secretly (Sheppard, 1985).

Results from behavioral economics games provide evidence for when and how institutional rules may affect behavior and responsiveness to others. In the dictator game, where one participant must choose whether to share a portion of her received endowment with another player, providing more information about the recipient of the shared portion increases the participant's willingness to share (Cason and Mui, 1998). Similarly, when the structure of the game reveals more demographic information about the participant (the decider) to the other player other-regarding behaviors also increase (Andreoni and Miller, 2002).

The traditional public goods game, where participants individually choose to allocate a share of their money to a communal pot and which is multiplied and then redistributed to all players, has long been a staple in understanding collective decision making. Recent modifications to the traditional public goods game to incorporate voting procedures (as opposed to individual decisions) have been used to assess how ballot secrecy affects the altruistic tendencies observed in classic behavioral economic games. When compared to public voting procedures, the use of secret ballot for setting rules for allocation decreases the altruistic preferences in voters' decisions (Morton and

Ou, 2013). Observability in voting appears to make voters more socially conscious and less selfish in their expressed preferences. While elements of this voting game differ from the rules in Vermont town meetings, the core finding is instructive. Under the heightened social observation provided by public voting the propensity to vote purely in self-interest diminishes. Whether choosing between candidates or between public goods allocations, both are partially affected by similar social processes that play out in predictable ways given certain contextual characteristics.

Studies in comparative political behavior (Stokes, 2005; Nichter, 2008; Keefer, 2007) also theorize about the interplay between institutional rules and the context of voting. These analyses predominantly originate from the perspective of party strategy and not voter behavior. With limited political party activity in Vermont town meetings, the core finding of this literature - that violations of ballot secrecy increase vote buying activity - are difficult to assess.¹ Elsewhere, a series of examinations of institutions governing vote secrecy in European institutions found that adoption of secret voting in parliamentary proceedings decreases the support of majority MPs on critical votes (Giannetti, 2015). As for the structure of direct democracy institutions more specifically, in Switzerland, which employs a local participatory governance structure for certain decisions somewhat similar to Vermont's town meetings, voters redistribute income at similar levels whether voting through a representative or participatory institution (Feld, Fischer and Kirchgssner, 2010).

The hints of electoral rules shaping the social considerations during voting are scattered across the literature. Rarely, do they fall squarely under thumb. In the

¹Interviews with town moderators who have been active in Vermont politics for 40 years suggested that political parties do not play a significant role in the voting process. Some claimed that support and opposition on votes rarely fell on existing political lines. More commonly, the most prominent cleavage is old timers versus new comers.

following section, I address the subtle ways in which electoral rules affect behavior. In doing so, I develop a theory that rules governing choice secrecy can mediate the social considerations underlying a component of political decision making.

2.4 Theory

The theory I propose holds that electoral rules governing vote secrecy shape the intensity of social influence. Institutional rules that make a political behavior more transparent increase the likelihood a voter will be subject to interpersonal influences or subject others to their influence. Electoral rules that increase the observability of voter decisions increase the probability that an individual will encounter and interact with others. These interactions can produce new information relevant to voting or simply serve as a reminder of existing preferences, along with the potential to observe and monitor political actions. Consequently, variation of institutional rules governing choice secrecy differentially exposes voters to the beliefs and observation of others within their social network. Not only do institutions mediate social influences, but one can leverage the variation in outcomes to better understand the latent effects of social influence on voters' political decision making.

In traditional models of rational voting behavior, a voter gains utility by voting for a policy or candidate that is ideologically closest to her ideal preference, less the cost of voting and the benefits of voting not contingent on the electoral outcome. Yet from experiments we know that a strict personal utility calculation only partially explains voters' turnout decisions (Morton and Ou, 2013; Enos and Fowler, 2014). Self-interest only partially explains preferences for monetary allocations in behavioral games (Andreoni and Miller, 2002). Individual voting and distribution preferences

are rather partially a function of the beliefs held by other members of the voter's community also making a voting decision.

The degree to which others' preferences carry weight in the voting calculus of a voter is contingent on the ability of that voter and her alters to observe one another's voting. As a result, changes in electoral rules that increase levels of vote choice secrecy will mediate the impact of interpersonal influences. The more observable a political behavior, is as a consequence of voting rules, the greater the magnitude of interpersonal influences the voter feels. Changes in ballot secrecy provide a sweeping change in the observability of voting behaviors. Other electoral rules can differentially obscure or reveal particular parts of a voter's social context in the act of voting as well. Mail-in balloting, for example, makes the observability of voting much greater to others within a household and should in turn produce greater within-household vote choice homogeneity. As Masket (2008) observes in members of the California Assembly, cue taking during the act of voting is contingent on the proximity of a voter to their cues. If an electoral rule affects the observability of voting, or differentially shifts the proximity to other voters during the act of voting, social influence will have a greater affect on voter decisions.

2.4.1 Monitoring and Public Goods

Observability of the vote in public voting should also affect voters' willingness to support spending on public goods. While public goods are defined by their non-excludability, this does not mean that the benefits of that good are evenly distributed across a population at any given point in time. Long-haul truckers financially benefit from a well-maintained transportation infrastructure to a greater extent than daily

commuters. Import-export industries and defense contractors benefit from strong national defense more than other citizens. Even when increased provisioning of a public good may maximize welfare individual contributors may still suffer a net loss of utility. All these services are subject to free-riding in the modern state.

Though a voter may not legally shirk paying taxes to support public services, they can vote to reduce the level of spending toward that good. Doing so may result in an under-provisioning of public services when the demand for the service at any particular time varies greatly across a population. Public education is a canonical example of a public good whose demand varies between individuals, but more importantly across any individual's own life time (Stiglitz, 1974). A voter who reaps benefits from a marginal increase in education spending while his/her children are enrolled, may rationally prefer lower education spending once their children have aged out of the local education system.

While the benefits of public education accrue directly to those who receiving the education (or their families), property taxes may not reflect each citizens' share of the social return to having an educated citizenry. The asymmetry of public education spending to consumption makes it an especially attractive municipal service to examine the dynamics of vote secrecy and social pressure. If a vote for increased education spending fails under the secret ballot, opposition voters have plausible deniability. Voters whose self-interested preference it is to vote against increased education spending are not held directly accountable for their vote choice and escape the monitoring by individuals whose preferences may run counter to their own. This insulation from social disapprobation stands in contrast to the voting context in a public voting regime.

In public voting, social observation can alter the preference ordering of voters in at least three different ways. First, for a low information voter, public voting rules allow for a greater transmission efficiency of cues from opinion leaders, a well established heuristic for voters (Popkin, 1994; Lupia and McCubbins, 1998). Secondly, voters may also be more likely to bandwagon behind the perceived majority in a public voting environment (Nadeau, Cloutier and Guay, 1993; Morton and Ou, 2013). Finally, individuals who may privately vote against increase public goods spending may simply be less likely to do so in the presence of other voters out of fear of retaliation (Noelle-Neumann, 1974), or simply out of social reciprocity. In this scenario voters with school-aged children serve as a cue for other voters reliant on the availability heuristic (Tversky and Kahneman, 1973) to evaluate whether the changes to education spending are necessary. Because the marginal weight of a third and fourth pro-education cue only serves to reiterate a recently primed cognition, the marginal effect of public voting regimes should diminish as the size of the population who supports greater spending increases.

2.4.2 Hypotheses

The basic contours of this theory of public voting are displayed in Figure 2.1. Three elements are worth noting. First, as the share of voters who stand to benefit from greater spending for a government service increases, spending for that good will be higher. Second, public voting has a main effect of increasing support for public good spending relative to secret voting. Third, the difference in public goods provisioning between secret and public voting is greatest when the share of the population who stands to benefit from increased public goods spending is at its

lowest. The stylized model yields testable predictions for the effects of a change in the observability of votes on both the substance and procedures at each stage of legislative deliberations. I introduce more specific conditions for testing each prediction in the results section.

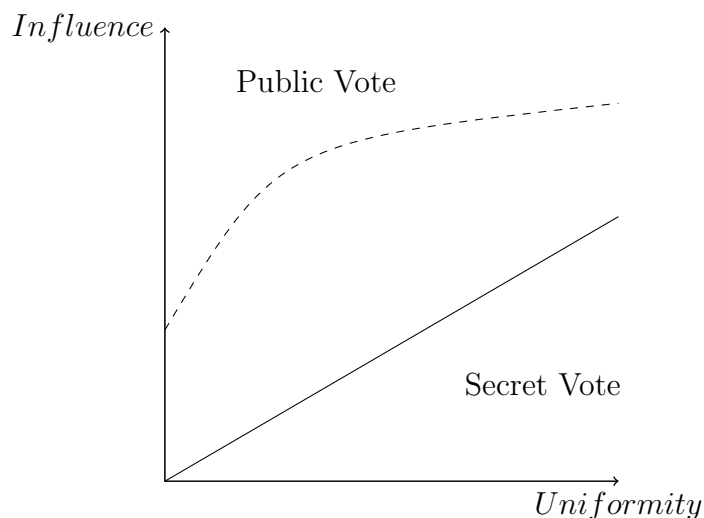


Figure 2.1: Social Influence by Ballot Structure Across Increasing Uniformity

Hypothesis 1: *Public voting increases support for public goods.*

Not only is the voter aware of others' vote choices, but she must also endure others' scrutiny of her choice on any given vote. Above the decision whether to vote or not, moving from public votes to secret ballots may also affect the content of a vote. By differentially exposing and shielding voters from the influence and monitoring of others, electoral rules shape the immediate context when voting. A secret ballot may not completely remove the voter from the influences of others. Voters may still choose to speak publicly about their preferences and, as various behavioral studies identify voters share their voting intentions with spouses (Nickerson, 2008), their friends (Bond et al., 2012), and their conversation partners (Berelson, Lazarsfeld and

McPhee, 1950; Mutz, 2002). Interpersonal influences produce voting contagion, but the matter of degree is shaped by institutional rules. One’s vote choice may be public information to some (i.e. friends and/or family) while also being private information to others (i.e. strangers). Nevertheless, in an open setting like that in a Vermont town meeting, the secret ballot effectively restricts the social network a voter’s decision is revealed to and similarly limits the voter’s exposure to the preferences of others.

***Hypothesis 2:** The difference in public goods provisioning between secret and public is at its greatest when the share of the population who stands to benefit from increased public goods spending is at its lowest.*

The intuition underlying this hypothesis originates from the fact that in a public voting environment it only takes a single cue to induce the social sanction for voting selfishly. Without the veil of secrecy, every voter in a public vote is “treated” when a single individual who will benefit from the increased spending is present. Whether or not it is their intent, that individual serves as a cue to the collective and has the ability to monitor their behavior. The marginal benefit of additional beneficiaries to serve as cues diminishes until a point where they are simply changing the outcome of the vote by changing the composition of the electorate.

2.5 Vermont Town Meetings

I test the influence of voting rules and political decision making utilizing an understudied variant of local government. Many municipalities in New England still employ yearly town meetings to conduct official business. While most other regions in the country use democratically elected mayors and city councils for budgetary decisions affecting municipalities, these town meetings make binding decisions that are

carried out by municipal employees. The usage of town meetings as a form of municipal governance varies across New England. However, Vermont, New Hampshire, Massachusetts, Maine, and New York all have towns operating town meetings.

Variation in the degree of control given to voters in the town meeting varies across states (Zimmerman, 1999), but issues can include everything from the election of town officers to the passage of symbolic resolutions. I focus on Vermont because voters attending town meetings across the state vote on similar issues, but do so under starkly different voting rules. A key purpose of the town meeting in Vermont is to determine the annual budget allocation for the municipality and for the local school system. Every town meeting passes a town budget and school budget. In both cases, some town meetings employ public voting while others use secret voting procedures to pass these budgets.

Generally Attendance rates for town meetings decrease as population increases, likely a response to the marginal return on the investment of attendance (Bryan, 2010). Also, as towns increase in size, they are more likely to switch to secret voting rules to expedite the meeting process. Bryan also notes that participation in the town meeting skews towards men, but that ratio has improved over time. Similarly, the Vermont town meeting observed in Mansbridge (1980) suggests that the deliberative process of the town meeting reflects the pre-existing inequities of power in the community. Nevertheless, the town meeting as a deliberative process has proven to be responsive and durable. A low hurdle to show this responsiveness is found in New Hampshire towns, where meetings strategically lowered local public education spending following increases in intergovernmental grants (Lutz, 2010)

I restrict my analysis to the town meetings held in Vermont to exploit natural

variation in the voting rules held by each state. Vermont contains 255 municipalities in fourteen counties. Of these municipalities, 237 are towns, nine are cities, five are unincorporated areas, and an additional four are gores. All 237 towns rely on town meetings as their sole form of democratic municipal government. The nine cities of Vermont, which remain fixed in number during the period of this study (1970-present), all operate mayoral-council municipal governments common to many other parts of the country. Unincorporated areas and gores have no municipal government. These communities were once granted town charters that the Vermont legislature later revoked due to lack of residents. While still technically towns, gores have no local government; their affairs are managed by a state-appointed supervisor. Figure 2.2 maps the townships of Vermont and their voting rules in 2014. In the 2010 census, the average population of the 237 towns with annual meetings was 2,081, with only three towns with greater than 10,000 residents.²

A typical town meeting operates in the following manner. All town meetings statewide occur on the first Tuesday of March (Bryan, 2010). An elected selectboard and school board draft the town budget and school budget, respectively. Any line-item appropriations and/or amendments to the budgets can be made with as few as five signatories and posted to the official warning sent out a month prior to the meeting. Additionally, amendments to school and local budgets can be proposed in the town meeting so long as they are germane to the item under discussion. An elected moderator overseeing the proceedings determines whether these amendments and other comments and proposals are germane. Official minutes, though not legally required, are kept in nearly every town (Bryan, 2010).³

²In one of these towns, Brattleboro, neighborhoods elect a total of 138 representatives to three year terms to participate in the annual meeting, effectively creating a citizen legislature.

³The minutes for the town meeting read something akin to a family reunion. Speakers are often

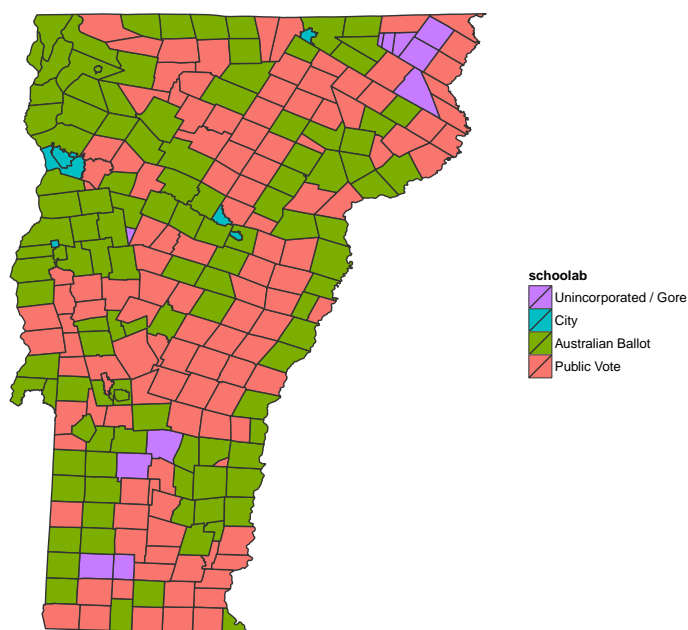


Figure 2.2: Map of Vermont Townships

Traditionally, Vermont town meetings decide items on the agenda by voice vote. If the outcome of that vote is uncertain then the moderator of the meeting may call for a public show of hands, also referred to as a “division of the house.” Until the 1970’s the state legislature permitted towns to select the voting procedure employed for each item on the agenda. In 1977 the state legislature enacted legislation requiring the use of a secret vote for the election of town officers: town moderator, town clerk, and selectboard members (Zimmerman, 1999). Some towns already had secret voting rules in place for officer elections, as well as other agenda items, but the rule change accelerated the adoption switch to Australian ballot use for other agenda items, such as the final vote adopting the town and school budgets.

Even today there is considerable heterogeneity for voting procedures within

referred to by their first names; the meeting is often preceded by a potluck.

towns on individual agenda items. A 2008 census of town meeting practices conducted by the Vermont Secretary of State found only fifteen towns conducted all of their town meeting business using secret ballot voting procedures. At the time 61 town meetings continued to make decisions exclusively by public floor votes. The remaining 170 towns used some combination of public and secret voting practices. Beyond these aggregate statistics, the state keeps no official record of the voting procedures towns employ in their annual meetings.

2.5.1 Data

To systematically identify the date of voting rule switches I surveyed the town clerks of all 237 Vermont towns, collecting data on the switch between voting rules in each town for any particular vote. The survey was sent in three waves in the Winter of 2014.⁴ 80.2% towns responded to one of the three waves. For unresponsive towns and those where the year of rule switches was unknown, I consulted archival records of annual town meeting minutes held by the Vermont State Library. Examining minutes year-to-year revealed the timing of switches to secret votes in the remaining cases. These results were cross-referenced with responses to a biennial snapshots of voting rules contained in the Vermont town census conducted by the Vermont League of Cities & Towns for 2002, 2006, 2008, and 2012. In total the sources provide partial or complete information about the school budget voting rule for 236/237 municipalities.⁵

Figure 2.3 reports the proportion of towns using secret Australian ballots for school budget votes. Two trends are clear. First, the use of secret balloting has

⁴The text of the survey instrument sent to town clerks can be found in Appendix A.

⁵The completeness of data for the voting procedures employed for non-school items ranges from 80% - 90%.

steadily increased over time. Second, despite this increased use of the Australian ballot, the current mix of towns using secret voting and public voting is roughly 50/50.

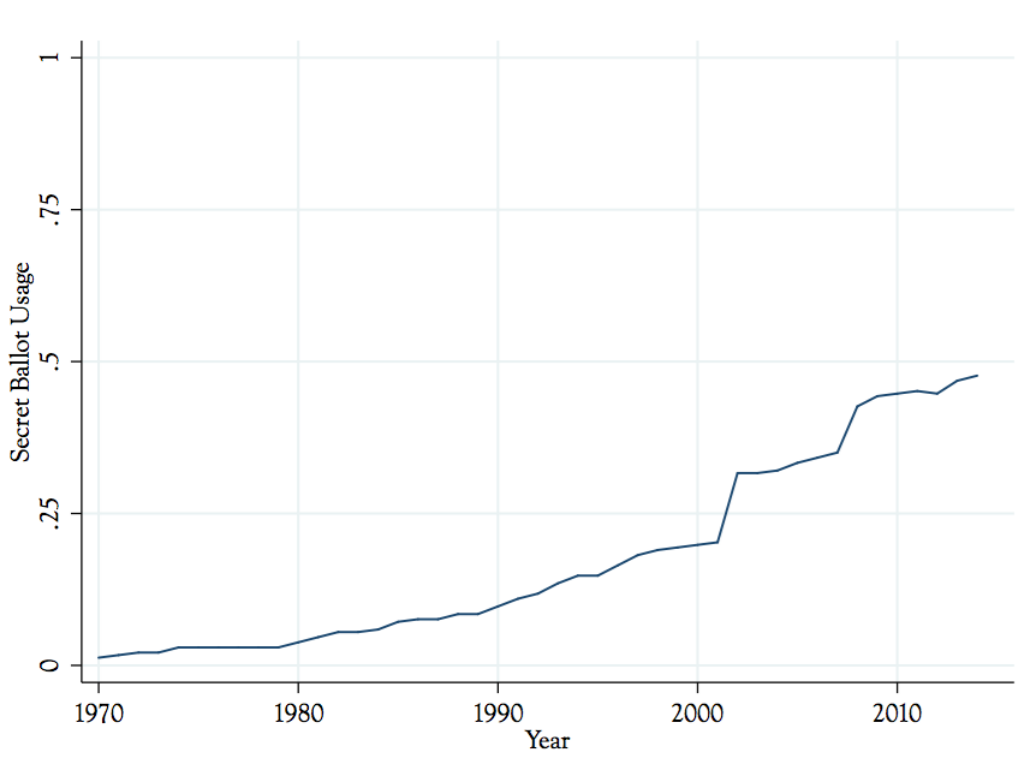


Figure 2.3: Use of Australian Ballot for School Budget (%)

I analyze the impact of electoral reform on three primary dependent variables in the study. The first is yearly property tax rates in each town. The Vermont Department of Taxes collects annual municipal tax rate and reports these data in biennial tax reports housed at the Vermont State Library. Utilizing these archived reports I am able to provide a nearly complete coverage of property tax rates disaggregated by education taxes and municipal taxes at the town-level dating back to 1950. The aggregate property tax rate, which combines the tax rates in support of both the school and town budgets, extend back in time to 1900. This is well before

any variation in voting rules is known. Figure 2.4 shows the average annual school tax rate from 1980 to the present, the time during which townships began switching their voting rules and for which there are higher resolution town-level covariates.

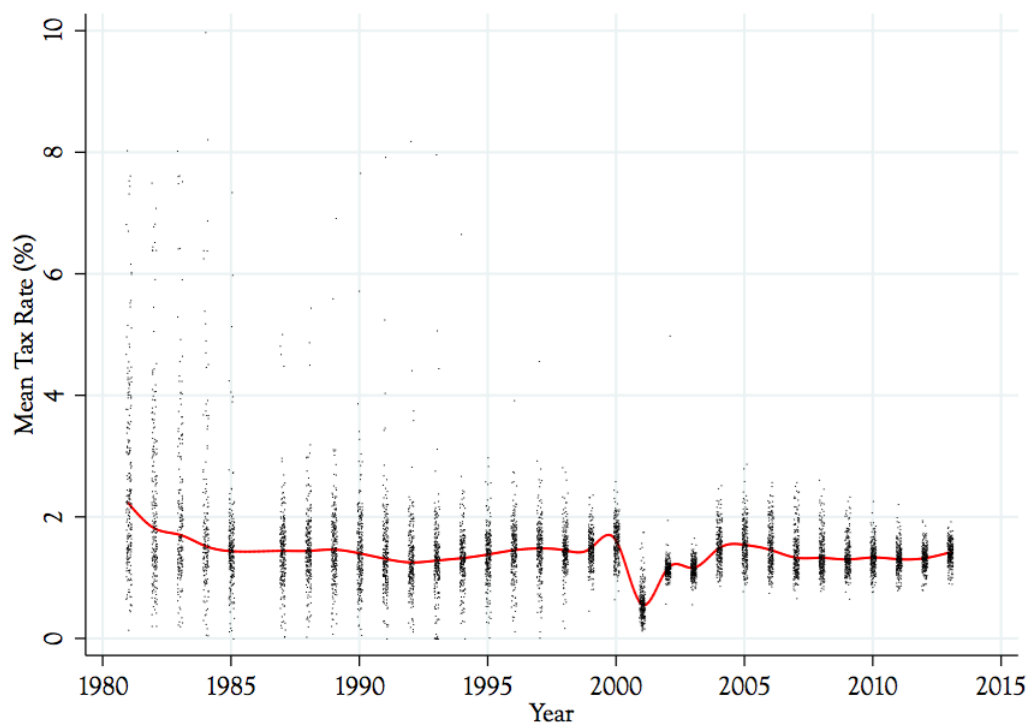


Figure 2.4: School Tax Rate Variation Over Time

In 1997, the Vermont State Supreme Court ruled in *Brigham vs. State* that the state’s method of funding public education failed to provide an equal opportunity to all children. As Figure 4 shows prior to the ruling there was considerable heterogeneity in the town tax rates in support of local schools. The state legislature responded to the court ruling with a sequence of laws introducing a degree of redistribution of school tax revenue between towns, which I explore in greater detail in the analysis. To aid in budget redistribution following *Brigham vs. State* (1997) ruling, the Vermont Department of Education began collecting and keeping town-level per pupil spending

records. Though the data only go back to 2000, the per pupil spending provides for a clean measure of community support for public education independent of property valuations. Municipal tax rates for education are valuable given their temporal coverage, but as a measure of support for education they inadequately differentiate the amount of money raised by similar property tax rates in property rich and property poor towns. To that end, per pupil spending provides finer detail in real contribution levels, but for a shorter period of time. This per pupil spending data will serve as a second outcome measure.

Finally, I employ towns' standardized testing scores to test whether budgetary changes associated with voting procedure switches result in meaningful changes in education quality. The standardized tests scores come from the New England Common Assessment Program. The particular battery of tests I utilize examines math and reading skills in 3rd-8th. Privacy protection requires that the Vermont Department of Education censors data from classrooms with fewer than ten students. As a result I utilize aggregated town averages for grades 3-8. These data provide the most compelling, but also the most difficult, test for the study.

In all analyses I include a number of additional demographic controls in the analysis. I rely on linear interpolations of decennial census data to determine town population (1950-Present), and percent under 18 and over 65 (1990-2010). I utilize town-level presidential vote share to interpolate a percent democrat and a party competition score for each community. I rely on measures from the Vermont Department of Taxes for per capita town in town (1969-present), and the Department of Education for data on a variety of school district characteristics from 2000 to the present, including school size, presence of a school, and whether any grades are part

of interstate or inter-town districts. These variables are summarized in Table 2.1.

The laws governing Vermont's education tax code are dynamic during the window of investigation. Beginning in 1976, the state of Vermont began assisting local municipalities with their public school financing. Under the Morse-Guiliani formula each town received a fixed block grant per enrolled pupil. This block grant system reduced the average public education tax burden in all municipalities, which is reflected in the changes to the average town tax rates during this time. Two decades later, following the Vermont Supreme Court's *Brigham vs. State* (1997) decision, the state tried several revenue sharing regimes to more fairly distribute educational tax revenues in order to address existing inequities in per pupil spending.

The Equal Educational Opportunity Act (2001) enacted policies linking a town's local-share tax rate to how much per-pupil spending it approved in the school budget. Communities that spent more money per pupil than above the state block grant formula were forced to send excess revenue to state coffers, which was then redistributed to poorer communities via block grants. While producing the intended revenue sharing effect, the law was overly punitive to property-rich communities. Soon after in 2003, the law was replaced with Act 68, which is still in force. Act 68 requires all towns pay a minimum tax rate. Additionally, those towns whose tax rates are in excess of 115% of the tax floor send a portion of their tax revenue to the state's education fund, which is then redistributed across all towns. Figure 2.5 shows the average annual tax rates under these different financing regimes. I leverage the variation in state support of education to assess whether towns with public and private voting rules differentially respond to changes in the law.

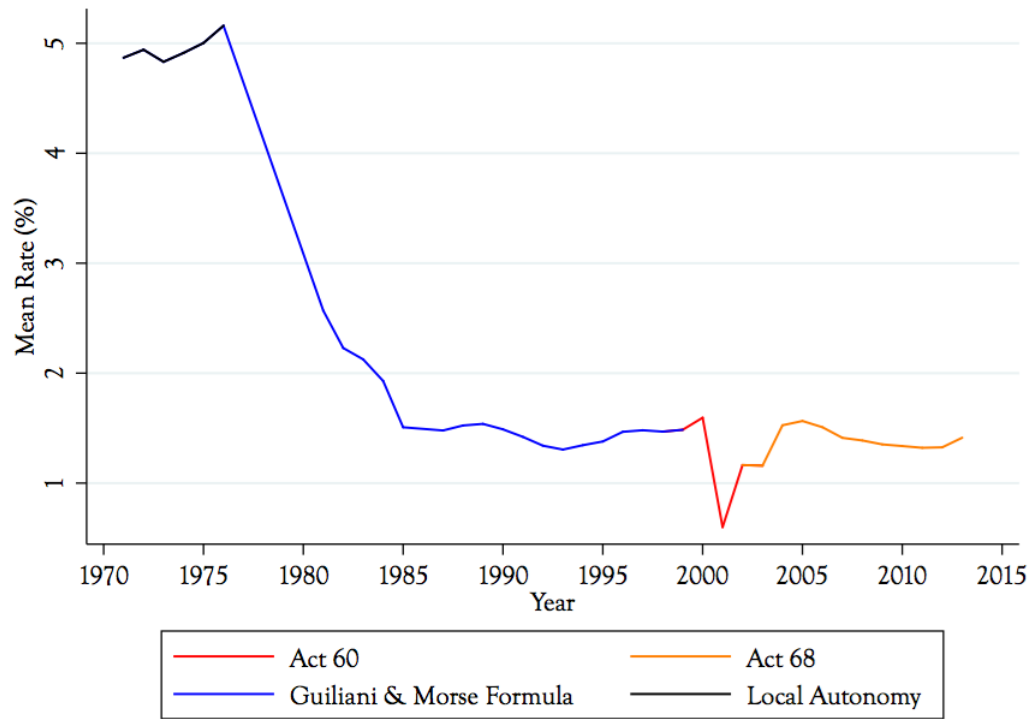


Figure 2.5: Average School Tax Rates By State Financing Programs

2.5.2 Method

To leverage both the between town and across time variation in the adoption and utilization of secret ballot processes, I employ a time series cross sectional difference-in-difference model to identify the impact of switching from public voting to secret voting procedures. The specifications all follow the generalized model:

$$Y_{i,t} = \alpha + \beta_1 Rule_{i,t-1} + \beta_2 X_{i,t} + \tau_t + \gamma_i + \epsilon_{i,t} \quad (2.1)$$

Where $Y_{i,t}$ is the education tax rate of town i at year t , α is the constant term, $\beta_1 Rule_{i,t-1}$ is the coefficient for the education budget voting rule in the previous year in town i , $\beta_2 X_{i,t}$ is a vector of control variables, τ_t is a vector of year fixed effects, γ_i is a vector of town fixed effects, and $\epsilon_{i,t}$ is the residual error term.

Given the hierarchical nature of the data, I also run separate multilevel models in which town outcomes are nested within counties.

2.6 Results & Discussion

The adoption of a secret vote for final passage of a town's school budget results in a significant decrease in the town's property tax rate supporting local education. Table 2.2 reports the results of a variety of specifications, which all find significant decreases in education taxes when a town meeting moves from voting publicly to privately. Figure 2.6 shows the marginal effect of transitioning from a public voting procedure to secret ballot vote estimated from the equation reported in Column 4 of Table 2.2. Substantively, the adoption leads to roughly a 10% drop in property

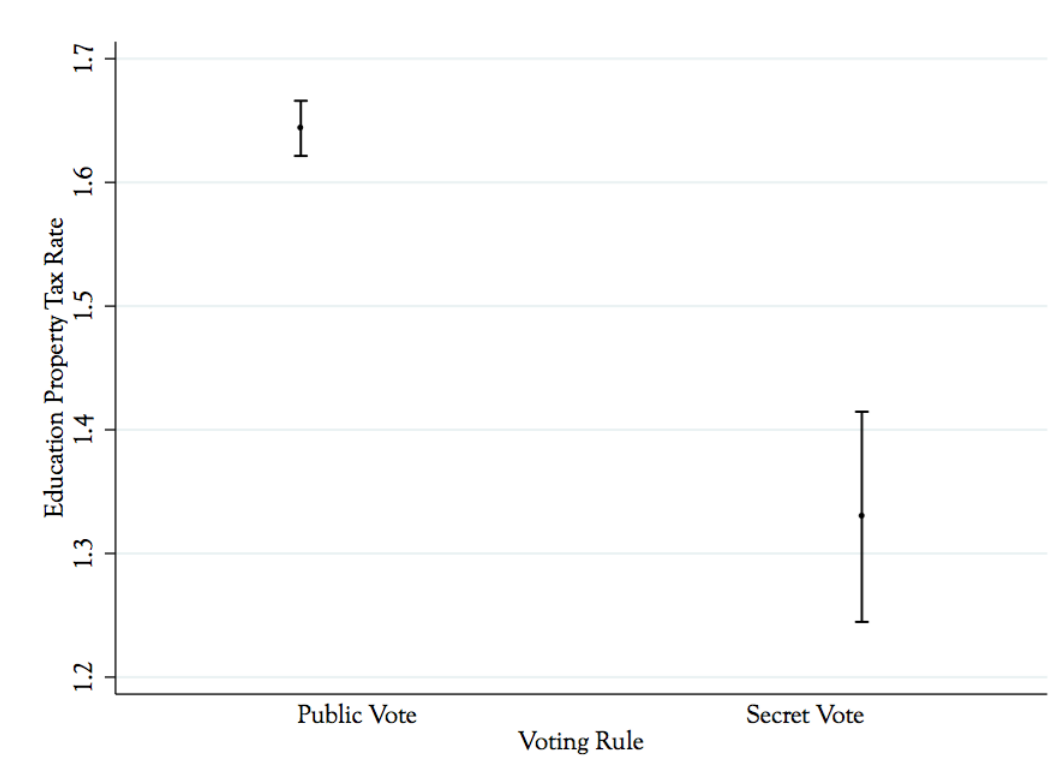


Figure 2.6: Marginal effect of Rule Change on Public Education Tax Rate

tax supporting local education. The result is robust to both fixed and random effect estimations.

The hierarchical specifications reported in Table 2.3 show that the result is not driven by between town variation in response to the ballot adoption. Adoption of secret voting procedures precedes a subtle, but consistent, drop in local property tax rates in support of public education. When towns make the switch it greatly reduces the potential for social monitoring of vote choice on education financing votes. Consequently, this raises the incentive to shirk individual responsibility to support public education.

To assess whether the relationship between voting rule and tax rate is lim-

ited to particular period of time, Table 2.4 reports the interactions of vote switch timing with the different regime of state education financing: Morse Guiliani (1975-1998), Revenue Sharing (1999-2002), and Tax Floor (2003-present). The results show that the significant decreases in the school tax rate associated with rule switches is not specific to the time period following the 1997 Vermont Supreme Court decision, although that is where the relationship is strongest. That there are significant differences between towns employing public versus secret voting procedures is particularly interesting given that there are financially punitive measures taken against those towns that generously fund their local schools. While no era of state support appears to exacerbate the difference between towns with different voting rules - i.e. none of the interactions are significant and positive - the fact remains that towns switching to more secrecy-protecting voting procedures produce budgets demanding less from local property holders.

This raises a compelling counter hypothesis that towns that favor private balloting - for strategic purposes or otherwise - are disposed to maintain a lower tax rate. If that were the case, then secret voting towns should also have a lower municipal tax burden not associated with public education. Yet, as shown in Column 1 of Table 2.5, this is not true. The rule used to vote on the school budget has no effect on non-school tax rates. A town inclined to lower their tax rate via the adoption of a secret voting procedure is still inclined to maintain the status quo for other municipal spending. Table 5 also shows the rate at which tax rates change from year-to-year in towns. Moving from public votes to private votes neither increases nor decreases the variability of tax rates. If an adoption of the Australian ballot for school budgets was accompanied by a marked increase in the year-to-year change in tax rates, it could

potentially signal a broader change in the politics of the community. One example might be that school board officials were bringing systematically larger or smaller budgets to the floor in these towns, which would explain the change in tax rates. The data do not support this alternative hypothesis. Vermont towns are required to pass a town budget. Unlike other areas of the country where a failed budget vote leads to a reversion to the status quo, Vermont school boards must schedule a future meeting to bring a new proposal up for a vote until the budget passes.⁶

2.6.1 Per Pupil Spending

Reestimating the effect of voting rules using the pupil spending rates as the outcome further bolsters the evidence that decreased monitoring of vote choice reduces individuals' responsiveness to social monitoring. Table 2.6 shows that the switch to a secret ballot reduces per pupil spending by \$450, of which \$420 comes directly from decreased local financing. This size of this effect equals a 4% decrease in financial support for public schools. Towns that are property-rich need not have higher tax rates. To the extent those town differentially choose secret ballot voting for their meetings, it would bias the tax rate results. The per pupil spending analysis shows the relationship between voting rule type and public education financing is robust to the unobserved value of property in each town. Not only do these results confirm earlier tax rate findings, the results shown in Columns 3 of Table `reftab:pupilspending` also show that towns do not appear to strategically lower property tax revenue in order to exploit compensatory state funding.

⁶Results from a survey of Vermont school board chairs, though unrepresentative, suggest that school budgets are expected to have a tougher time passing when considered under secret voting rules.

2.6.2 Test Scores

To provide better context for the magnitude of the funding gap that emerges as a result of the adoption of secret voting rules, I examine student performance on standardized assessments following the adoption of reform. Since adoption of secret voting should produce systematic difficulties in raising education spending, I test whether the length of time a town votes on their school budget by secret ballot affects standardized test scores. I use the yearly aggregate performance in math and reading scores from 3-8 grade on the New England Common Assessment Program administered each year from 2003 to 2013. An ideal research design to evaluate the effect of secret ballot adoption would be to compare cohorts of students within the same schools. However, to protect student anonymity the Vermont Department of Education censors too many grade levels within schools, severely limiting the potential observations in the data.

Instead I examine the aggregate impacts of a community's adoption of secret voting on test scores for 3-8 graders by taking the number of years under secret balloting procedures since 2000, a year in which a majority of the students would have started their education. To isolate the link between rule changes and test scores I remove all schools with students from multiple towns or whose district boundaries cross state lines from the analysis. This results in a direct connection between the performance of students from a particular town and their procedure for enacting the school budget. The estimations reported in Table 2.7 show that student performance decreases in both math and reading the longer a town has enacted school budgets by secret voting. A voting rule switch not only reduces the public education spending, but leads to lower performance of children in the education system. Figure 2.7 shows

the marginal effects from equations 1 & 3 of Table 2.7. While the fully saturated model for reading scores only shows a significant decrease in math scores (the decrease in reading scores is significant at $p=0.16$), given the limited time for which the student performance data are available and the ecological inference for students that partially educated under different rule types, the results are nonetheless compelling.

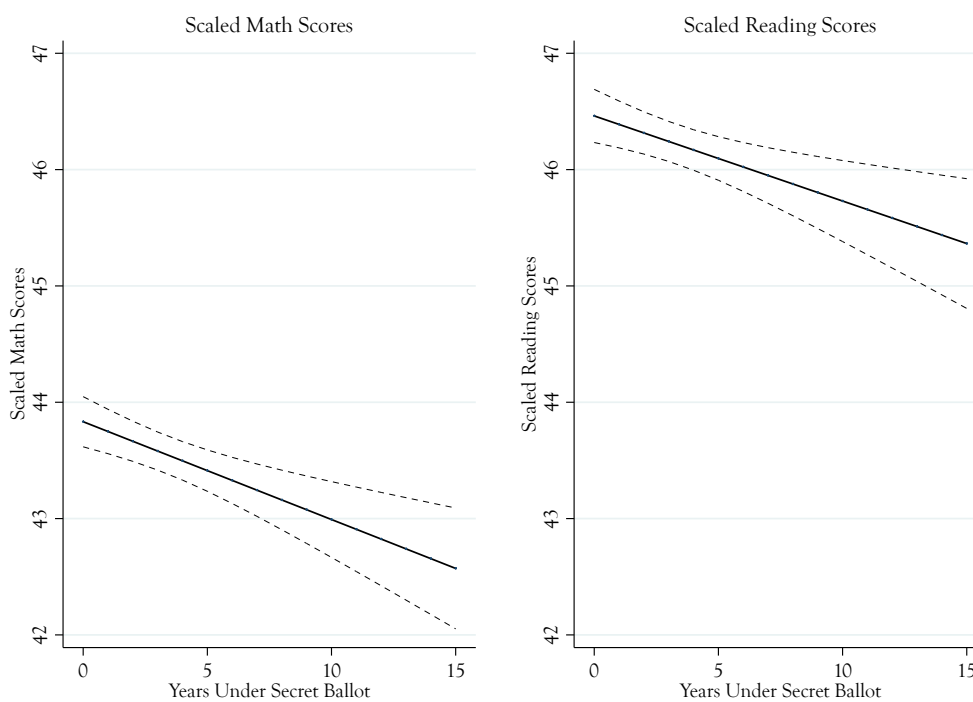


Figure 2.7: Impact of Secret Ballot Adoption on Standardized Test Scores

When the student aged population of a town comprises a greater share of the population, voters attending a town meeting should be increasingly likely to prefer higher education spending. In such cases more families are likely to directly benefit from more robust funding. But if voters are more sensitive to others' preferences when voting publicly then the difference between voting publicly and secretly should be greatest when the share of voters who benefit is smallest. To estimate the

student share of the town population I take the number of enrolled pupils in a town (from the Vermont Department of Education) and divide it by the linear interpolated town population estimated from the decennial census. The student share of the population serves to proxy the size of the electorate that incurs direct private benefits from increased education spending. While the actual number of parents of enrolled students attending a town meetings is unobserved, the size of the student population should help determine the breadth of demand for education spending. As the share of students increases demand for spending increases, as parents replace the childless voter as the pivotal voter in the town meeting.

In Figure 2.8 I display a visually weighted non-parametric lowess regression between education spending, ballot type and student share of the population. The figure visually depicts a 95% confidence interval around the lowess estimate by re-estimating the lowess regression over 1000 bootstrapped samples of the data. The resulting figure shows a significant difference in education spending between voting procedures when students comprise a small share of the town population. More precisely, in secret ballot towns the rate of education spending grows steadily as the proportion of students (and their parents) in the town grows. In contrast, the student share of a town's population has little effect on the amount of education spending in the public voting towns. When the proportion of individuals in a town meeting who stand to directly benefit from increased education spending is low, the data show that secret ballot towns offer less support to the public schools. Although the non-parametric model carries fewer assumptions and reveals nonlinearity of per pupil spending, it is important to evaluate the robustness of the bivariate relationship while controlling for additional variables.

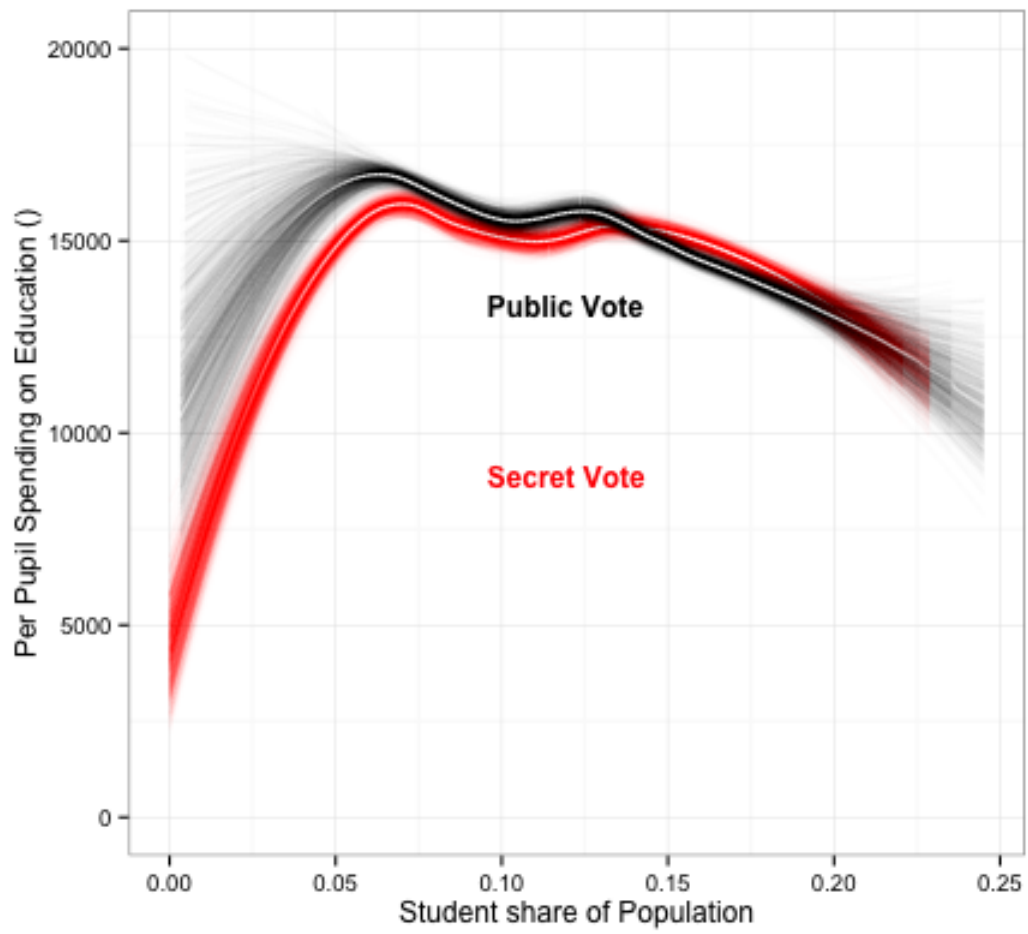


Figure 2.8: Visually Weighted Lowess Regression of Per Pupil Funding by Ballot Type over Student Population Share

I evaluate the relationship between ballot type and student population more rigorously in multivariate tests in Table 2.8. Columns 1 and 2 reproduce earlier estimates of per pupil spending with the addition of student share of the population. The interaction between voting procedure and student population in Column 3 of Table 2.8 isolates the relationship depicted in the non-parametric lowess regression. Each component of the interaction between voting rule and student share is significant: 1) per pupil spending is greater in public voting towns than secret voting towns; 2) higher student population rates increases per pupil spending; and 3) the rate of increase in per pupil spending as the student population increases is greater in secret ballot towns. The aggregate effects of the interaction is more clearly shown in the marginal effects plot in Figure 2.9. Irrespective of the size of the student population, public voting towns offer consistently robust public education spending. With secret voting, the generosity for public education spending is contingent on the share of the population that stands to directly benefit from increased spending. When a quarter of town is enrolled in the school system, meaning a larger share of the voting public has children directly benefiting from greater spending, private voting towns produce school budgets of commensurate generosity to public voting towns. In a public voting environment a relatively small population of parents appear sufficient to mitigate the self-interest of voters who may otherwise prefer lower spending.

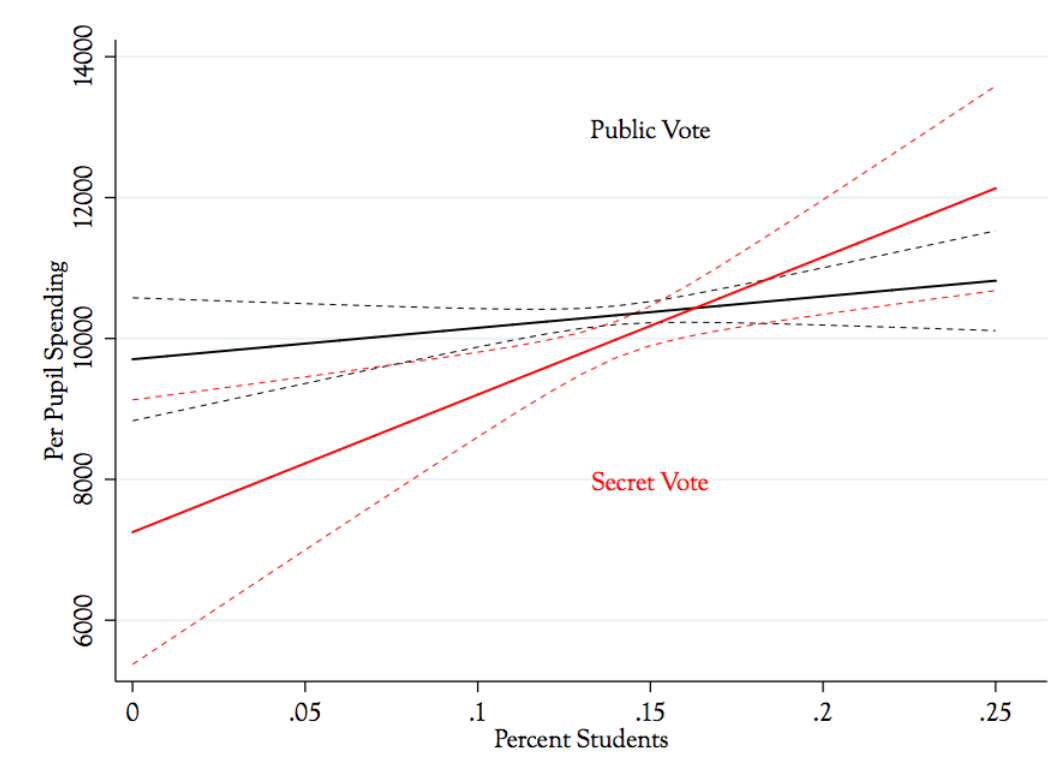


Figure 2.9: Marginal effect of Ballot Change over Student Population Share

2.7 Discussion

The results show that adoption of secret voting on school budget votes systematically leads to lower spending for public schools. Whether measured as the local property tax rate necessary to support a town's public schools or as the per pupil spending this tax regime produces, the switch from public voting procedures to secret ballot voting leads to precipitous decline in education spending. The result is significant across time periods, which is important, given the significant changes to the state financing of public education. Since 2003, when Vermont adopted a law to redistribute a share of local education property tax revenues from towns with rates in excess of the state's target tax rates. Public voting towns are still more likely to spend more on local education than secret vote towns, despite their diminished

returns on the invested property tax revenue.

As a share of per pupil spending, secret ballot voting leads to an average of \$450 less per pupil in the school budget, a 4% decrease. In Vermont towns, school budgets are a must pass items, meaning that the school board must continue to bring school budget proposals before the town until one is passed. As a result, the year-to-year consequences of a switch to secret ballot compound. The longer a community employs secret voting to pass its school budget significantly lowers performance on standardized reading and math test scores for 3-8 graders.

The observed trends in Vermont public education spending following the adoption of secret voting follows a relationship well documented in behavioral economics. As transparency of an individual's choice increases, that individual tends to make more other-regarding decisions. In Vermont, the interaction of ballot type and student share of the population illustrates that dynamic. When the student population of a town is relatively small and the majority of voters have no direct incentive to maintain robust funding, public voting towns are significantly more likely to provide per pupil funding levels consistent with towns of larger student to population ratios.

The relationship between changes in voting structure and public education funding appear clear. Yet, how precisely the change in school budget levels occurs is not. This paper proposes that in the context of the town meeting ballot secrecy steels the resolve of otherwise bandwagoning supporters of public education to vote down larger school budgets. However, alternative explanations exist. First, the result may not be a consequence of changes in preferences of meeting participants, but rather a change in the composition of the town meetings brought about by altered voting rules. Following the insights of Anzia (2012), compositional differences in

the electorate facilitated by election timing can often lead to substantive impacts on education budgets. Given the difference in the nature of voting in a meeting with public versus secret voting rules there may be real compositional differences in the attendance between towns with different voting rules.⁷ This is not to say that secret vote adoption is not a cause of the change, rather the mechanism is changing the composition of the electorate and not necessarily shifting preferences within individuals

One of the key hypotheses of the proposed model is that public decision making leads to a bandwagoning in vote choice. Measuring bandwagoning in this context is tricky. No centralized data source exists for school budget votes to rigorously examine whether the votes are systematically less competitive in public voting meetings than in secret voting meeting. In a dataset of nearly 10,000 votes taken in town meetings, most of which are for individual appropriation items on the town budget, public voice votes pass unanimously over 90% of the time.⁸

A limitation to the paper's finding arises from the possibility that the voting rule switch alters the initial school budget proposal brought before the town meeting by the school board agenda setters. In this scenario, forward looking school officials propose a smaller budget in expectation of a more difficult passage under secret voting. In Appendix B I report preliminary results from a convenience sample of Vermont school board chairs regarding their perceptions of secret ballot votes for

⁷Centralized record keeping of town meeting participation rates are nonexistent past 2013. Since 2013, however, the Vermont Secretary of State has collected town meeting attendance rates. During this limited time period, there is no significant difference between attendance rates in towns with public voting procedures and those with secret ballot procedures.

⁸Interviews with several town moderators support this finding. In the rare event the distribution of yeas vs. nays is unclear the moderator will ask for a division of the house and count the show of hands. A t-test comparing this population of votes to secret ballot votes still finds greater vote shares for the winning side, despite the adverse selection on perceived dissent in the meeting.

school budgets. School board chairs perceive that a budget is more difficult to pass in secret voting town irrespective of their own towns' voting procedure. Yet I find no evidence of school board chairs altering their budget proposal in expectation of the voting rules. The possibility exists that chairs are either unaware of their actions or unwilling to admit such actions. The outcome remains the same if school boards are, in fact, strategically bringing smaller school budgets to the town meeting for approval following the adoption of secret voting. It would merely change the point in which the action of the mechanism plays out.

2.7.1 Conclusion

When Alexis De Tocqueville described democracy in America nearly two hundred years ago, town meetings were an integral strand of the civic fabric he observed. In saying “town meetings ... bring [liberty] within the people’s reach”, perhaps Tocqueville sensed the inherent tension between individual freedom and communal responsibility in democratic governance. Public education financing presents a classic case of that tension. At any given point in time, a segment of society (in this case those with children attending public schools) differentially demand greater public assistance of a service while another population (individuals without children) would prefer to give less. More likely than not, these same individuals would quickly change their opinion if their child enrolled in the public schools. Or, perhaps, if parents were forced to justify their reasoning publicly they would be less likely to hold the self-interested standard. Elsewhere in the U.S. this tension between commitment to and shirking from public goods spending is resolved in the voting booth, where the individuals decision making is comparatively insulated from the confrontation of social

cross-pressures.

In Vermont towns, where education budget decisions are made in public town meetings, divergent preferences must be reconciled in the open without the convenient veil of anonymity. In these public forums we observe a higher willingness to pay for public education. Vermont historically ranks among the highest in per pupil education spending among states. After all, even a childless member of a community would think twice before railing against the wasteful spending for their town's youth. What one voter views as wasteful spending another may see as good policy.

I show that altering the rule governing how votes are taken in town meetings leads to changes in municipal property tax rates and education spending. Continued prevalence of higher tax rates in public voting towns following greater state redistribution suggests that material self-interests to shirk public goods contributions is partially overcome through public decision making procedures. Regardless of whether such public voting rules is a normatively appealing choice or not, the divergence in outcomes between secret and public voting towns brings into question tacit assumptions regarding how modern democratic politics should operate. Protection of individual voting privacy was first adopted in this country to limit the fraudulent activities of political parties. This paper demonstrates at least one ancillary ramification for doing so.

This paper opens up a new field of inquiry to better understand how electoral rules alter contexts of social influence in modern American politics. That voters are sensitive to the opinions of others and that electoral rules affect voter behavior are not in themselves groundbreaking. However, when jointly considered they open a new and fertile field of study of how electoral rules structure the context of political

behavior, and consequently shape the dynamics of interpersonal influences on voter decision making. The present research provides insight into the existing work on how contextual factors, like neighborhood composition or friendship networks, affect socially-derived political evaluations. Differences in other electoral laws may also subtly affect the context of political behavior. Voting by mail, for example, re-situates the context of voter decision making from polling places to within households, changing the ease of information-seeking and the potential for within household vote monitoring. Whether voting in a polling booth produces systematically different outcomes to voting at home is just one of many possible venues for further exploration. Congressional floor votes, Swiss canton votes, and presidential caucuses are just a few other arenas in which public voting procedures may condition vote choices by restructuring the social context of voting.

Table 2.1: Summary Statistics of Regression Variables

VARIABLES	N	Mean	sd	Min	Max
Tax & Meeting Data (1970-2014)					
Year	16,481	1981	19.56	1940	2014
School Tax Rate	9,101	2.018	1.660	0	19.86
Total Municipal Tax Rate	14,559	4.365	3.121	0	24.60
Secret Ballot	12,417	0.128	0.334	0	1
Morse Guiliani	16,481	0.478	0.500	0	1
Revenue Sharing	16,481	0.0448	0.207	0	1
Tax Floor	16,481	0.164	0.370	0	1
Percent Democrat	9,594	0.543	0.119	0.0312	1
Per Capita Income	11,316	15,266	9,690	0	64,894
Partisan Parity abs(50%-D%)	9,594	0.102	0.0738	0	0.500
Pupil Spending Data (2000-2014)					
Equalized # of Pupils	3,362	348.4	471.0	0	4,081
Per Pupil Spending	3,362	12,687	3,493	0	26,642
Local Share of Per Pupil Spending	3,362	10,167	2,715	0	19,701
State Share of Per Pupil Spending	3,362	2,519	1,601	-448.5	24,192
No School	3,362	0.0657	0.248	0	1
K-12 Interstate	3,362	0.00952	0.0971	0	1
Union High School	3,362	0.101	0.302	0	1
Percent Under 18	3,362	25.20	4.516	0.182	48.36
Percent Over 65	3,362	14.65	5.378	0.138	46.67
Number of Towns	237	237	237	237	237

Table 2.2: Impact of Secret Ballot Adoption on Education Tax Rates

<i>Dependent Variable:</i>	Property Tax Rate for Education				
	(1)	(2)	(3)	(4)	(5)
Secret Ballot	-1.368*** (0.095)	-0.147*** (0.043)	-0.148** (0.058)	-0.149** (0.058)	-0.095** (0.039)
Democrat			0.238 (0.401)	0.233 (0.401)	0.414 (0.356)
Partisan Parity			-0.001 (0.339)	-0.002 (0.339)	0.016 (0.347)
Population			-0.000 (0.000)	-0.000 (0.000)	0.000* (0.000)
Per Capita Income			0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)
Morse Guiliani			-4.091*** (0.235)	-4.097*** (0.234)	-3.837*** (0.196)
Tax Floor			-0.164*** (0.034)	-0.164*** (0.034)	-0.380*** (0.046)
Revenue Sharing			-1.039*** (0.026)	-1.039*** (0.026)	-0.480*** (0.023)
Constant	2.271*** (0.017)	4.861*** (0.065)	4.887*** (0.270)	4.960*** (0.270)	4.849*** (0.257)
Observations	8,734	8,734	7,578	7,578	7,578
R-squared	0.058	0.643	0.487	0.487	
Number of Towns	237	237	236	236	236
Year FE	No	Yes	Yes	Yes	Yes
Town FE	Yes	Yes	Yes	Yes	No
Town RE	No	No	No	No	Yes
County FE	No	No	No	Yes	No

Errors Clustered on Town in parentheses

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

Table 2.3: Impact of Secret Ballot Adoption on Education Tax Rates

<i>Dependent Variable: Property Tax Rate for Education</i>		
	(1)	(2)
Secret Vote	-0.111*** (0.039)	-0.104*** (0.030)
Percent Democrat		0.428** (0.171)
Partisan Parity		0.023 (0.155)
Population		0.000 (0.000)
Per Capita Income		0.000*** (0.000)
Morse Guiliani		-3.874*** (0.082)
Tax Floor		-0.404*** (0.074)
Revenue sharing		-0.485*** (0.067)
County Intercept	-2.332*** (0.394)	-2.351*** (0.299)
Town Intercept	-0.972*** (0.056)	-1.315*** (0.061)
Constant	4.862*** (0.074)	4.819*** (0.112)
Observations	8,734	7,578
Number of Counties	14	14
Number of Towns	237	237
Year FE	Yes	Yes
County RE	Yes	Yes
Log Likelihood	-12457.834	-8461.583

Errors Clustered on Town in parentheses

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

Table 2.4: Effect of Voting Rule Switch Across Time

<i>Dependent Variable:</i>	Property Tax Rate for Education		
	(1)	(2)	(3)
Secret Ballot	-0.151** (0.062)	-0.145** (0.058)	-0.211 (0.226)
Secret* Tax Floor	0.005 (0.045)		
Secret*Revenue Sharing		-0.021 (0.033)	
Secret*Morse Guiliani			0.064 (0.224)
Tax Floor (2003-Present)	-0.165*** (0.033)	-0.164*** (0.034)	-0.164*** (0.034)
Revenue Sharing (1999-2002)	-1.039*** (0.026)	-1.035*** (0.027)	-1.039*** (0.026)
Morse Guiliani (1975-1998)	-4.090*** (0.236)	-4.091*** (0.235)	-4.092*** (0.236)
Percent Democrat	0.238 (0.402)	0.238 (0.401)	0.239 (0.401)
Partisan Parity	-0.000 (0.339)	-0.001 (0.340)	0.001 (0.340)
Population	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
Per Capita Income	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)
Constant	4.886*** (0.270)	4.886*** (0.270)	4.887*** (0.270)
Observations	7,578	7,578	7,578
R-squared	0.487	0.487	0.487
Number of id	236	236	236
Town FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Errors Clustered on Town in parentheses

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

Table 2.5: Robustness Checks

<i>Dependent Variable:</i>	Non-School	Absolute Δ	
	Tax Rate	School Tax Rate	
	(1)	(2)	(3)
School Budget Secret Vote	-0.028 (0.023)	-0.011 (0.024)	0.004 (0.012)
Revenue Sharing	0.012 (0.008)	-0.085 (0.086)	-0.062*** (0.021)
Tax Floor	0.048*** (0.017)	-0.279*** (0.086)	-0.110*** (0.020)
Morse Guiliani	-0.758*** (0.102)	-0.237** (0.113)	-0.588*** (0.084)
Democrat	0.168 (0.181)	0.251 (0.172)	0.165 (0.116)
abs(50%-Percent D)	-0.122 (0.138)	-0.181 (0.153)	-0.129 (0.139)
Population	0.000 (0.000)	-0.000 (0.000)	-0.000** (0.000)
Per Capita Income	-0.000 (0.000)	0.000** (0.000)	0.000 (0.000)
Constant	50.668*** (10.267)	0.543*** (0.111)	0.644*** (0.097)
Observations	7,569	5,844	5,844
Number of id	236	237	237
R-squared	0.421	0.191	0.213
Town FE	Yes	Yes	No
Year FE	Yes	Yes	Yes
Town RE	No	No	Yes

Errors Clustered on Town in parentheses

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

Table 2.6: Impact of Secret Ballot Adoption on Per Pupil Spending

<i>Dependent Variable:</i>	Local Per Pupil Spending	Total Per Pupil Spending	State Contribution Per Pupil
Secret Ballot	-417.985** (189.496)	-450.891** (216.466)	-36.516 (136.880)
Union High School	427.218*** (162.589)	-30.185 (178.007)	-458.187*** (168.935)
# of students	2.758* (1.443)	2.429 (1.643)	-0.338 (0.444)
Interstate District	1,019.830** (474.010)	658.815* (356.287)	-310.536 (245.875)
No School	-620.623** (304.234)	-1,809.279*** (446.482)	-1,171.201*** (252.007)
Percent Democrat	-128.925 (1,327.815)	-240.138 (1,696.247)	76.640 (859.443)
abs(50%-Percent D.)	1,037.912 (1,288.642)	1,791.742 (1,625.043)	734.874 (748.086)
Population	-0.388* (0.214)	-0.396 (0.249)	-0.001 (0.076)
Per Capita Income	0.083*** (0.014)	0.061** (0.025)	-0.028* (0.016)
Constant	4,733.494*** (618.889)	7,380.733*** (844.501)	2,664.856*** (456.326)
Observations	3,226	3,226	3,226
Number of Towns	236	236	236
Year FE	Yes	Yes	Yes
Town RE	Yes	Yes	Yes

Errors Clustered on Town in parentheses

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

Table 2.7: Impact of Secret Ballot Adoption on Standardized Test Scores

<i>Dependent Variable:</i>	Scaled Math Scores		Scaled Reading Scores	
	(1)	(2)	(3)	(4)
Years Under Secret Ballot	-0.084*** (0.022)	-0.094** (0.047)	-0.073*** (0.023)	-0.066 (0.048)
Union High School	0.259 (0.195)	0.355 (0.432)	-0.283 (0.204)	0.050 (0.441)
Interstate District	0.852 (0.596)	1.270** (0.521)	0.275 (0.488)	2.580*** (0.562)
Percent Democrat	6.795*** (1.228)	1.124 (2.642)	7.840*** (1.291)	1.780 (3.062)
Student Population Share	6.806*** (2.115)	0.684 (3.928)	2.874 (2.240)	6.247 (4.014)
Per Capita Income	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)
Constant	31.384*** (0.882)	36.805*** (1.785)	34.502*** (0.935)	37.555*** (1.869)
Observations	1,574	1,574	1,574	1,574
R-squared	0.267	.272	0.241	0.258
Year FE	No	Yes	No	Yes
Town RE	No	Yes	No	Yes

Robust standard errors in parentheses

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

Table 2.8: Joint Influence of Ballot Secrecy and Student Share of Population

<i>Dependent Variable:</i>	Local Per Pupil Spending		
	(1)	(2)	(3)
Secret Ballot	-449.352** (210.586)	-427.019** (204.423)	-2,527.109*** (762.338)
Student Population Ratio	11,400.319** (5,131.574)	11,610.012** (5,135.838)	3,547.990 (3,283.963)
Ballot*Student Ratio			15,588.757*** (5,394.042)
Union High school		483.138 (396.370)	566.380* (322.668)
Interstate District		1,350.730*** (448.746)	1,169.785*** (372.988)
No School		-932.022** (439.072)	-949.916** (387.519)
Per Capita Income		0.191*** (0.040)	0.193*** (0.038)
Constant	4,843.533*** (873.971)	495.848 (1,127.423)	1,729.291* (961.831)
Observations	3,226	3,226	3,226
R-squared	0.712	0.722	0.736
Number of id	236	236	236
Year FE	Yes	Yes	Yes
Town FE	Yes	Yes	Yes

Errors Clustered on Town in parentheses

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

Chapter 3

Committee Chair Elections and the Growth of Majority Party

Agenda Setting

“A third reform to curb the evil effects of seniority would be to provide by rule that the chairmen of all standing committees should be chosen at the beginning of each Congress by secret ballot of the committee members of the majority. nine times out of ten the choice would be the senior senator or representative. But in the tenth case a recalcitrant chairman would be deposed or a prospective recalcitrant candidate for the chairmanship relying on seniority defeated. And in the other nine cases the chairman chosen because of seniority would bend over backward to be fair, to assure his continued tenure against the threat of demotion by his colleagues.”

- Richard Bolling (D-MO) in his 1968 book, *Power in the House*

3.1 Abstract

The early 1970s was a period of significant institutional reform in Congress. Changes to the organization and legislative process in both chambers, as well as to

rules internal to the party caucus, substantially redistributed power among committees, their chairs, party leaders, and backbench members. Despite previous efforts to identify the causes and consequences of these reforms, we know little about the consequences of the largest of these changes: committee chair elections. The 1973 adoption of secret ballot elections for committee chairs gave rank-and-file members the power to impose an ideological purity test on their committee leaders. Drawing on member ideology scores and legislative histories, I find that secret elections decreased the likelihood committees reported to the floor the proposals of moderate members, leading to changes in their likelihood to pass the chamber floor and ultimately become law. Change point analysis reveals that the compositional difference of reported bills was greater in the Congress following the switch to secret elections than at any other point since WWII. The coup was initially bloodless, as no chairs lost their seats following the pivotal secret voting adoption. However, in the elections at the beginning of the following Congress, the party caucus replaced the chairs whose committee actions were least favorable to the ideological center of the party.

3.2 Introduction

In the first days of the 94th Congress in 1975, 75 newly elected House Democrats met with their party's committee chairs. The freshmen arranged the closed door meetings to discuss their policy priorities in the upcoming Congress. By all accounts many of the meetings went poorly. The committee chairs, who comprised the twenty most senior members of the Democratic caucus, may have taken umbrage to the cattle call organized by their party's lowly backbenchers. Not five years earlier, such sessions would have been unimaginable. Wright Patman (D-Texas), the 45 year vet and

chairman of the powerful Banking Committee, condescendingly addressed his new colleagues as "boys and girls" (Congressional Quarterly Weekly Report, 1975*a*).

The power exercised by the freshmen was relatively new in 1975. In the previous two Congresses a building pressure in the Democrats' caucus challenging the rules protecting seniority led first to committee chair elections in 1971 and then automatic vote secrecy protections for those caucus elections in 1973. By the end of January 1975, House Democrats had revolted against 60 years of precedence to strip three senior, southern Democrats of their committee leadership positions. Led by the wave of freshmen reformers, the 94th Congress may have most visibly undermined seniority power in the House in the 20th century, but the seeds of change were sown in the reforms enacted the previous Congress.

Despite the widely accepted importance of the 1970s reforms, their myriad consequences on the operation of committees have received surprisingly little attention. Yet, even a cursory review of committee activity from this period reveals substantial changes in their output. Prior to the various committee reforms in the 1970s, the rate at which bills were reported out of committee was on a decades long decline. Figure 3.1 shows that this trend reverses sharply for bills sponsored by members of the majority party shortly after chair elections began. The minority party's legislative proposals fared less well. Not only are the minority bills consistently less likely to pass out of committee leading up to reform, this differential success widens in the post-reform era.

The little attention given to the adoption of chair elections does show that committee chairs increasingly united with their party on the floor (Crook and Hibbing, 1985), and specifically for votes on key legislation (Wright, 2000). But what impacts

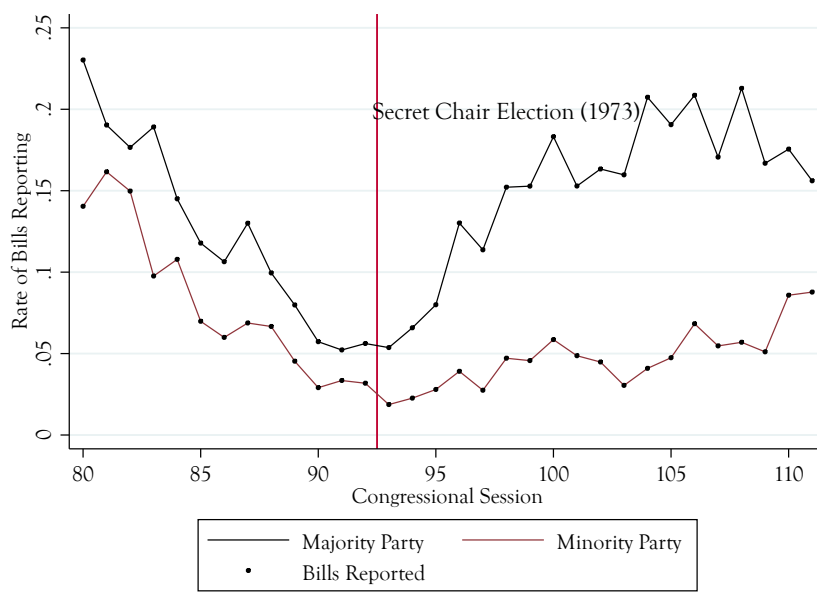


Figure 3.1: Probability Bills Reported out of Committee Pre and Post Reform (1947-2009)

did the caucus election reforms have on the behavior of committee chairs as leaders of their respective committees? Given the power of committee chairs to withhold or push forward bills within their committee’s jurisdiction, I argue the election reforms fundamentally shifted the balance of power in the majority party away from chairs and in favor of the rank and file. Specifically, in this paper I argue that the adoption of secret election of committee chairs in the party caucus constitutes the pivotal reform of this era. Its consequences extended far beyond the removal of a few recalcitrant chairs. Rather, it fundamentally strengthened the ability of the chamber’s majority members to set the legislative agenda.

In the sequence of committee reforms in this era, the significance of 1973 is potentially deceiving. The initial 1971 reform giving caucus members the opportunity to take up or down votes on committee chairs was a necessary first step, but it proved

insufficient under the studious gaze of chairs. Every chair comfortably won reelection. Opposition to their reelection withered. Once members began casting secret votes in these elections, however, committee chairs found themselves in a precarious situation. No longer could they identify who to cower with threats of retaliation.

Drawing on bill histories, I show that under the newly secret caucus elections committee chairs increasingly blocked legislative proposals from minority party members. Meanwhile majority party moderates, who had the highest rates of committee reported bills under previous rules, saw their proposals less likely to advance out of committee. With the adoption of reform, committee chairs became more responsive to their party caucus. The shift toward partisan committee gatekeeping occurred before the well-documented removal of the three conservative chairmen in 1975, but only after the adoption of secret voting for the chairmen in the caucus elections.

After recounting the historical record that lead to committee chair elections in the next section and the literature accounting for their impetus and consequences, I propose in Section 3 a theory of committee agenda setting and a set of hypotheses that follow from it for majority and minority legislators. To test the set of hypotheses that follow from my theory, I introduce in Section 4 the data from legislative bills introduced, reported out of committee, and enacted in the Congresses immediately prior to and following the caucus reforms, as well as an inclusive period from WWII to the present. Furthermore, to test the impact of reforms on the ideological orientation of legislation I derive a distance score in DW-Nominate space of authored bills relative to party and chamber medians. The statistical relationships reported in Section 5 broadly confirm the sweeping impact of secrecy rules for committee chair votes. Lastly, I discuss the findings in Section 6.

3.3 An Era of Congressional Reform

The 1970s were a period of impressive reform in Congress, about which much has previously been written (Ornstein and Rohde, 1978; Sheppard, 1985; Hinckley, 1975). Changes to the organization and procedures in both chambers, as well as to internal party caucus rules, substantially changed the distribution of power between majority and minority parties and among party leaders and backbenchers. In the House, the majority party increased the ratio of majority members on the Rules Committee to a 2:1 ratio and gave the Speaker of the House power to select the committee's majority party members. Both changes ensured stricter majority control over consideration of legislation on the floor (Rohde, 1991; Cox and McCubbins, 2005; Schickler and Rich, 1997). Additionally, the House initiated a Subcommittee Bill of Rights to provide greater stability and autonomy to the policy domains held by subcommittees (Rohde, 1974; Ornstein, 1975; Deering and Smith, 1997). Changes to Rule XXII in the Senate reduced the threshold for cloture on filibusters from 2/3 to 3/5, increasing the necessary minority dissent for stalling floor passage (Oleszek, 2013). On top of these well documented reforms strengthening majority party leadership, ideological heterogeneity within parties increasingly saw seniority as an unsatisfactory norm for committee leadership (Bolling, 1968).

Momentum toward committee reform first arose in the late 1960s, bolstered by the revival of the party caucuses under the pressure of the House's Democratic Study Group, an organization intended to provide legislative research and organizational support to the party's more progressive members. The regular party meetings served as an opportunity for backbenchers to regularly air their grievances to party leadership (Sheppard, 1985). Following the 1968 election of President Nixon, the DSG

sought strategies to prevent the continued entrenchment of conservative Democrats in leadership positions. The DSG saw the election of a Republican to the White House as a potential threat to the future partisan fidelity of conservative committee chairs in the Democratic House (Rohde, 1991). With the civil rights battles in the rearview mirror, progressive reformers sought ways in which to reform congressional operations to place pressure on the president. Perhaps the most popular proposal initiated by the DSG was that of elections for committee chairs at the beginning of each Congress. In the preceding decades, assignment of committee chairmanships followed a norm of seniority.

Over the next Congress the DSG pushed for increased meetings of the party caucus to discuss the reforms. In a pivotal March 1970 meeting, caucus chair Dan Rostenkowski (D-IL) responded to the progressive calls and named moderate Rep. Hansen of Washington to lead the newly created Committee on Organization, Study and Review. Given the charge to propose reforms to the system, the Hansen Committee (as it soon became called) set their attention to reforming seniority rules in committees. Their proposal, which was adopted by the party caucus at the start of the next Congress in 1971, created an election mechanism within the party caucus for committee chairs. In the past, the slate of chairs assembled by the Committee on Committees would collectively receive an up or down vote in the first caucus meeting of a new Congress. The new rule adopted permitted a caucus vote on any committee chair if requested by ten caucus members. But the first caucus elections in 1971 produced no change to the roster of committee chairs. Rather than disbanding after initial passage of the check on seniority, the Hansen Committee transitioned into an informal review board for the enforcement of the various House reforms.

Even before the end of the first Congress with any sort of committee chair election procedure, new calls were made to further reforms. The liberal political interest groups Common Cause and Americans for Democratic Action actively lobbied members to make the caucus committee chair elections mandatory and secret (Sheppard, 1985). By late December of 1972,

In the initial meetings of the Democratic caucus in 1973 to begin the Congress, reformers and party leaders proposed competing reforms to amend the committee chair election process. Party leaders supported automatic votes on all chairs, while the reformers pushed for the use of a secret ballot for the chair vote (Hunters, 1973*a*). After considerable discussion and parliamentary maneuvering between the two factions, the caucus voted overwhelmingly 204-9 to support automatic votes for committee chairs. But attached to it was a critical amendment that made the vote secret if requested by more than a fifth of the party caucus membership. The next day, January 22nd, with the slate of committee chairs before the caucus, reformers successfully motioned to vote by secret ballot on the first chairman up for reelection, William Pogue for Agriculture (Sheppard, 1985). Chairman Pogue then offered the motion for a secret ballot on the next chairman vote and the process continued with the preceding chair initiating the secret vote for the next committee on the list (Hunters, 1973*b*). In a few short years the majority party Democrats transitioned from seniority-based appointment and retention to secret elections. Though all the chairs survived the initial foray into competitive secret elections, the precedent was established. In recent House majority party switches in 1994, 2006 and 2010, the original caucus election rules adopted in 1973 have remained in place. As recently as 2008, party caucus votes at the beginning of a new Congress removed committee

leaders from their post.

3.3.1 Committee Oversight and Agenda Setting Power

A majority party's agenda control is paramount to its institutional power. In this article, I extend the logic of partisan agenda setting to account for the influence congressional committees have to serve as policy gatekeepers. Whereas scholars broadly agree that the majority party's negative agenda setting power originates with the majority control of the House Rules Committee and its close relationship with Speaker of the House, few studies examine what role the standing committees have in the agenda setting process prior to House Rules Committee. Despite this fact, the textbook version of the legislative process requires bills to be reported out of committees before the Speaker of the House and the Rules Committee structure the vote for floor consideration. The extant research pointing to the majority party's iron grip on the structuring of congressional action has largely ignored committee actions in the early process of lawmaking in lieu of examining party roll rates on the chamber floor (Cox and McCubbins, 2005, 1993; Gailmard and Jenkins, 2007; Stiglitz and Weingast, 2010; Carson, Monroe and Robinson, 2011). Thus while the picture that emerges from this literature strongly endorses theories of partisan agenda control by the majority, it leaves unanswered the extent parties seek to control committee activity and how House rules enhance this aspect of agenda control.

But if congressional committees are the source of the preponderance of legislative text enacted into law, what powers in committees govern the composition of the policy reported out of committee? The clearest evidence of committee power dynamics lies in the distribution of pork-barrel spending in the appropriations process.

Fenno observes that committee membership on the appropriations committee benefits individual member reelection goals (Fenno, 1962), while he and others note that a norm of universalism pervades decisions made in committees (Fenno, 1973; Weingast, 1979). The universalism of pork-barrel spending arises out of the collective interests by both minority and majority members to win reelection and the uncertainty of ones own majority status in the future. To the extent parties have policy interests they hope to protect and advance at the committee stage of deliberation, the agenda setting activity often viewed as the purview of the Speaker of the House and Rules Committee ought to be similarly present at this earlier stage of the legislative process.

Congressional parties protect the collective interests of these like-minded coalition members by giving power to key institutional actors to influence policy outcomes in a manner advantageous to the coalition's preferences (Cox and McCubbins, 2005, 1993; Rohde, 1991). In particular, the majority party coalition inhibits bills from reaching the House floor through the Rules Committee that would otherwise split the party or, worse yet, roll the majority by passing legislation without the support of a majority of the majority party. This negative agenda setting is critical to the preservation of the like-minded majority cartel.

Committee chairs hold the unique power to both populate and filter the pool of legislation available for consideration on the chamber floor. When a committee chairs favor or oppose a bill under their jurisdiction they exert their influence at several stages of its initial consideration. First the committee chair can ask relevant executive agencies for written comments on the measure. Second, the chair can hold hearings to strategically gather information and views from non-committee experts that serve a narrative in support or opposition to the proposal. The chair can then

either bury the bill, schedule a committee mark-up to alter the measure through amendments, or pass it unaltered from its original language. Whether a committee chooses to report a bill to the floor effectively determines its success or failure. Despite the chairs' many opportunities to shape the legislative agenda passing through their committees, their agenda setting behavior is less well known than the activity of the Rules Committee. Committees in the postreform House generally act in a manner consistent with the preferences of the majority party, but even in the postreform era considerable heterogeneity persists (Maltzman, 1995).

3.4 Theory and Hypotheses

When a member of Congress introduces a piece of legislation they typically do so with some hope that the policy may be enacted into law. If a member's behavior is best understood through the lens of securing re-election, as is often claimed (Mayhew, 1974), then at each stage of the legislative process from introduction to enactment there lies an opportunity to trumpet the importance of the policy to constituents and to claim credit for fighting for that policy's success. And while a textbook depiction of Congress may lead one to believe that the legislative process is a meritocratic affair, where the best policies rise to the top, there is considerable evidence to the contrary. In the end bills are merely vehicles for policy ideas, to which provisions are added and subtracted in the legislative process (Adler and Wilkerson, 2013). A bill's author, in this respect, captains a ship of original and pirated policies safely into harbor on the desk of the President, to reap the bulk of the credit. The debate over the nature of majority party power is both a function of which policies are viable for enactment and which legislators are worthy of receiving credit for bill passage.

Two key assumptions underscore the remainder of the argument. First, all else equal, a bill reported out of committee is both more likely to be a legislative vehicle for policy proposals or to have its policy ideas incorporated into other bills. Second, the ideology of a policy proposer correlates with the ideological position of the policy proposal contained within. If a conservative and liberal legislator draft policy proposals to solve the same issue one would expect that on average a cut point on the roll call votes would reflect the bill authors' ideological position. To the extent the above assumptions are true, one can locate the ideological space a proposal occupies by identifying the bill author's ideology. And if that proposal is more likely to receive future attention as either a stand alone bill or as incorporated text in another bill, then changes in the distribution of bills reported out of committee reflect changes in both positive and negative agenda setting. Similarly, when institutional reforms like the adoption of committee chair elections alter the distribution of bills reported from committee it informs our understanding of partisan control of the agenda setting process.

Parties have an interest in projecting clear party brand to their electorate while undercutting the minority party's ability to do the same (Aldrich, 1995). In a world absent of political party influence the election of committee chairs (or merely its threat) should not affect the distribution of legislative policies reported out of committees. Since policy products are reflective of the pivotal member of the deciding body, chair elections would only influence the distribution of policies if the election alters the underlying composition of committees.

Changes in vote secrecy in routinely alter vote monitoring and sanctioning among the electorate in developing contexts (Cox and Kousser, 1981; Nichter, 2008).

The consequences of secrecy on elite actors like members of Congress are less well understood, given that legislative voting is overwhelmingly conducted publicly. Italy's parliament provides a unique case where members' voters were historically secret. In the era of secret voting in the Italian parliament the majority coalition struggled to maintain party unity on politically difficult votes (Giannetti, 2015). Without the capacity to monitor its membership, whip for support of a bill ex ante, and sanction defecting members ex post, the majority coalition routinely failed to pass legislation.

In the context of the U.S. House committee system, the ability of committee chairs to observe the votes taken to challenge their power creates an obvious dilemma. Backbench party members who may privately prefer an alternative chair, but who would also prefer to maintain a working relationship with the existing chair should they retain their seat, must gamble on whether a large enough contingent of the caucus similarly opposes to chair in order to publicly vote in opposition. A committee chair selected by seniority or under a public reelection voting rule, can signal their willingness to punish those who double cross them.

Hypothesis 1: *Relative to consequences of other House reforms the 1973 adoption of secret voting rules uniquely alter the distribution of bills reported out of committee.*

In addition to advancing an ideological agenda, an introduced bill affords its author a series of opportunities to claim credit for pushing their proposal through various stages of the legislative process. Success at each stage of the process provides legislators a convenient press release reminding voters both of their legislative acumen and popular policy proposal. Withholding that opportunity gives the majority a comparative credit claiming advantage.

Hypothesis 2: *Adoption of secret voting rules for caucus chair elections*

will increase the pressure to report bills ideologically consistent with the majority party's interest.

To the extent the heterogeneous preferences among committee leaders within the majority party align with policies contained in minority proposals, no negative agenda setting regime will be ironclad without a punishment mechanism. The adoption of caucus elections for committee leaders gave rise to an institutional mechanism for holding wayward chairs accountable. But vote secrecy decreased the prospect of reprisal.

Hypothesis 2a: *Committees will be less likely to report out minority party proposals.*

Whereas the majority party effectively restricts the advance of minority party proposals wholesale, how its committee chairs filter the legislative output of their own party is less clear. The prerogatives of the majority party may not be so different in its treatment of majority party proposals as compared with minority bills. Instances where legislative proposals introduced by majority party members run counter to the broader policy goals of the majority caucus ought to be minimized. Where committee chairs abet policy proposals incongruent with the beliefs of the majority, irrespective of whether a member of the majority is introducing the bills, the majority party will want to take steps to prevent its advance and the prospect of it occurring again. Given the capacity of secret caucus votes to reprimand chairs and shield the rank-and-file members willing to do so, legislative proposals by members farther from the party median and closer to the chamber median will be more likely to wither in committee following reform. Moreover, by affecting the distribution of legislation available for consideration further down the legislative pipeline, the consequences of committee

election reform should influence what bills are available for votes on the House floor and eventually enacted into law.

Hypothesis 2b: *Committees will be less likely to report majority party bills closer to the chamber median.*

In the chair elections immediately following the secrecy rule changes no chairmen were ousted. None of the votes were particularly close. Yet two years later in 1975, emboldened by the large freshman class of progressive “Watergate Babies”, three chairmen - Poage, Patman, and Hebert - lost their seats. If the motivation for secrecy reforms was to increase caucus oversight of chairmen’s committee activities, as opposed to their floor voting, general conservatism, or other potential transgressions, then the changes (or lack thereof) in their committee activities between the secret caucus votes should positively predict their ouster. Specifically, we should be interested in their positive and negative agenda setting powers as committee chairs.

Hypothesis 3: *Committee chairs that fail to change their committee leadership styles following the adoption of secret chair elections are more likely to be ousted in the following Congress.*

3.5 Data & Methodology

To test the hypotheses I utilize the Congressional Bills Dataset compiled by Adler and Wilkerson (2012), which contains the legislative histories of House and Senate bills introduced in the 80th-111th Congress (1947-2010). The dataset includes a host of information about the bill authors, including party membership, seniority, and positions of stature, such as committee chairs and chamber leaders. Of particular interest from this legislative history data is the stage reached in the legislative process by end of the Congress for any given bill. For all of the following analyses the

dependent variable is a dichotomous event variable of whether or not a bill was reported out of committee. Table 3.1 reports the full list of variables used.

To better understand the differences in bills that succeed and stall at this stage, I incorporate individual ideology point estimates of the bill authors, as well as the aggregate chamber and party ideologies. I rely on the most commonly used measure of ideological preferences for legislators for my key independent variable: DW-NOMINATE scores developed by Poole and Rosenthal (1997). Poole and Rosenthal derive an ideological score for each member using a dimensional analysis of roll call votes throughout the entirety of their legislative careers. Utilizing members of Congress that span multiple legislative sessions as ideological bridges between different Congresses and chambers, the DW-NOMINATE score offers an ideal point estimate that is comparable to other MCs in previous and future Congresses. From these individual and aggregate point estimates of ideology I calculate the absolute value of the ideological distance between bill authors and the median member of the chamber. Table 1 reports summary statistics of the variables.

To further test the motivations of reporting bills out of committee I incorporate congressional election returns collected by Jacobson (2007) into the dataset. I take the winning vote share in the previous election for bill authors to serve as a measure of electoral vulnerability. Lower vote shares signal greater electoral vulnerability. Additionally, I identify the caucus chair election results for the 93rd (1973) and 94th (1975) Congresses located in Congressional Quarterly Weekly Reports.

To estimate the likelihood a bill is successfully reported out of a committee before and after the adoption of the committee reform, I use a logistic regression model. Robust standard errors are clustered on the individual legislator to correct

for residual serial correlation.

3.6 Results

The tests broadly confirm that the secret election process for committee chairs substantially and uniquely shaped the content of legislation reported out of committees, passed on the chamber floor, and ultimately enacted into law. With the reform in place committee chairs anticipate the caucus oversight and respond by altering their committee gatekeeping behaviors. Overwhelmingly, the chairs changed their behavior. But among those that changed the least, their days as committee chairs were numbered. At the beginning of the Congress following adoption the caucus removed three of the least responsive chairs.

Hypothesis 1: *Relative to consequences of other House reforms the 1973 adoption of secret voting rules uniquely altered the distribution of bills reported out of committee.*

The first test of the theory hinges on whether the secrecy reforms significantly altered which bills were reported out of committees. Secondly, given that the secrecy reform was sandwiched between other reforms, the next test is whether the other reforms produced similar changes. The results in Table 3.2 test this hypothesis by comparing the proximity of reported bills' authors to the median member of the chamber in the Congresses before and after the initial adoption of chair elections (Column 1), the secrecy protection reform (Column 2), and the removal of committee chairs (Column 3). Only the coefficient for the interaction isolating the effect of automatic secret voting is significant (heteroskedasticity robust OLS t-statistic: 2.74, $p < 0.01$). The adoption of the option to hold chair elections in 1971 had little effect

on the distribution of bills reported out of committee. Yet the 1973 adoption of mandatory secret elections reduced the divergence between the party median and the policy proposals reported out of committee.

To further show that the relative effects of the secrecy reform were not simply a prominent leap in a larger secular trend, I employ a binary segmentation algorithm in the R package “Changepoint” for automated change point detection (Killick and Eckley, 2014). The automated detection splits the time trend by every possible year to identify candidate change points that best cluster the observations into homogenous groups (Scott and Knott, 1974). The results illustrated in Figure 3.2 demonstrates the the average bill reported out of committee drew substantially closer to the majority party median beginning in the 93rd Congress (1973). Not only is the year in which the House adopted secret chair elections the locally significant change point in bill reporting, as shown in equation 2 of Table 2, the naive detection process suggests that it is the most significant change during the post-WWII Democratic rule of the House. The naive change point detection corroborates the theoretical expectation of hypothesis 1.

Hypothesis 2: *Adoption of secret voting rules for caucus chair elections will increase the pressure to report bills ideologically consistent with the majority party’s interest.*

Hypothesis 2a: *Committees will be less likely to report out minority party proposals.*

The results presented in Table 3.3 confirm the hypothesis 2a. Adopting committee chair elections significantly reduced the number of bills reported out of committee from minority members. Figure 3.1 shown earlier illustrates the raw relationship in the number of reported bills by party before and after the rule change. The difference between parties in the total number of bills being reported from committee is

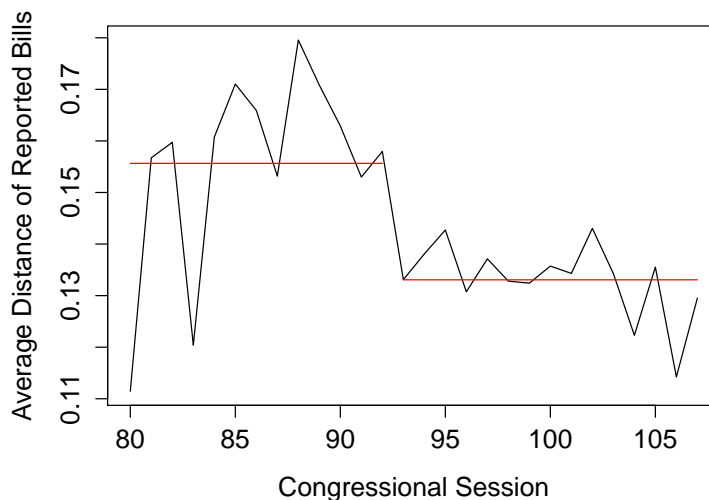


Figure 3.2: Change Point Detection of Author-Majority Median Distance (Majority Party)

apparent before and after the reform, yet it appears to stay relatively consistent. As the marginal effects of reform graphed in Figure 3.3 illustrate, though the change is strongly significant, the substantive implications may have been difficult to detect at the time. Prior to reform just 3% of minority member bills introduced ever made it out of committee. What little sympathy chairs previously showed minority member bills eroded further following reform, when the likelihood of reporting fell to one in fifty introduced bills.

Hypothesis 2b: *Committees will be less likely to report majority party bills closer to the chamber median.*

Shifting the focus to the actions of the majority party, Figure 3.4 illustrates the marked changes to the distribution of majority party authored bills reported out of committee (Panel A), passed on the chamber floor (Panel B), and enacted into law (Panel C) in Congresses immediately prior to and following reform. Each

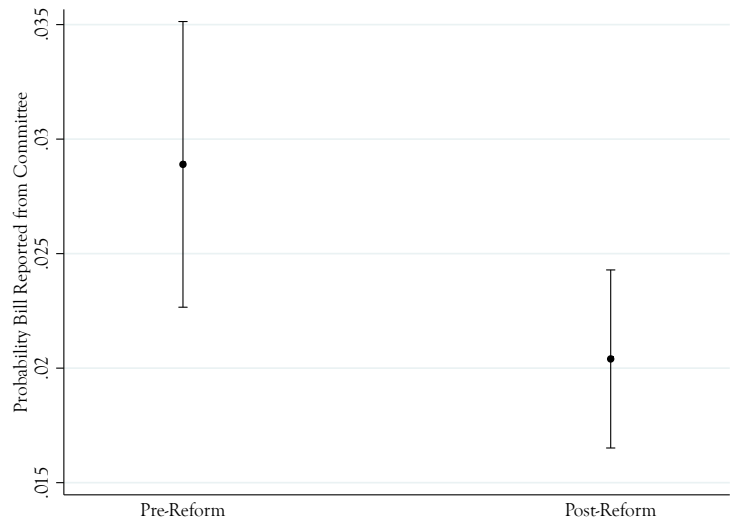


Figure 3.3: Marginal Effect of Secret Chair Election on Minority Bills

panel illustrates the results of 500 bootstrapped samples of a simple bivariate least squares regression predicting the likelihood of a bill advancing before and after secret chair elections as function of the ideological distance between the bill author and chamber median. The bootstrapped results are then employed to construct visually weighted 95% confidence intervals across the range of ideological space. In short, the farther away from the center of the chamber a member is the less likely her bills are to pass out of committee and advance through the legislative process. But following reform, that relationship substantially diminishes the success rate of majority party moderates' proposals. Within a distance in DW-NOMINATE space of approximately 0.2 of the House median - encompassing 35% (n=86) of majority party members - the reforms significantly decreases success of bills in committees. Beyond .35 units from the median members' proposals appear marginally more successful. Perhaps more telling of the consequences of the changes at the committee level, is how the ideological distribution of reported bills between Congresses cascades into which bills

receive House floor passage and enactment into law. Though the non-parametric fit of the lowess regression nicely illustrates where the impact of reform is strongest, more rigorous tests requires controlling for observable differences in the composition of bills between sessions. For results of a committee-level visually weighted lowess regression see Appendix C.

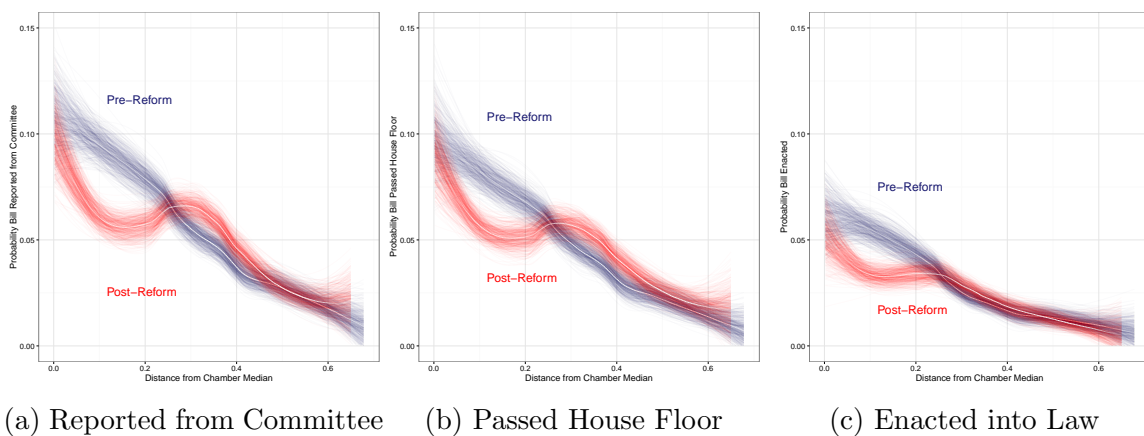


Figure 3.4: Bootstrapped Lowess Regressions of Bill Success Pre-Post Secret Chair Election by Author’s Distance from Chamber Median

Table 3.4 reports results from logistic regressions predicting a bill’s successful reporting out of committee among majority party members. Columns 1 and 2 of Table 3.4 report the relationship between the ideological distance between the bill author and the chamber median and the success of that bill for the Congresses immediate before and after the adoption of secret chair elections. The positive and significant coefficient for the Reform*Ideological Distance interaction indicates that the farther a member of the majority party is from the chamber median the greater the probability of moving their legislation out of committee following reform. Conversely the closer a majority member is to the chamber median the less likely her bills are reported from committee. Columns 3 and 4 display the results for the entire post-war era. The adoption of chair elections significantly reduces the rate at

which different ideologically moderate bills are adopted. Table 3.5 reports identical equations predicting the likelihood a majority member's bill passes the chamber floor (Columns 1-2) and is enacted into law (Column 3-4). Both sets of results corroborate earlier finding that reform shifted the ideological orientation of legislation away from the center of the chamber and toward the majority party median. Expanding the set of Congresses beyond the those immediately prior to and following reform, the equations in Table 3.6 illustrate the effects of the reform are not only long lasting, but become stronger over time. Controlling for year to year changes in the partisan and ideological composition of Congress, the estimations show the significance of the reform increases.

To interpret the magnitude of the interaction coefficients, Figures 3.5, 3.6, 3.7 report the predicted probabilities of bill success among majority party member proposals across the ideological distance from the chamber median in DW-Nominate space.

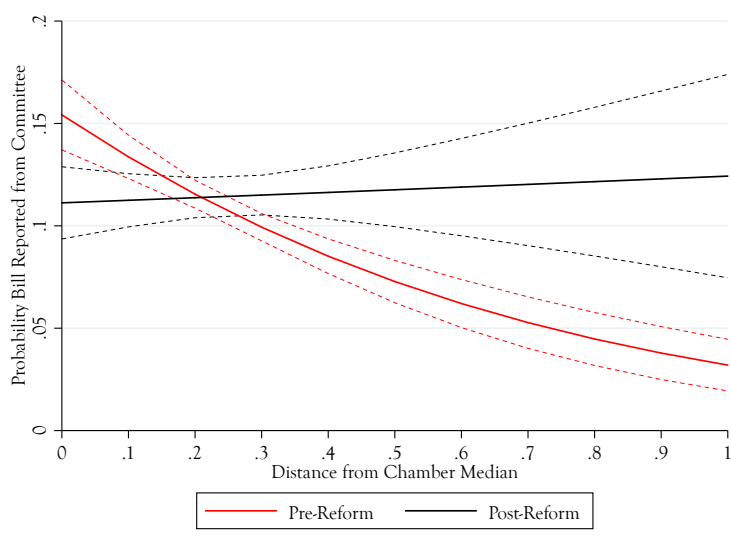


Figure 3.5: Likelihood Bill Reported Pre-Post Reform Across Distance from Chamber Median (Majority Party Members)

Prior to reform, bill proposals are reported out of committee the closer the author is to the chamber's median voter at a rate of around 17%. However, that rate drops roughly 12% after the reform. And while ideological distance from the chamber median is always negatively correlated with the likelihood of discharge from committee, the relationship is much stronger prior to the reform. Simply put, the evidence strongly supports the hypothesis that majority party influence on the committee reporting process was strengthened by the adoption of secrecy rules in 1973.

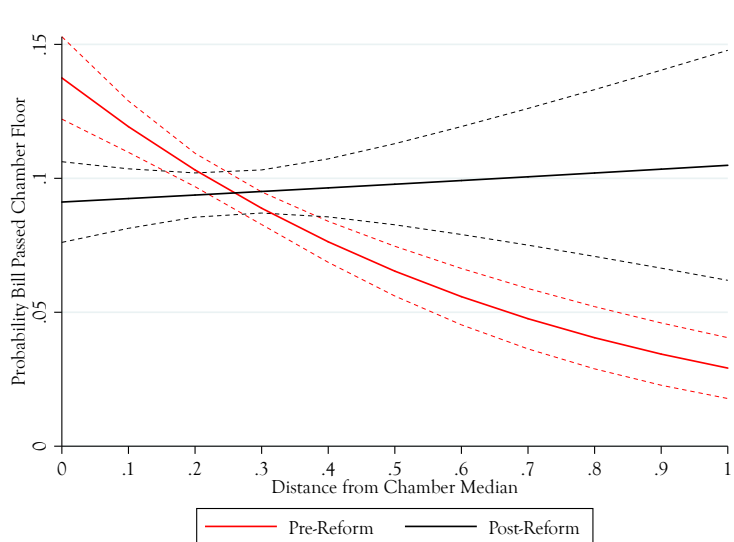


Figure 3.6: Likelihood Bill Passed Pre-Post Reform Across Distance from Chamber Median (Majority Party Members)

Hypothesis 3: *Committee chairs that fail to change their committee leadership styles following the adoption of secret chair elections are more likely to be ousted in the following Congress.*

To test Hypothesis 3, I identify the vote totals for and against the committee chairs in the caucus elections for the first Congress with secret voting, in 1973, and in the following Congress, 1975, that lead to the removal of three chairs. Though the closed-door policy for party caucuses prevent identification of individual members'

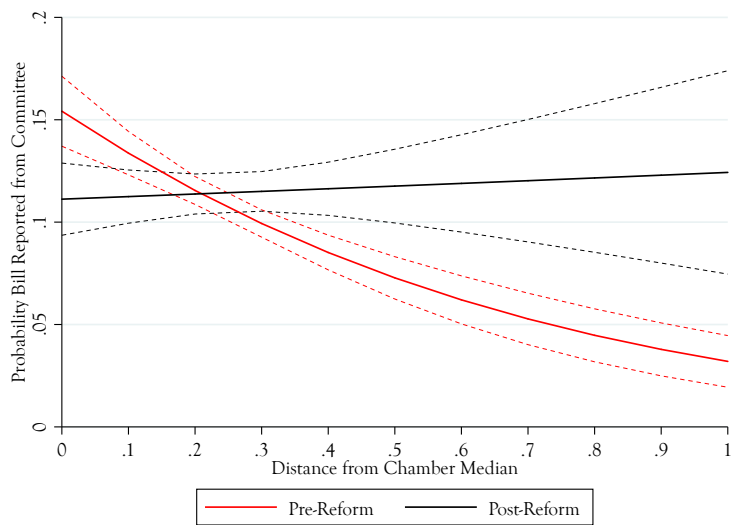


Figure 3.7: Likelihood Bill Enacted Pre-Post Reform Across Distance from Chamber Median (Majority Party Members)

votes, Congressional Quarterly Weekly Reports collected and printed the final tally of the elections (Congressional Quarterly Weekly Report, 1973, 1975*b*).

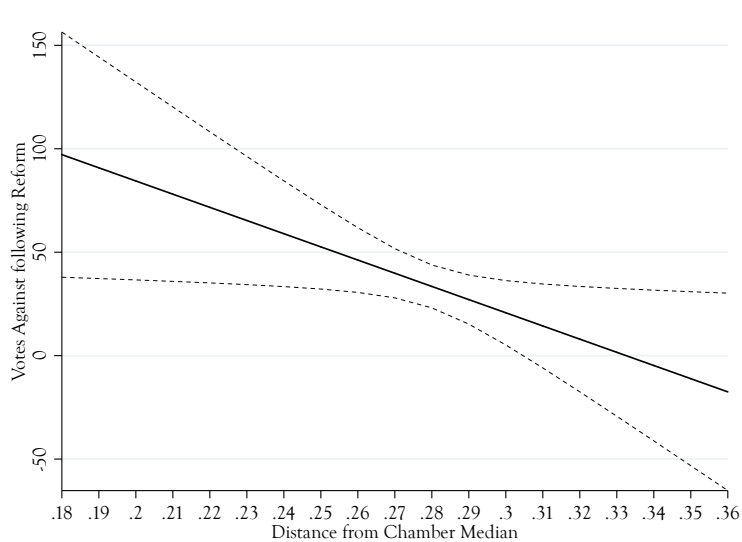


Figure 3.8: Impact of Chair Behavioral Change on Re-Election

To evaluate the changes in activity for standing committees I calculate the

average distance between bill authors and the chamber median among reported bills in DW-NOMINATE space in each committee for each Congress. I then estimate a bivariate regression predicting total number of votes against a committee chair as a function of the lagged distance between the committee's reported bill authors and the median member of the chamber. I include a fixed effect for each committee, which controls for systematic differences in the authorship of bills referred to committees (e.g. bills sent to the Agriculture committee tend to be authored by members representing rural areas, which on the whole tend to be more conservative).¹

The results in Table 3.7 show that as the average ideology of reported bills increases in proximity to the House median, a committee chair facing reelection is significantly more likely to see greater opposition from their party (heteroskedasticity robust OLS t-statistic: 2.14, p=0.04). In Figure 3.8 the predicted relationship shows that a chairman whose committee reported bills approximately 0.18 away from the chamber median in the previous Congress would expect to receive nearly 100 votes against their continued tenure the next sessions. By comparison, the ousted chairmen in 1975 - Patman, Pogue, and Hebert - lost their seats with 152, 146, and 152, respectively.² Though other factors may have been at play in their respective loses, the evidence strongly indicates that their failure to report bills closer to their party's preference was a driving factor in their removal.

¹Functionally, with the fixed effects in the model, the lagged variable measure the degree to which the committee's activity in the previous session deviated from its average. The same result is obtained by including lags of the previous two sessions.

²For additional information regarding the votes for and against each chair, their committee assignment, state, and district for the 93rd and 94th Congress see Appendix C.

3.6.1 Robustness Checks

Party-centric models of behavior take members' reelection goals as a first assumption (Mayhew, 1974). If the the chair election reforms were not about ideological control of the committee process one alternative may be that the majority party sought reform to aid its electoral fortunes and maintain majority status. In the appropriations process, for instance, electorally vulnerable members of the majority party acquire a disproportionate share of earmarked projects (Engstrom and Vanberg, 2010). Similarly, given that the nature of the reform movement was anti-seniority in nature (Davidson and Oleszek, 1979), another alternative hypothesis to the ideological control theory would be that junior members of the majority would stand to benefit from reform.

Nonetheless, the adoption of secret chair elections had no impact on the legislative success of junior members or electorally vulnerable members of the majority party. Table 3.4 reports equations showing that the adoption of secret elections neither increased the success of legislation introduced by party backbenchers (Column 3), nor the success of legislation by electorally vulnerable members (Column 4). While the reform reinforced the majority party's control of the committee process, it had no systematic effect on the credit claiming opportunities of the majority party's most vulnerable members. Despite previous work claiming that the 1970s reforms were driven by reelection concerns (Adler, 2002) and anti-seniority sentiment (Davidson and Oleszek, 1979), in the case of the caucus elections, the consequences appear strictly ideological.

The predicted probabilities before and after reform reported in Figure 3.9 show just how unkind the legislative credit claiming game is to the electorally vulnerable

and junior members. The process gives no preferential treatment to electorally vulnerable members, and Panel A of Figure 3.9 shows that reform did little to change this relationship. Panel B of Figure 3.9 clearly shows the strength of seniority in securing a bill's advance. The probability a committee reports a bill introduced by a freshman member of the majority party to the floor is 2.5%, whereas a bill by member with thirty years of service is four to five times more likely to reach the floor. Adoption of secret voting in the caucus chair elections, despite altering the ideological distribution of bills reported out of committees, had little consequence for the success of individual proposals by vulnerable and junior members. Though the analysis does not rule out ancillary impacts of a clearer partisan signal from a more ideologically united voting record on the floor, the reforms did not do so by increasing the credit claiming opportunities for junior or electorally vulnerable members.

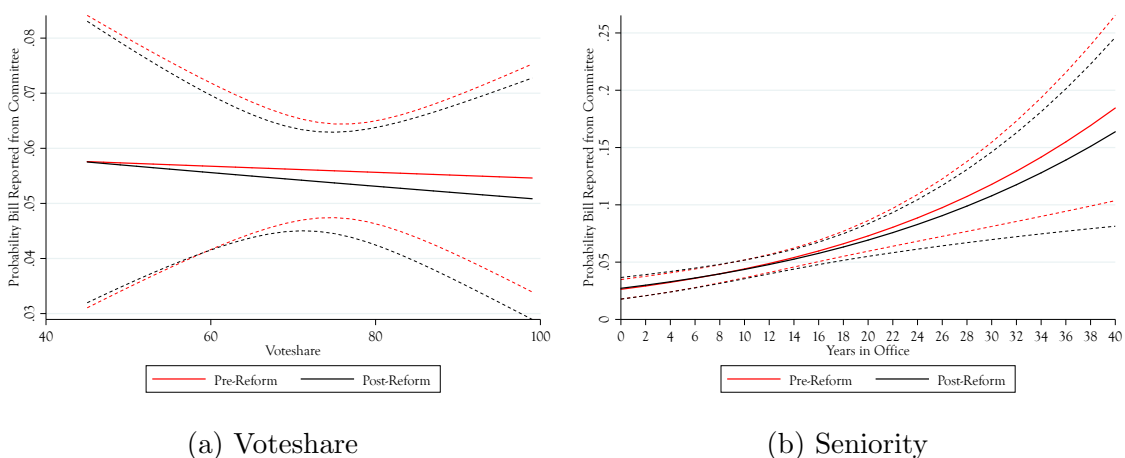


Figure 3.9: Changes in Bill Advancement by Seniority and Vote Share Following House Reform

The demonstrated results could plausibly be the consequence of broad shifts in the political environment - e.g. partisan sorting, polarization, Watergate and Nixon's impeachment, etc. To the extent the House and Senate were similarly affected by

such events, placebo regressions predicting changes in Senate committee activity as a result of the House reforms should detect any spurious relationships. In Table 3.8 I replicate earlier equations predicting reported bills by majority party members, but for the Senate. The results show no significance for the interaction term of interest (Reform*Author-Chamber Median Distance) in Columns 2 or 4. The changes to the distribution of reported bills were exclusive to the House, where the secret chair election reform occurred.

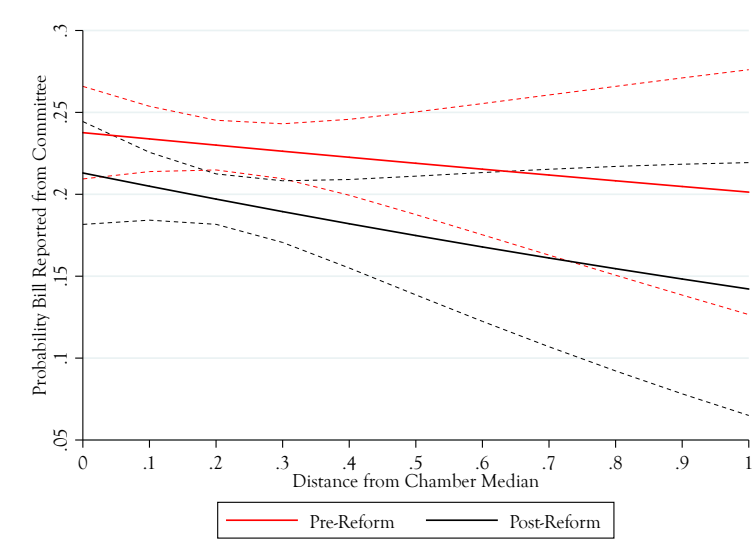


Figure 3.10: Changes in Senate Reporting Following House Reform (Placebo Test)

Figure 3.10 illustrates no change in slope for the predicted likelihood a bill is reported out of committee before and after reform. Though there appears to be a modest decrease in the likelihood all introduced bills are reported out of committee following the reforms in the House, the coefficient on the main effect of ballot reform is consistently indistinguishable from zero across specifications.

3.7 Discussion

The findings indicate that the adoption of secret automatic voting in caucus elections for committee chairs enhanced the majority party's control over the ideological orientation of legislation reported from committees. Following the reform, committee chairs increasingly served as the majority party's gatekeepers to reduce the legislative prospects of bills out of step with the party. The new partisan advantages in committee produced two important changes in legislation. First, reform reduced the likelihood committees reported minority party bills out of committee. The reform increased the disparity between majority and minority party proposals' committee passage by thirty percent.

Second, the accountability reform reduced the rate of success for bills introduced by moderate members of the majority party in favor of more liberal members of the Democrats' majority. The evidence suggests committee chairs' negative agenda setting of majority party proposals following reform benefitted party members ideologically farther away from the chamber center.

The change in committee favoritism is unique to the ideological orientation of the bill authors. Neither the electorally vulnerable nor the junior members of the majority party received preferential treatment following the rule change. Similarly, in the Senate, where there was no change in committee chair accountability, the composition of reported bills is indistinguishable from previous years. Those House committee chairs that were eventually removed from their posts were least responsive to the adoption of secret chair elections.

One possible objection to the conclusions of the paper herein is that regardless of the reforms' timing, partisan realignment within the Democratic party forced the

schism between an increasingly disparate coalition of Northern and Southern legislators. But the Congress-to-Congress change in new legislators for the congressional session that initiated the caucus rule changes was small by all accounts. Diermeier (1995) argues that institutional changes often follow the rapid influx of new members. That does not appear to be the case here. Though the 1975 class of 75 freshman who helped oust the uncompromising chairs was historically large, the previous Congress in which secrecy was initiated and behavioral differences first begin had only 31 new members. That level of turnover was the same as the 92nd Congress, beginning in 1971 before that.

This casts some doubt on the claims that party government is unconditional in its ability to keep issues off the legislative agenda. A strict interpretation of procedural cartel theory would predict no change in the composition of bills reported by committees before and after the election of committee chairs because the model is time invariant. But the heightened accountability afforded to the majority caucus following the committee elections did produce a systematically more congruous legislative platform.

Most interestingly, the evidence also suggests that party government engages in negative agenda setting power on members of its own party. While the committee reforms may have originally been intended to reign in intransigent seniority chairs, the consequences within the majority caucus are wide reaching. When institutional rules allow the majority party to sanction committee chairs, committee chairs mark-up and report legislation authored by members farther from the center of the chamber. One consequence of this increased party fidelity is that reported legislation is less likely to be written by moderate members. Interestingly, the committee reform did

little to improve the electoral credit claiming opportunities for electorally vulnerable members. It would seem that individual election-seeking activity does not translate into majority party support of legislative proposals of the party's most electorally vulnerable members. Committee election reforms had little impact on backbenchers' likelihood of advancing their legislative proposals, even as more senior chairs were held accountable by caucus elections.

3.7.1 Future Directions

The conclusions presented in this study open up a number of future paths of inquiry. First, to verify and bolster these findings one can examine the composition of individual committees and the subsequent legislation reported out of them. Integrating a full list of legislators' committee assignments and the committee origins of reported bills would provide the opportunity for a more robust multi-level analysis. The present analysis assumes that the ideological composition of individual committees is generally reflective of the wider chamber as a whole, despite considerable evidence to the contrary (see Weingast and Marshall 1988). Compositional differences in committees, and their differential rate of reporting partisan legislation could, be an alternative explanation to the reported findings, although that too would have interesting implications.

While the present analysis focuses on the role committee chair elections on the consideration of bills by majority party members, there is no reason to believe that similar impacts on minority party proposals would not occur as well. If, as observed with the distribution of majority party bill authors, the committee reforms produce a more partisan reporting process, minority members' bills should be equally affected.

Electoral vulnerability could be denied the credit claiming opportunity provided by successfully reporting a bill out of committee that is increasingly accountable to the majority caucus. Alternatively, bills of minority party members ideologically more proximate to the majority may see greater success if it serves to muddle the minority party's brand name.

Third, committee chair elections were a single reform among many that originated in the Democratic Study Group in the late 1960s and early 1970s. Though scholars attribute the centralization of political parties and rise of majority party power to the reforms, collectively comparatively little work has assessed the consequences of individual reforms on specific changes in the trends of policymaking and legislative behavior. Just as the present study assesses the consequences of committee chair elections on reported legislation, other institutional reforms may similarly alter the legislative process in important ways. For example, committee leadership turnover caused by term limits adopted by the Republican caucus in 1994 could produce special interest capture as observed in the states (Carey et al., 2006).

3.7.2 Conclusion

The findings speak directly to the ongoing debate regarding the nature and sources of majority party agenda control. These results extend the role of negative agenda setting beyond the power of the Rules Committee and Speaker to the committees' favorable reporting of legislation. Moreover, the committee chair election reform demonstrates that the majority party actively limits the legislative process within the party before any legislation reaches the floor. Majority party members closer to the chamber median are systematically less likely to have their bills reported from the

committee after secret chair elections. In this sense, negative and positive agenda setting are inextricably linked. By increasingly preventing the proposals of centrist party members out of the pool of legislation available for floor proceedings, the institutional reform narrows the representation of the party brand to members closer to the ideological core.

Table 3.1: Descriptive Statistics

	<i>Obs.</i>	<i>Mean</i>	<i>SE</i>	<i>Min</i>	<i>Max</i>
Legislator Characteristics					
Author Ideal Point (DW-1)	432628	-0.083	0.351	-1.22	1.611
Author-Chamber Median Distance	432628	0.295	0.193	0.000	1.668
House Election Vote Share	259410	64.869	9.486	50	100
Committee Chair	434794	0.456	0.498	0	1
Chamber Leader	434794	0.009	0.093	0	1
Party	432629	139.299	49.171	100	200
Private Bill	434794	0.184	0.387	0	1
Chamber Characteristics					
Chair Election Reform	434794	0.525	0.499	0	1
Year	435285	1974.226	16.961	1947	2010
Congress	435285	93.456	8.474	80	111
Majority Party (=1)	432264	0.635	0.482	0	1
Senate (=1)	434794	0.261	0.439	0	1
Reported from Committee (=1)	434794	0.092	0.288	0	1
Majority Median (DW-1)	434794	-0.167	0.283	-0.367	0.582
Minority Median(DW-1)	434794	0.171	0.241	-0.386	0.655
Minority Homogeneity (DW-1 St.Dv)	434794	0.162	0.018	0.131	0.213
Majority Homogeneity (DW-1 St.Dv)	434794	0.189	0.025	0.132	0.220
Majority Size	434794	253.903	21.704	221	295
Chamber Median (DW-1)	434794	-0.022	0.138	-0.184	0.392

Table 3.2: Congress-to-Congress Changes in Distribution of Reported Bills (Majority Party)

<i>Dependent Variable: Bill Reported</i>	(1)	(2)	(3)	(4)
Author-Chamber	-2.427***	-2.967***	-0.917	-0.869
Median Distance (ACMD)	(0.807)	(0.786)	(0.667)	(0.840)
92nd Congress	0.051			
	(0.170)			
92nd Congress*ACMD	-0.181			
	(0.505)			
93rd Congress		-0.460***		
		(0.165)		
93th Congress*ACMD		1.512***		
		(0.552)		
94th Congress			0.147	
			(0.159)	
94th Congress*ACMD			0.022	
			(0.710)	
95th Congress				0.069
				(0.157)
95 Congress*ACMD				0.881
				(0.668)
Chamber Leader	0.269	0.429	-0.064	0.426
	(0.379)	(0.298)	(0.161)	(0.476)
Private Bill	0.093	0.528***	0.860***	0.876***
	(0.146)	(0.154)	(0.163)	(0.138)
Vote Share	-0.002	-0.001	0.007*	0.003
	(0.005)	(0.005)	(0.004)	(0.004)
Committee Chair	0.655**	0.811***	0.683***	0.404**
	(0.257)	(0.229)	(0.218)	(0.206)
Years Served	0.061***	0.053***	0.049***	0.051***
	(0.009)	(0.009)	(0.010)	(0.008)
1st DW-Nominate Dim.	-0.307	-0.494	0.004	0.181
	(0.477)	(0.467)	(0.512)	(0.387)
Constant	-3.067***	-3.058***	-3.997***	-3.404***
	(0.354)	(0.393)	(0.365)	(0.311)
Observations	23,971	22,108	21,916	20,560
Pseudo R-squared	0.110	0.0977	0.0779	0.0558
Log Likelihood	-4497	-4241	-4582	-5035

Standard Errors Clustered on Member

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

Table 3.3: Likelihood Minority Bill Reported From Committee

<i>DV: Bill Reported</i>	(1)
Secret Ballot Reform	-0.367** (0.145)
Author-Chamber Median Distance	-1.010 (2.233)
Chamber Leader	0.258 (0.406)
Private Bill	1.791*** (0.217)
Vote Share	0.009 (0.006)
Ranking Member Author	0.198 (0.171)
Years Served	0.034** (0.014)
1st DW-Nominate Dim.	1.928 (2.173)
Constant	-4.907*** (0.542)
Observations	12,134
Pseudo R-squared	0.0827
Log Likelihood	-1293

Robust standard errors in parentheses

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

Table 3.4: Likelihood of House Bill Advance (Majority Party)

<i>Dependent Variable:</i> Passed Floor	Bill Reported Enacted into Law			
	(1)	(2)	(3)	(4)
Author-Chamber Median Distance	-2.233*** (0.720)	-2.967*** (0.786)	-2.254*** (0.721)	-2.220*** (0.724)
Secret Ballot Reform	-0.077 (0.104)	-0.460*** (0.165)	-0.002 (0.178)	0.030 (0.563)
Reform*Author-Chamber Distance		1.512*** (0.552)		
Reform*Years Served			-0.004 (0.012)	
Reform*Vote Share				-0.001 (0.008)
Chamber Leader	0.531* (0.298)	0.429 (0.298)	0.532* (0.293)	0.547* (0.316)
Private Bill	0.499*** (0.156)	0.528*** (0.154)	0.503*** (0.157)	0.500*** (0.156)
Vote Share	-0.000 (0.005)	-0.001 (0.005)	-0.000 (0.005)	-0.001 (0.008)
Committee Chair Author	0.823*** (0.226)	0.811*** (0.229)	0.829*** (0.228)	0.823*** (0.226)
Years Served	0.052*** (0.009)	0.053*** (0.009)	0.054*** (0.010)	0.053*** (0.009)
1st DW-Nominate Dim.	-0.486 (0.470)	-0.494 (0.467)	-0.501 (0.473)	-0.496 (0.472)
Constant	-3.253*** (0.397)	-3.058*** (0.393)	-3.298*** (0.403)	-3.216*** (0.567)
Observations	22,108	22,108	22,108	22,108
Pseudo R-squared	0.0963	0.0977	0.0963	0.0963
Log Likelihood	-4248	-4241	-4248	-4248

Standard Errors Clustered on Member

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

Table 3.5: Likelihood of House Passage and Enactment (Majority Party)

<i>Dependent Variable:</i>	Passed Floor		Enacted into Law	
	(1)	(2)	(3)	(4)
Author-Chamber Median Distance	-2.395*** (0.781)	-3.201*** (0.834)	-2.472*** (0.885)	-2.966*** (1.006)
Secret Ballot Reform	-0.031 (0.114)	-0.439*** (0.166)	-0.240* (0.142)	-0.506** (0.222)
Reform*Author-Chamber Distance		1.632*** (0.578)		1.106 (0.782)
Reform*Years Served				
Reform*Vote Share				
Chamber Leader	0.426 (0.577)	0.317 (0.579)	0.920 (0.565)	0.833 (0.571)
Private Bill	0.538*** (0.161)	0.569*** (0.160)	0.142 (0.185)	0.163 (0.183)
Vote Share	-0.001 (0.005)	-0.001 (0.005)	0.003 (0.006)	0.003 (0.006)
Committee Chair Author	0.801*** (0.236)	0.788*** (0.238)	1.099*** (0.265)	1.084*** (0.266)
Years Served	0.053*** (0.010)	0.054*** (0.010)	0.048*** (0.010)	0.049*** (0.010)
1st DW-Nominate Dim.	-0.521 (0.522)	-0.531 (0.519)	-0.519 (0.601)	-0.516 (0.598)
Constant	-3.345*** (0.447)	-3.133*** (0.440)	-4.094*** (0.479)	-3.958*** (0.483)
Observations	22,108	22,108	22,108	22,108
Pseudo R-squared	0.0956	0.0972	0.111	0.111
Log Likelihood	-3866	-3859	-2489	-2487

Standard Errors Clustered on Member

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

Table 3.6: Likelihood of House Bill Advance (Majority Party 1947-2011)

<i>Dependent Variable:</i>	Bill Reported		Passed Floor		Enacted into Law	
	(1)	(2)	(3)	(4)	(5)	(6)
Author-Chamber Median Dist.	-1.000*** (0.230)	-1.795*** (0.271)	-0.988*** (0.228)	-1.746*** (0.266)	-1.164*** (0.265)	-1.663*** (0.295)
Secret Ballot Reform	0.338*** (0.098)	-0.100 (0.129)	0.224** (0.100)	-0.206 (0.129)	-0.236** (0.107)	-0.592*** (0.138)
Reform*Author-Chamber Dist.		1.929*** (0.373)		1.910*** (0.370)		1.631*** (0.377)
Chamber Leader	0.500** (0.199)	0.390* (0.201)	0.558*** (0.199)	0.444** (0.200)	0.856*** (0.256)	0.745*** (0.259)
Private Bill	0.460*** (0.066)	0.479*** (0.065)	0.559*** (0.066)	0.577*** (0.065)	0.452*** (0.065)	0.464*** (0.064)
Vote Share	0.003* (0.002)	0.002 (0.002)	0.003** (0.002)	0.002 (0.002)	0.004** (0.002)	0.003 (0.002)
Committee Chair Author	0.438*** (0.113)	0.416*** (0.106)	0.396*** (0.112)	0.374*** (0.104)	0.408*** (0.117)	0.389*** (0.112)
Years Served	0.045*** (0.004)	0.046*** (0.004)	0.046*** (0.004)	0.046*** (0.004)	0.045*** (0.004)	0.046*** (0.004)
1st DW-Nominate Dim.	0.604*** (0.208)	0.503** (0.208)	0.693*** (0.203)	0.591*** (0.203)	0.670*** (0.232)	0.610*** (0.224)
Constant	-2.369*** (0.734)	-1.876** (0.742)	-1.516** (0.763)	-1.045 (0.773)	-0.164 (0.896)	0.182 (0.906)
Observations	177,995	177,995	177,995	177,995	177,995	177,995
Pseudo R-squared	0.0856	0.0879	0.0826	0.0848	0.0838	0.0851
Log Likelihood	-56524	-56377	-51527	-51401	-36665	-36613

Standard Errors Clustered on Member. *** p<0.01, ** p<0.05, * p<0.1

Table 3.7: Influence of post-reform change in Mean Author Ideology on Support for Committee Chairs

<i>DV: Votes Against Incumbent Chair</i>	
	(1)
Lagged Author-Chamber Median Distance (Aggregated by Committee)	-637.092** (297.438)
Constant	211.843** (83.477)
Observations	40
Committee Fixed Effects	Yes
R-squared	0.195

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

Table 3.8: Placebo Test: Changes Reporting in Senate Committees (Majority Party)

<i>DV: Bill Reported</i>	Congress Before & After		All Congresses	
	(1)	(2)	(3)	(4)
Author-Chamber Median Distance	-0.758 (1.142)	-1.176 (1.394)	-0.347 (0.247)	-0.218 (0.307)
Secret Ballot Reform	0.020 (0.236)	-0.179 (0.373)	-0.090 (0.122)	-0.029 (0.169)
Reform*Author-Chamber Distance		0.752 (0.792)		-0.281 (0.522)
Chamber Leader	0.680*** (0.130)	0.650*** (0.124)	0.223 (0.236)	0.233 (0.234)
Private Bill	-0.578*** (0.170)	-0.574*** (0.169)	0.160** (0.077)	0.158** (0.076)
Committee Chair	0.592*** (0.181)	0.604*** (0.180)	0.517*** (0.086)	0.515*** (0.086)
Years Served	0.000 (0.000)	0.000 (0.000)	0.000*** (0.000)	0.000*** (0.000)
1st DW-Nominate Dim.	0.632 (0.605)	0.629 (0.608)	0.526*** (0.185)	0.576*** (0.204)
Senate Majority Median			-0.807 (0.526)	-0.839 (0.529)
Senate Majority Spread			-0.521 (1.154)	-0.536 (1.154)
Senate Minority Median			0.086 (0.505)	0.069 (0.508)
Senate Minority Spread			-5.961*** (1.264)	-5.938*** (1.261)
Majority Size			-0.013** (0.007)	-0.013** (0.006)
Distance Between Party Medians			-1.981*** (0.379)	-1.984*** (0.380)
Constant	-1.429*** (0.368)	-1.311*** (0.444)	0.907* (0.493)	0.879* (0.498)
Observations	5,197	5,197	60,191	60,191
Pseudo R-squared	0.0254	0.0257	0.0228	0.0228
Log Likelihood	-2288	-2287	-30518	-30516

Standard Errors Clustered on Member

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

Chapter 4

Ballot Reforms and Social Influence in Historical American Elections

The sublimity of administration consists in knowing the proper degree of power that should be exerted on different occasions.

—Charles de Montesquieu

4.1 Abstract

The United States adopted the Australian ballot late in the 19th century on a state-by-state basis. Ballot reform sharply changed the way in which parties competed for votes, replacing a system in which political parties printed and distributed ballots to a system where the state printed a ballot and guaranteed its secrecy. While previous work documented several of the consequences of the reform, each seemingly

provide a different explanation for how the complex reform affected the electoral landscape. Laying out these alternative explanations that place an emphasis on party responses to the reform makes clear that additional untested consequences of the ballot switch remain. Building on a modern vein of political behavior research that shows the importance of a voter's social environment on the decision to mobilize, this paper tests a theory that vote secrecy affected bottom up social conformity pressures within communities. Linking electoral data from state districts in eighteen states with concurrent national election returns in a hierarchical model, I find evidence that ballot secrecy affected voter turnout independent of the strategic mobilization pressures previously shown in the literature. I discuss the implications of this finding with regards to the pressures of local social conformity. In the discussion I link the results to the burgeoning literature on ancillary social influences on voter behavior.

4.2 Introduction

The adoption of the Australian ballot at the turn of the century transformed U.S. elections. Prior to its adoption participation in national elections were staggering by modern standards. Turnout for presidential elections frequently exceeded 80% of the voting-eligible public in states. In some cases - like New Hampshire in 1890 - presidential turnout peaked above 90% of eligible voters. The turnout rate is not a function of restricting the electorate to only the most likely voters, though that may have had some influence on turnout. Relative to contemporary state regimes, New Hampshire electoral institutions disenfranchised a relatively small proportion of the population. But with the adoption of the Australian ballot turnout fell sharply and remained comparatively low through the twentieth century. Many explanations of this

dramatic rise and fall in turnout point to the impact of the reform on political parties ability to effectively and efficiently mobilize voters (Rusk, 1970; Converse, 1974; Rusk, 1974). Even within the literature linking the Australian ballot's imposition of vote secrecy to declining voter turnout, a multitude of potential explanations arise.

A considerable body of work shows that following ballot reform indicators of voter fraud dissipated, but exactly how widespread was election fraud prior to the reform? To be sure, there were notorious examples, and a handful of concrete cases have become classics because they were referred to so frequently in the contemporary literature. However, what is most impressive about that literature is how few (and not how many) concrete instances cited. It did not pile upon case to build to a conclusion, but used specific examples only as illustrations of the general-and taken for granted-principle that corruption pervaded the electoral political system (Kleppner, 1982).

A second vein of work claims that the drop in turnout was not simply due to a increase in the cost of vote buying tactic, but a decrease in the efficiency of voter mobilization more broadly. The party ticket system of the nineteenth century was a fused vote ticket, meaning that barring physically tearing apart ballots from different parties or pasting on slips of paper with a new candidate name a single ballot was a vote for a party's candidates up and down the ticket. As an argument for affecting turnout, the fused vote of the party ticket era aligned the incentives of candidates within the political parties to coordinate their efforts to maximize voter turnout (Engstrom and Kernell, 2014).¹ The extant literature on how the rule changes associated with the Australian ballot adoption has affected electoral outcomes primarily focuses on how the reforms changed the incentives and behavior of political parties.

¹Reflecting an earlier era of scholarship Burnham (1974) maintained that cultural differences between waves of immigrant groups lie at the heart of the changes in turnout in the electorate.

Parties' mobilization incentives under the party ticket system surely contributed a substantial portion of the larger turnout in the 19th century. The party ticket's fused voting and lack of secrecy offer comparatively more efficient mobilization opportunities than under the secret Australian ballot system that replaced it. Yet, I argue that the party ticket system arrangement would have also affected voters. The increased observability during the voting process would likely have enhanced the interpersonal pressures to behave in a manner consistent with the perceived social norms of the community. Two clear manifestations of a more observable voting process would be a pressure to conform in the act of voting and in the support of a particular party.

Drawing on findings from the last decade showing clear affects of social ties on voting behavior, I posit that the adoption of the Australian Ballot not only changed the incentives of political parties, but similarly altered the context of decision making for voters. With the increased potential of vote monitoring within an individual's social network, each party would rely on a highly decentralized mobilization strategy where the bulk of mobilization activities were delegated to local organizers affiliated with the party and linked into the voters' informal social networks. This raises an additional question of where a political party ends and interpersonal influences of a party's supporters begin.

I begin the following Section (II) by further organizing the extant literature on ballot secrecy and voter mobilization. Drawing on insights from both the consequences of Australian ballot in the United States, as well as findings about ballot secrecy in developing countries I identify a series of effects associated with the adoption of the Australian ballot. While the vast majority of the literature frames Australian

ballot reform primarily as a story about changing party mobilization, I investigate how secret voting might introduce new dynamics on voter decisions.

I offer a theory of voter mobilization in Section III that incorporates a social influence mechanism that turns our voters. The theory introduces a framework for unifying recent empirical findings of voter behavior with unidentified consequences of the Australian ballot adoption. The model provides empirical statics that offer clear, testable hypotheses. To test these hypotheses I introduce a previously unused data source from state house election results from the late 19th century and earlier 20th century in Section IV. Linking the electoral data from state districts in eighteen states with their corresponding national election returns, Section V reports these results showing evidence that changes in ballot secrecy independently affected turnout. These models account for multiple alternative explanations of turnout previously shown in the literature. These results show that the Australian ballot led to a precipitous drop in turnout even in the absence of both vote buying incentives and mobilization spillover from top of the ticket candidates. Moreover, I find a pattern of voter mobilization within the multitude of state districts compromising congressional districts to fit with a pattern of voter turnout reliant social mobilization and not strictly vote buying.

4.3 Previous research

Electoral participation as a percent of the voting eligible electorate peaked in the second half of the nineteenth century before declining sharply and remaining comparatively lower through the twentieth century. The transition from public party ballots to the government's secret ballot shifted the environment in which vot-

ers participated. When centrally administered, government-printed ballots replaced the party-centric system where parties provided voters with competing ballots to be deposited in public voting areas the act of deciding became private. The absence of secrecy in this voting system allowed parties to at a minimum exhort and monitor the turnout of voters, and at a maximum, financially induce their loyal participation (Cox and Kousser, 1981; Argersinger, 1992). With the adoption of the secret ballot and with it uncertainty over voters' ballot choices, costly mobilization strategies no longer guaranteed a positive return on investment.

4.3.1 Consequences of Ballot Reform

The two central features of the party ballot system of the 19th century was a that ballots were distributed directly by parties and that the tickets effectively served as fused votes. A fused vote meant that barring physically tearing apart ballots from different parties and pasting them together, a single ballot was recorded as a vote for party candidates up and down the ticket. Presently only a handful of countries - Bolivia, Honduras, Lebanon, and Uruguay - employ some version of a fused vote system, where a single cast ballot determines the outcome of elections at multiple levels of competition (Cox, 1997; Corstange, 2012). Rather than allocating legislative seats proportionally, like other fused vote systems, the U.S. maintains a plurality system, where every seats is awarded winner-take-all. The party ticket system was thus incomparable to all other electoral systems in the way it translated votes to legislative seats. Whereas proportional rules allocate seats reflecting the ratio of votes cast for each party, a plurality system allocates all seats to the party that received the most votes.

Every open seat in an election cycle from president to governor to municipal clerks, consequently, would be on the party's ballot (Burnham, 1974). The fortunes of down-ticket candidates in the system were inextricably linked to the electoral power of their party's presidential candidate. The party ticket system employed in the nineteenth-century U.S. aligned the incentives of candidates up and down the ticket to mobilize voters. But beyond the impact of ballot reform on turnout, surprisingly few have systematically examined the electoral consequences of the sweeping adoption of the Australian ballot.

The unique electoral rules of the U.S. party ticket system in the nineteenth century structured a political landscape uniquely sensitive to small shifts in voter turnout. Because a cast ballot in the pre-Australian system influenced the outcome of multiple candidates at different tiers of the federalist electoral system, their fates became collectively tied to mobilizing as many voters under that single ballot. The few other countries employing fused ballot electoral system, Uruguay for comparison, only link the executive and legislative chamber at the national level or use proportional and not plurality allocation rules (Cox, 1997).

As a signal to the cumulative effects of plurality and ballot length of the U.S. system, states governed by parties not in control of the presidency but with electorates favoring the president would often seek to hold elections counter-cyclical to presidential races to avoid being swept out of office (Engstrom and Kernell, 2005). Office-seeking candidates at different tiers of the federalist system - county, congressional district, state, and often national - had a strong incentives to coordinate mobilization strategies, which contrasts with candidates in the present system that have comparatively greater incentive to cultivate a personal vote (Carey and Shugart,

1995).

Several features of the party ticket system used in the U.S. during most of the nineteenth century made it particularly well suited to efficiently mobilize voters, such that the reward exceeded the costs. First, distributing ballots directly to the voters decreased the relative effort necessary to confidently track a voter claiming to vote for the party. Under the party ticket system fence-sitting voters would have a party ballot in hand when going to the voting booth. At worst they would not vote at all. However, in a secret ballot system a party would be more reluctant to bring the same fence-sitting voters to the polls, because voter could easily switch their decision once in the polling booth.

Cox and Kousser (1981) identify historical newspaper articles at the time of Australian ballot adoption in New York referencing a decline of vote buying and a rise of paying politically unaligned voters to stay home. Extending the logic of decreased vote buying found in New York, Heckelman (1995) showed that the decrease in turnout hewed closely to secret ballot adoption elsewhere, which he attributed to a drop in vote buying. The anecdotal evidence of vote buying in this era of the Tammany political machine model of politics are pervasive enough to suggest that voter fraud was, at the very least, a culprit in the declining turnout (Argersinger, 1992). Yet others Kleppner (1982) maintain that when contemporary reformers invoked the term “corruption” they did not limit its use to bribery and ballot stuffing, practices that would have fraudulently inflated turnout. Reformers judged the party ticket system to be “corrupt” because too many voters based their selections on narrow conceptions of their won (or their groups material self-interest, rather than on a broader conception of the public interest (Kleppner, 1982).

A second way in which the party ticket system could have stimulated higher turnout was through better coordination among a party's candidates. The party ticket motivated politicians to coordinate their campaign efforts to a far greater extent than appropriate for present day candidates because it linked the fate of a party's entire slate of candidates up and down the ballot to a single vote. If the campaign for one office on a party ticket had put in the effort to mobilize a voter that vote would be effectively won for all the races covered on the ballot. Additionally, all other candidates from that party would not need to expend the effort to assure the voter would vote party-line down (or up) the ticket. In short, by fusing candidates' electoral fortunes on to a single ballot and leaving to the political parties the distribution of ballots, the nineteenth century party ballot system led at times to heroic mobilization through the confluence of office seeking incentives.

The evidence supporting institutionally-structured strategic decisions for voter mobilization is quite strong. Historical accounts from U.S. elections in the 19th century (Argersinger, 1992; Heckelman, 1995) suggest that vote buying was a common mechanism of electoral fraud for strategic parties seeking to win office. So too was the incentive to pay voters to not vote following secret ballot adoption Cox and Kousser (1981). Turnout decreased precipitously in presidential elections (Engstrom and Kernell, 2005) and congressional elections (Engstrom, 2012) as it became more difficult for parties to mobilize voters—by both legitimate and nefarious means. In fact, the reduction in turnout caused by secret ballot adoption was most prominent when elections were close and the incentive to mobilize voters was strongest (Engstrom and Kernell, 2014).

However, just as it is with the case of party mobilization strategies, the insti-

tutional structure that shaped party incentives may also have shaped interpersonal aspects of the voting process. Public distribution of the ballot not only strengthened the party's hand for mobilizing voters, but from a voter's perspective also created a much more transparent voting environment much than the current secret ballot system. A system where a voter procured a ballot from a party ahead of an election, took that ballot to a polling station, and cast that ballot in open, all exposed that voter to potential community monitoring at each stage of the process. The current secret ballot system simply does not afford the same level of transparency. Empirical studies of historical voting patterns that attribute changes in voter turnout to culture Burnham (1974), vote buying Heckelman (1995), or party mobilization incentives (Engstrom 2012) must all take into account the way in which electoral rules also altered the voting environment in ways that made decisions more public. Changing the context in which decisions are made, electoral rules, both past and present, indelibly alter the environment of social considerations that influence political behavior. Though beyond the scope of most historical institutional examinations, a longstanding literature on electoral behavior links interpersonal ties to turnout decisions and political choices. To the extent electoral institutions affect a voter's social context, this behavioral literature may serve as scaffold on which to build theory.

4.3.2 Voter Sensitivity to Secrecy

Behaviors and attitudes of more proximate social ties correlate closely with individuals' political discussion partners and vote choice. Snowball surveys indicate that the political attitudes of conversation partners (Beck et al., 2002; Huckfeldt and Sprague, 1987), their degree of political sophistication (Kenny, 1992), and the result-

ing level of political homogeneity found within that discussion network (Huckfeldt, Johnson and Sprague, 2002; Mutz, 2002) all significantly predict a voter's participation and candidate choice. In short the more politically engaged, sophisticated, and ideologically similar an individual's peers are, the more likely, all else equal, that individual will vote, and will vote in conformity with their peers. Though the findings are robust across time and populations, snowball-sampling methods cannot provide clear causal inference because of the threat of endogenous homophily between individuals and their interaction partners.

One notable exception finds that social pressure messages threatening neighborly monitoring significantly increase voter turnout relative to other types of GOTV messages (Gerber, Green and Larimer, 2008). Similar research tapping into online social networks, find that simply showing subjects which of their friends had self-identified as voting boosted the likelihood of individuals voting (Bond et al., 2012). The experimental confirmations of findings from an earlier generation of correlational studies support the theory that individuals' turnout behavior is sensitive to the behavior of their interpersonal ties. But the story is a complicated one. A recent GOTV field experiment that reminded voters about the secrecy of their ballot increased turnout (Gerber et al., 2013). This stands in contrast to both the historical relationship to between secret ballot adoption and turnout as well as evidence from Gerber, Green and Larimer (2008). Arguably priming voters in a GOTV campaign with information about institutional features like ballot secrecy can provide researchers with the tools to experimentally test hypotheses about institutional mediation of social pressure. Little attention toward how electoral rules affect the visibility of voting acts make the investigation of Australian ballot adoption particularly compelling.

4.3.3 Party Brokers

In work examining vote buying in developing countries the relationship of secrecy and social influence have drawn attention to the role of local party brokers in facilitating. Typically social connections provide a means for a dispersed means of monitoring vote choices for political parties seeking to buy votes. The theoretical literature on the ability for potential vote buying parties and politicians to engage in voter fraud frequently identify the ability of political parties to monitor voter decisions as a necessary component for any vote buying scheme. Considerable anecdotal evidence of this monitored exchange of votes for money suggest that the practice is common in diverse settings through a variety of techniques (Argersinger, 1992; Cox and Kousser, 1981; Gingerich, 2013; Nichter, 2008). There is also a tendency to assume that if the conditions are ripe for vote buying to occur, which is to say that vote choices are not perfectly secret, then vote buying is the causal mechanism for illuminating findings and the behavioral outcomes that come out of such an environment are the consequence of the vote buying regime (e.g. Heckelman (1995); Keefer (2007)). In order for vote buying to reliably occur politicians must be able to monitor the vote choices of targeted voters to ensure that they honestly trade their vote for direct benefits, as opposed to surreptitiously voting for another candidates (Kitschelt and Wilkinson, 2007). The way in which electoral rules structure the visibility of a voter's voting process may still produce acquiescence in the voter to the political norms of their community. Because the electoral rules of the nineteenth century in many ways mirror the simple differences described above (differences in adherence to electoral fraud laws withstanding) historical voting patterns that purportedly show the effects of vote buying and political party sanctioning may also be a function of

the simple adherence to social conformity within highly transparent communities.

4.4 Theory

The primary goal of political parties is to elect candidates to office. In order to have candidates elected, political parties must win the votes of citizens in the electorate. This broad range of behaviors can be thought of as voter mobilization. When political parties mobilize voters their mobilization effort translates into votes with differing degrees of efficiency depending on electoral rules. For example, under the party ticket system preceding secret ballot adoption shepherding a prospective voter to the polls would nearly guarantee a vote for the party. The electoral rules provide a nearly 1:1 efficiency ratio of voters mobilized to votes cast in favor of the party. The same amount of effort expended in the post-reform era would have a less efficient ratio. A voter brought to the polls by a party worker may or may not cast a ballot in favor of the party that brought them to the polls. This is account of voter mobilization reflects the traditional understanding of voter mobilization. This is what I'll refer to as the primary mobilization effect of a political party.

However, there are many voters who arrive at poll stations shepherded not by political operatives, but instead surrounded by friends, family, or acquaintances. For a segment of this population the deciding factor of whether or not to vote – that marginal benefit pushing the grand calculus of voting to a net positive – stems from the influence and perceptions of others in their social environment. As a result many individuals arrive at the polls as a result of not just direct party mobilization efforts, but as consequence of the spillover effects of primary mobilization (increased turnout among those initially contacted). It is this turnout spillover (Gerber, Green

and Larimer, 2008; Bond et al., 2012) that I refer to as secondary mobilization (i.e. increased turnout among the friends of those initially contacted).

Many mobilization models, such as Uhlaner (1989) and Schram and van Winden (1991) argue that organized social pressure is a key tactic party leaders employ to get out the vote. As Shachar and Nalebuff (1999) phrased it: "We believe the social pressure is very important. There is a contagion effect. The more people in a social network that encourage a person to vote, the more likely that person is to vote and to encourage others to do the same." Applying this rationale to the late nineteenth century, the transition to the Australian ballot reduced the capacity of individuals socially proximate to influence an individual's vote. This in turn affected both the efficiency of primary and secondary voter mobilization. One can think of the sum total of mobilized voters as two subcomponents of a larger mobilization system. Consider the following equation taken from Cox (2015):

$$V_p(e_p, e_{-p}) = V_p^{(0)} + V_p^{(1)}(e_p, e_{-p}; K_p^{(1)}) + V_p^{(2)}(e_p, e_{-p}; K_p^{(2)}). \quad (4.1)$$

Where: $V_p^{(0)}$ denotes the vote share P would receive if $e = 0$; $V_p^{(1)}(e_p, e_{-p}; K_p^{(1)})$ denotes the increment to P 's vote share due to the primary mobilization fueled by effort e_p ; and $V_p^{(2)}(e_p, e_{-p}; K_p^{(2)})$ denotes the increment to P 's vote share due to secondary mobilization sparked by effort e_p .

The intuition behind this model is straight forward. First, a party mobilizes some portion of the electorate through campaign activities, such as canvassing, advertisements, candidate visits, etc. Additional voters who are not first mobilized directly through party efforts can also end up voting as a result of social influence exerted via their social network by those initially mobilized directly by campaigns. Following the

logic of experiments by (Gerber, Green and Larimer, 2008; Bond et al., 2012), this secondary mobilization influence can either be outright, as in an individual urging their family to vote or as an ancillary consequence to the initial voter's behavior. In the latter case, the secondary mobilization voters may be responding to real or perceived threats of social disapprobation or other forms of conformity inducing influences.

The efficiency of primary and secondary mobilization each depend on contextual factors in the electoral environment, which are represented in Cox's model by $K_p^{(1)}$ and $K_p^{(2)}$ respectively. The K parameter can encompass everything from campaign assets that increase the efficacy of campaign efforts (such as a high quality voter database) to the institutional rules that dictate the electoral game. It is in the latter case that I utilize the model to understand how the transition from the party ticket to the Australian ballot affects voter mobilization. Adoption of the Australian ballot changed both the degree of vote fusion and ballot secrecy in the voting process. Moreover, both of these electoral rule changes have the potential to increase primary and secondary mobilizing efficiency. Put differently, both components of the reform can influence the K parameter of the primary and secondary mobilization. Electoral rules can directly affect the net costs voters must bear to participate in elections by poll taxes, fines for nonvoting, and other means. Electoral rules can also influence voters' perceptions and thus indirectly affect turnout as well.

Vote Secrecy, Vote Buying and Social Context

A political party's ability to identify its supporters and opposition is essential for efficient allocation of mobilization resources. To this end, vote secrecy directly affects the degree to which political parties will seek to mobilize voters to the polls.

To the extent a political party can identify these individuals it then must ensure that these individuals "vote correctly" from the perspective of the party. That is, supporters vote for the party and opposition voters either stay home or are induced to switch their loyalties. Without the ability to closely monitor a voter's decision at the poll the decision to mobilize them to vote is an ambiguous affair. Consequently, increasing ballot secrecy may cause a political party to reallocate mobilization resources away from turning out undecided voters whose behavior can be clearly monitored to mobilizing the party faithful whose vote choice need not be monitored. Under the party ticket system, parties distributed ballots of atypical size, scent, and color to increase the visibility of voters' vote choices to the network of party activists (Argersinger, 1992).

Together this would suggest that ballot secrecy decreases voter mobilization by reducing the certainty that a mobilized voter's ballot is cast in favor of the mobilizer's party. In the Cox (2015) model of voter mobilization these direct voter contacts would fall under primary mobilization. As an election becomes more competitive the incentive to increase turnout by an additional marginal voter is greater than if the election were uncompetitive. Consequently, when competitive elections increase voter mobilization, we should observe an amplification in the mobilization effect prior to Australian ballot adoption.

Hypothesis 1: Adoption of ballot secrecy decreases turnout relative to the pre-reform party ticket system when the value of voter mobilization is at its highest: tightly contested elections

The relationship between vote secrecy and higher turnout may also exist outside the channel of the strategic mobilization described above. Variation in electoral rules provision of choice secrecy may also affect the degree to which individuals con-

sider the preferences of others into their political decisions. Not all individuals a potential voter interacts with on election day is a party activist and their preferences and attitudes may factor into the decision of whether to vote. Prior to the party ticket era, in which an individual would need to seek out a party ticket to cast at the polls, the public effort necessary to vote was likely greater and subject to draw greater attention in the pre-secret ballot era. Because the parties printed ballots and then distributed their ballots to voters to later be taken to the polls, the institutional setting gave parties unique powers to tap into interpersonal influences to compel a voter to mobilize.

Ballot secrecy decreases secondary voter mobilization by decreasing the degree of social monitoring of the act of voting. Even when the outcome of the election is not in doubt, a lack of vote secrecy should increase the weight of social observation, which in turn should stimulate turnout.

Hypothesis 2: Adoption of the Australian ballot secrecy decreases turnout even in the absence of the incentive to mobilize voters to the polls.

Moreover, partisan voters in the minority in partisan districts should be uniquely sensitive to the secondary mobilization influences of secret ballot adoption. In a context where the prevailing partisan support runs counter to a potential voter's preference, the adoption of the Australian ballot may afford the voter the veil of secrecy to vote their true preferences.

Hypothesis 3: The transition from party ticket to state-printed Australian ballots decreases voters' willingness to conform to the prevailing attitudes in their district leading to increased competitiveness of elections.

Vote Fusion and Ticket Splitting

When separate offices are elected concurrently, voters mobilized for one race may or may not vote for co-partisans running in other races. While the party ticket system never legally fused together the electoral fortunes of a party's slate of candidates, it did create a de facto system of fusion. In the party ticket system if a voter wanted to cast her vote for candidates from different parties they would need to physically split multiple party tickets and paste together the remnants into a coherent ballot. Consequently, the adoption of the Australian ballot marked the dawn of split-ticket voting ((Rusk, 1970)). Pushing beyond the rate of ticket splitting, Engstrom and Kernell (2014) argue that the vote fusion party ticket drove turnout higher vis-a-vis vote fusion of the Australian ballot affected US turnout rates. Vote fusion increases voter mobilization by aligning the incentives of candidates to coordinate their turnout efforts.

Hypothesis 4: Turnout in state district elections will be differentially higher under the party ticket system the greater number of concurrent offices on the ballot.

The primary and secondary mobilization mechanism of the Australian ballot's office fusion has been demonstrated before with presidential and congressional elections Engstrom (2012); Engstrom and Kernell (2014). Thus this hypothesis will not be tested in this paper. That said, under a more fused electoral system the number of separate contests held concurrently increase the potential benefits of amassing a 50% +1 vote margin. The way in which that 50% +1 majority is distributed across a congressional district, however, is still subject to district-level deviations in the efficiency and incentives for voter mobilization.

Hypothesis 5: Office fusion under the party ticket leads to greater cross-sectional variability of mobilization and turnout.

4.5 Data and Estimation

To assess the impact of local context on the political preferences of 19th Century voters I utilize a new dataset of state house elections from 18 states. Table 4.1 identifies the states in the dataset. These election results come from a larger set of returns collected in (Engstrom and Kernell, 2014). Utilizing the geographic indicators listed in some historical state electoral returns I was able to place state electoral districts within congressional districts in eighteen states. With few exceptions both state electoral district and congressional district boundaries coincide with county lines. In certain high population areas (e.g. Baltimore, New York City, San Francisco, etc.) multiple congressional districts within a single county complicated matters. For several of these multi district counties I used refined geographic indicators (township, boroughs, etc.) recorded in the historical state election files to identify sub-county locations of the electoral districts. Then, relying on the Lewis-Martis Congressional mapping project to identify congressional district boundaries, I was able to manually nest the state district within specific congressional districts. (Lewis et al., 2014).²

I omit from the analysis all state districts that I am unable to definitively locate in a congressional district. All told, I successfully place over 87% of state electoral districts with identified boundaries in congressional districts. This is the first use of the actual vote shares and totals from the state election data. The national electoral data comes from (Engstrom, 2012). States have a long history of developing new electoral rules. In addition to the adoption of the Australian ballot the turn of the twentieth century was a particularly active time for electoral reform. Table 4.1 identifies additional electoral rule changes for the selected states, including poll taxes,

²<http://cdmaps.polisci.ucla.edu>

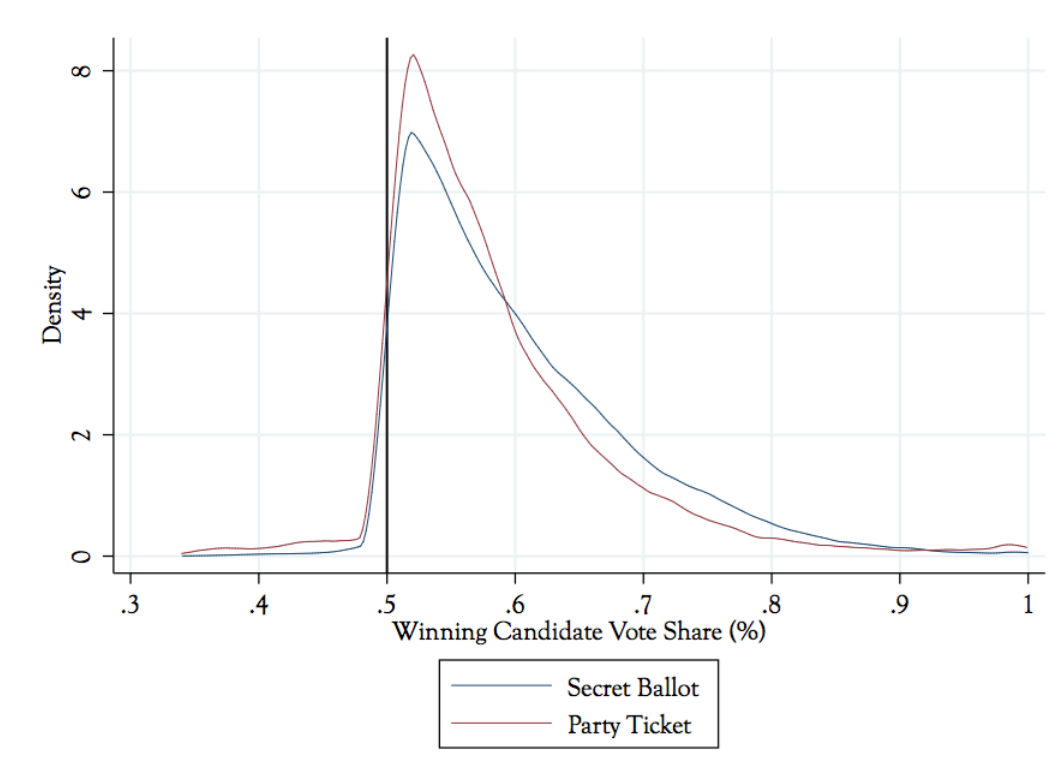


Figure 4.1: Pre-Post Ballot Reform Winning Vote Share (State House Election)

literacy tests, and women’s suffrage). Collectively these shaped electoral competition in this period and are important controls. Finally, I extract several electoral timing variables from (Engstrom, 2012) to identify the instances of counter-cycle state district elections. Figure 4.1 illustrates the pre-post ballot reform state house election winners’ vote share.

4.5.1 Estimation

The present analysis lends itself to a time-series hierarchical model, where state-districts are nested within congressional districts, which are themselves nested within state-years. To empirically test whether the Australian ballot affected turnout

independent of vote buying and vote fusion, I employ a series of time-series cross sectional regression. The generalized model is as follows:

$$Y_{i,j} = \alpha_{i,t} + \beta_1 \text{Ballot}_{i,t-1} + \beta_2 \text{Margin}_{i,t} + \beta_3 X_{i,t} + \tau_t + \gamma_i + \epsilon_{i,t} \quad (4.2)$$

Where: $Y_{i,t}$ is the margin of victory in state district i in year j , $\beta_1 \text{Ballot}_{i,t-1}$ is the coefficient for the type of ballot used in the election i , $\beta_2 \text{Margin}_{i,t}$ is the margin of victory at the Congressional Level, i , $\beta_3 X_{i,t}$ is a vector of control variables, τ_t is a vector of congressional session fixed effects, γ_i is a vector of panel fixed effects, $\epsilon_{i,t}$ is the error clustered by state district for each decennial redistricting.

One may also expect variation in the degree to which votes were observable prior to the reform. A hierarchical model allows for effects at multiple levels of the model to vary, which is important given that districts within states will vary as well as states within election years. So too, for that matter, will elections from year to year—something normally soaked up with year fixed effects in time series models. I also report hierarchical models following the general empirical model below:

$$Y_{ijt} = \alpha_{ijt} + \beta_{ijt}X + \tau_t + \gamma_i + \kappa_{j(i)} + \epsilon_{ijt} \quad (4.3)$$

Where: Y_{ijt} is the margin of victory in district j within state i for year t , $\beta_{ijt}X$ is the matrix of independent variables, τ_t is a vector of congressional session fixed effects, γ_i is a random intercept at the state district level, $\kappa_{j(i)}$ is a random intercept at the state level, ϵ_{ij} is the error clustered by state district.³

³The reported results were tested using a variety of hierarchical model specifications augmenting the number of levels and random-slope parameters for a variety of variables. The results are quite

4.6 Results

In order to identify any effects of the ballot reform specific to changes in vote secrecy we must first identify a way to control the simultaneous changes in vote fusion. Exploiting variation in the election timing to isolate cases where state district elections occur separate from statewide races offers one such method. The reported results in Table 4.2 specifically include only those state house elections occurring off-cycle from other state-wide elections. Doing so provides insulation against the vote fusion aspects of the party ticket system. Any observed turnout differences cannot be attributable to secondary mobilization spillover from high profile elections. With no other top-ticket elections concurrent to the state house election the reported higher turnout differences are not attributable to the secondary mobilization spillover from high profile elections. I find support for Hypothesis 1 that competitiveness led to greater mobilization in the party ticket era than in the secret ballot era. In Column 2 of Table 4.2 the results show that as the competitiveness of an election increased there was a differential increase in mobilization under the party ticket system relative to the post-reform elections. Moreover, I find evidence that ballot reform lowered turnout independent of strategic mobilization and ballot fusion spillover. The reported results in Column 1 of Table 4.2 show that turnout in state house districts decreased following the adoption of the Australian ballot. All components of the interactions in Column 2 (Ballot adoption, margin of victory, ballot*margin) are significant. While electoral competitiveness drove turnout both before and after the reform, the empirical evidence suggests that the lack of ballot secrecy in the pre-reform era aided in the efficiency of voter mobilization.

consistent across specifications.

Given that the interaction term between margin of victory and ballot reform effectively controls for the incentive for parties to mobilize voters, it is particularly noteworthy that the main effect of ballot reform remains significant. Irrespective of the differential capacity for political parties to mobilize voters when it counts (e.g. close elections), the adoption of the Australian ballot substantially reduced the total number of votes cast in any given election. This evidence supports Hypothesis 2, that ballot secrecy affected voter turnout through changes in voter behavior as well as party behavior. The hierarchical specifications reported in Columns 3 & 4 show that the results are not a function of model dependency. The marginal effect of the ballot-margin of victory interaction displayed in Figure 4.2 reveal that the result is not only statistically significant but substantively impactful. Highly competitive elections drive nearly twice as many voters to the polls in the pre-reform era as compared to under the Australian ballot. Moreover, turnout is relatively unresponsive to competitiveness under the Australian ballot.

The models reported in Table 4.3 provide support for Hypothesis 3, that the level of election competitiveness increased as a consequence of ballot introduction. To account for the simultaneous effect of office fusion in the party ticket system, I interact the number of state-wide offices on the ballot simultaneous to the state district election. The results show that even when zero statewide offices on the ballot the average margin of victory in state district elections decreased by roughly eight percentage points. Because the coefficient interactions make it difficult to evaluate the substantive effects of the models in Table 4.3 I report the marginal effects of the interaction in Figure 4.3. When contrasted with the state house elections with multiple state-wide offices on the ballot, one can easily observe a distinct change in

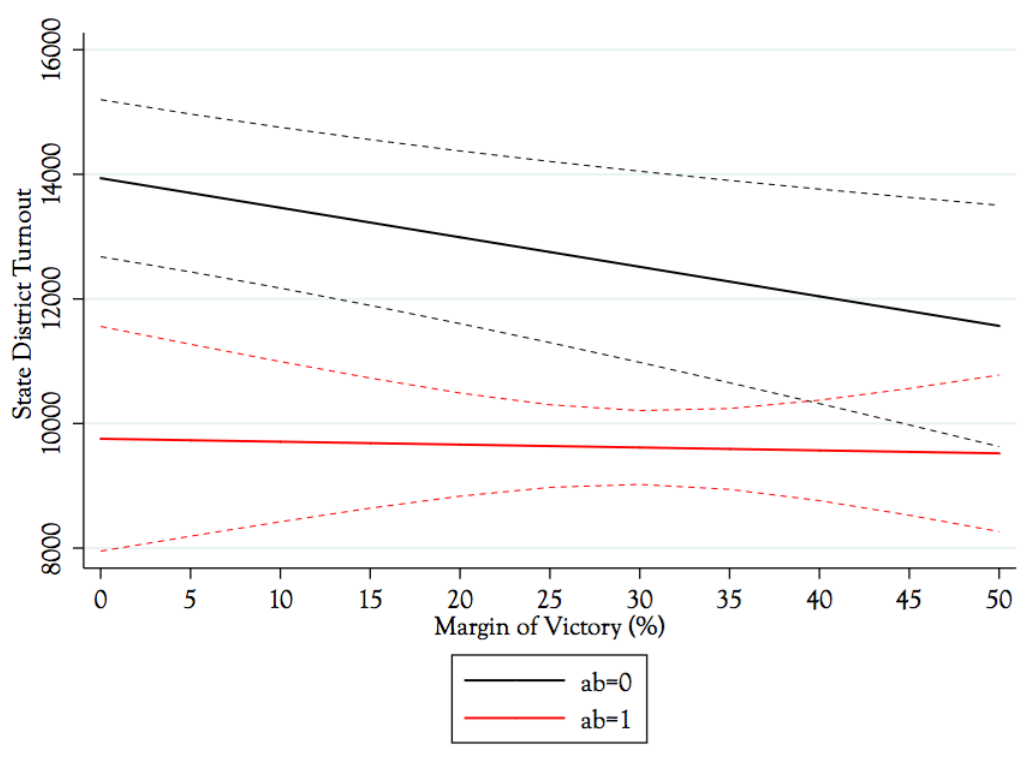


Figure 4.2: Marginal Effects of Ballot Reform on State District Turnout by Margin of Victory

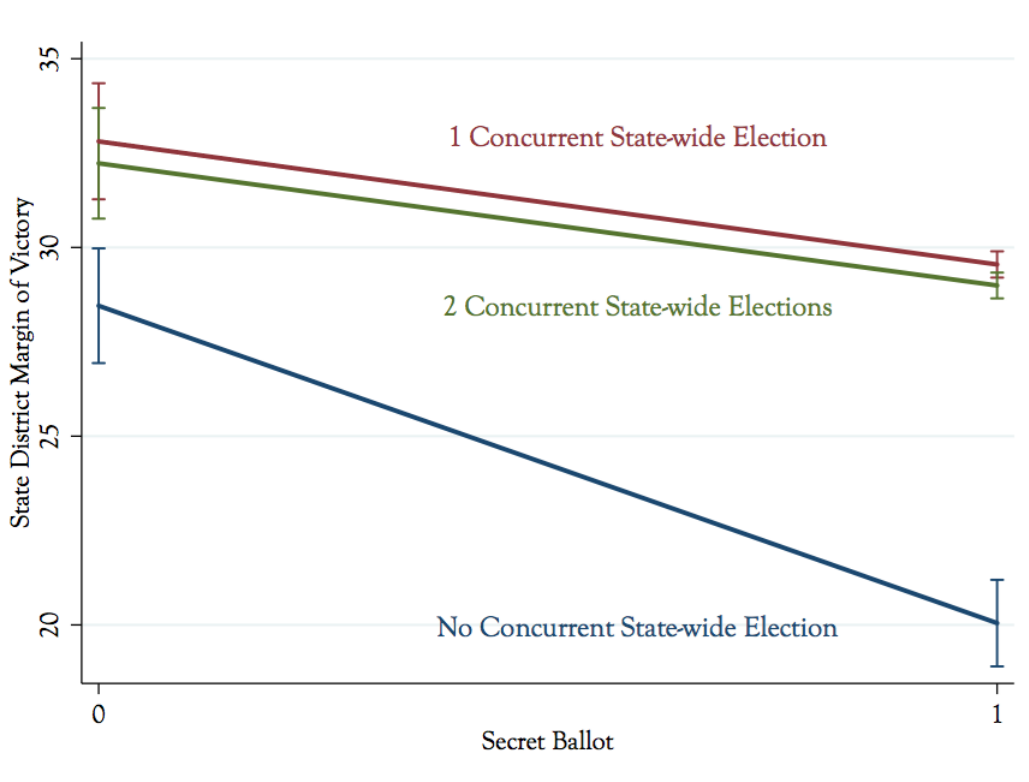


Figure 4.3: Pre-Post Ballot Reform Winning Voter Share (State House Election)

the level of competitiveness. The hierarchical replication models in Columns 3 & 4 of Table 4.3 show the relationship is robust to more rigorous specifications.

Turning attention to the impacts of decreased office fusion under Australian ballot, Table 4.4 reports results on the change in variance of state district election turnout within a given congressional district following ballot reform. The dependent variable is the variance of state district outcomes within a congressional district. The results show a marked increase in the variability of state district turnout following the decoupling of offices on the Australian ballot. Figure 4.4 best illustrates the differences between the two ballot types. On one hand we observe under the Australian ballot considerable stability between the variation in state district turnout and congressional

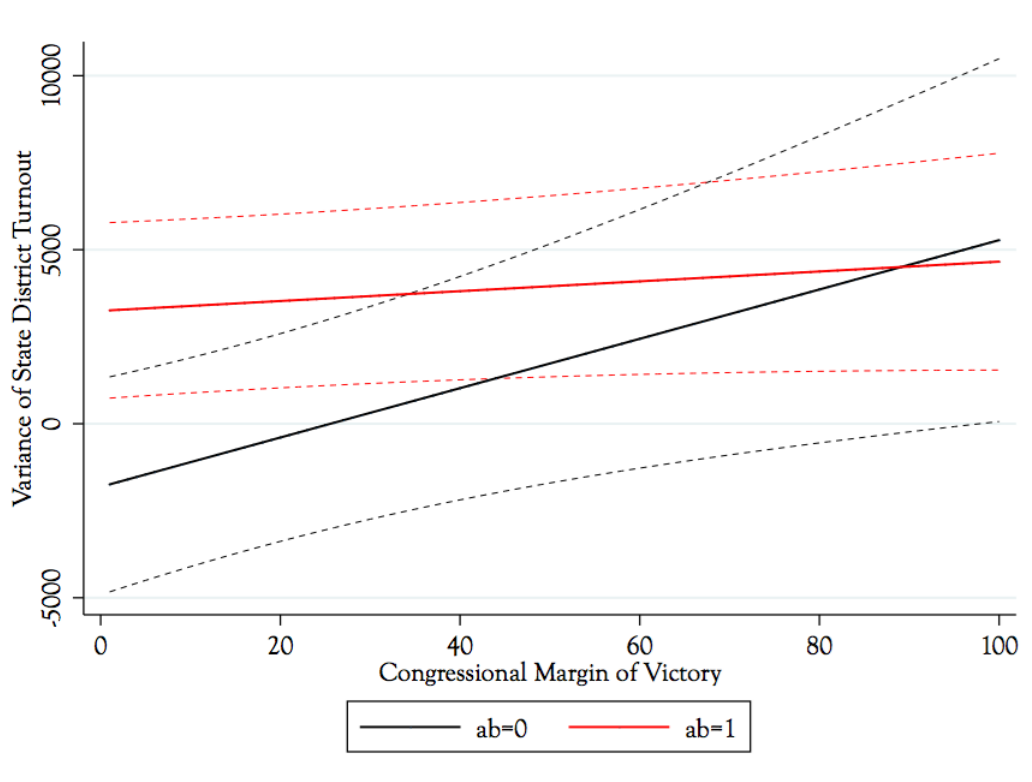


Figure 4.4: Marginal Impact of Ballot Reform on Variation of Turnout within Congressional District

district margin of victory. In contrast, we see that the variation in turnout at the state district level is much more dependent on the competitiveness of the congressional election. This evidence is in line with the prediction in Hypothesis 5. Simply put, the spillover of a congressional election's competitiveness has a smaller impact on the overall spread of state district election totals.

4.7 Discussion

This paper offers support to the theory that the adoption of the secret ballot uniquely depressed voter turnout. But moving beyond previous studies merely suggesting that the relationship between turnout and ballot reform exists, this study

seeks to disentangle the various mechanisms underlying the relationship. Whether designed as an attempt to disenfranchise certain voters or reign in voter fraud, the Australian ballot appears to have had a number of intended and unintended consequences. By both altering the secrecy of the ballot and defusing the electoral fortunes of candidates up and down the ticket, the reforms led to changes in both primary and secondary mobilization incentives.

One alternative explanation of the higher turnout in uncompetitive elections in the party ticket era, is simply that local political parties were more robust organizations and better able to boost local candidates even when elections were uncompetitive. If that were the case, however, why would parties would expend resources in uncompetitive elections to boost turnout is unclear? A more strategic allocation of resources would direct the funds for mobilization toward more competitive districts where a marginal increase in the number of votes may flip the election and thus the legislative seat.

Ballot reform lowered turnout by changing the incentives of political parties to bring voters to the polls and restructured the ballot choice available to those who did show up at the polls. But not only did political parties structure their mobilization efforts differently as a response to the Australian ballot, so too did voters alter their behavior. The newfound secrecy afforded by the Australian ballot reduced the salience of contextual pressures to vote and vote in conformity with prevailing opinion. As a result I argue that ballot reform affected the calculus of voters as much as the calculus of parties. In the absence of potential monitoring of voter ballots, the post reform led to a more competitive local elections.

As recent experimental GOTV approaches to voter mobilization have shown

leveraging citizen's sensitivity to social influence can effectively increase mobilization (Gerber, Green and Larimer, 2008; Bond et al., 2012; Gerber et al., 2013). If the normative pressure to vote was as strong in the pre-secret ballot era as it is today, there is no reason to think that changes in the landscape of potential vote monitoring would have strong impacts on voter turnout and vote choice. In this sense the institutional shift away from a secret ballot may have not only reduced political parties incentives to mobilize voters to the polls, but it also limited the socially-originated pressures to participate.

Table 4.1: Electoral Law Changes By State

State Name	# Elections	Secret Ballot	Women's Suffrage	Poll Tax	Literacy Test
Arizona	515	1891	1912		1912-
California	2,231	1891	1917		1894-
Colorado	1,013	1891	1893		
Connecticut	6,094	1909	1920		1856-
Idaho	1,058	1891	1896		
Iowa	2,044	1892	1919		
Kansas	4,864	1893	1912		
Maryland	2,188	1892	1920		
Massachusetts	2,293	1888	1920	-1891	1857-
Michigan	2,346	1891	1918		
Missouri	3,815	1891	1919		
Nevada	1,241	1891	1914	-1910	
New Hampshire	9,556	1891	1920		1902-
New Jersey	2,267	1911	1920		
New Mexico	689	1912	1920		
New York	7,037	1895	1917		1921-
Rhode Island	2,694	1889	1917	-1888	
West Virginia	1,481	1891	1920		
Wyoming	1,420	1890	1869		1889-

Notes: Electoral law changes taken from (Lott and Kenny, 1999). Australian Ballot Reform dates from (Engstrom, 2012).

Table 4.2: Impact of Ballot Adoption on State District Turnout

	DV: State House District Vote Count			
	<u>Time-Series Cross-Sectional</u>		<u>Multi-Level</u>	
	(1)	(2)	(3)	(4)
Australian Ballot	-3,373.381*** (1,122.970)	-4,182.918*** (1,419.700)	-1,831.074* (1,046.238)	-1,875.829* (1,092.404)
Margin of Victory	-23.305 (21.496)	-47.418*** (15.226)	-25.259** (10.177)	-27.061* (16.026)
Ballot*Margin		42.755** (20.813)		3.036 (20.817)
Female Suffrage	2,124.204*** (637.666)	2,106.062*** (641.232)	7,093.800*** (999.867)	7,094.692*** (999.905)
Literacy Test	-16,231.246 (10,339.151)	-16,389.425 (10,340.428)	10,363.354*** (1,106.488)	10,360.771*** (1,106.682)
Restricted Pop. %	128.437*** (22.338)	127.758*** (21.980)	325.976*** (56.291)	325.992*** (56.300)
Year	1,060.822*** (199.191)	1,061.635*** (199.411)	374.132*** (39.377)	373.809*** (39.447)
Poll tax			2,739.379 (4,161.717)	2,724.489 (4,168.135)
Constant	-1,991,459.6*** (374,942.1)	-1,992,471.6*** (375,224.6)	-728,012.9*** (76,205.3)	-727,373.9*** (76,350.8)
Observations	7,346	7,346	7,346	7,346
R-squared	0.245	0.245	–	–
Log Likelihood	–	–	-82530.4	-82530.4
State FE	Yes	Yes	No	No
State RE	No	No	Yes	Yes
District RE	No	No	Yes	Yes
State Districts	744	744	744	744

Clustered standard errors in parentheses

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

Table 4.3: Impact of Ballot Adoption on State District Margin of Victory

	DV: State District Margin of Victory			
	<u>Time-Series Cross-Sectional</u>		<u>Multi-Level</u>	
	(1)	(2)	(3)	(4)
Australian Ballot	-3.783*** (0.806)	-8.408*** (1.115)	-3.618*** (0.774)	-8.570*** (1.106)
1 Concurrent	-0.180 (0.426)	-3.650*** (0.770)	0.156 (0.617)	-3.649*** (0.925)
2 Concurrent	-1.243 (0.403)	-4.541*** (0.687)	-1.14 (0.636)	-4.496*** (0.909)
Ballot*1 Concurrent		5.145*** (0.907)		5.642*** (1.019)
Ballot*2 Concurrent		5.171*** (0.853)		5.279*** (1.007)
Poll Tax	-13.175*** (4.040)	-13.040*** (4.048)	-10.947*** (1.740)	-10.552*** (1.742)
Female Suffrage	5.867*** (0.991)	5.664*** (0.991)	9.274*** (0.735)	9.057*** (0.736)
Literacy Test	5.555*** (0.705)	5.643*** (0.703)	6.250*** (0.596)	6.285*** (0.596)
Year	-0.804 (0.747)	0.099*** (0.029)	-1.455 (1.207)	0.028 (0.028)
Constant	1,586.5 (1,399.7)	-100.8* (55.7)	2,809.9 (2,260.3)	36.5 (52.9)
Observations	52,613	52,613	52,613	52,613
R-squared	0.075	0.076	–	–
Log-Likelihood	–	–	-249697.5	-249677.8
Congress FE	Yes	Yes	Yes	Yes
State RE	No	No	Yes	Yes
District RE	No	No	Yes	Yes
Number of Districts	2,817	2,817	2,817	2,817

Clustered standard errors in parentheses

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

Table 4.4: Variation of State District Turnout and Australian Ballot Adoption

	DV: Variance of State District Turnout		
	(1)	(2)	(3)
Australian Ballot	3,864.044*** (1,166.511)	4,073.616*** (1,167.094)	5,057.157*** (1,267.022)
Margin of Victory	22.653** (10.547)	23.249** (10.531)	70.893*** (26.234)
Ballot*Margin			-56.749** (28.625)
Poll Tax		5,087.857* (2,616.055)	5,268.391** (2,620.431)
Female Suffrage		2,494.698** (1,051.688)	2,506.009** (1,051.131)
Literacy Test		-548.602 (777.142)	-541.644 (776.978)
Year	-587.072 (498.950)	85.125 (121.472)	92.163 (121.453)
On Cycle		781.182 (506.673)	797.463 (506.464)
Off November		11,294.663*** (3,169.667)	11,347.381*** (3,167.860)
Constant	1092900.179 (929,630.557)	-160,671.271 (235,386.718)	-175,176.538 (235,362.479)
Observations	3,118	3,117	3,117
Congress FE	Yes	Yes	Yes
State RE	Yes	Yes	Yes
Congressional District RE	Yes	Yes	Yes

Robust standard errors in parentheses

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

Appendix A

Vermont Town Clerk Survey

INSTRUCTIONS: This is a brief survey about the history of voting procedures in Vermont Town Meetings. Please answer the questions to the best of your abilities. If you find that you have submitted incorrect or incomplete information, you may follow the original link in the email and fill out the survey again. Please use the open response section at the end to indicate any additional information you may think is helpful. If you have any questions concerning the survey, please e-mail sguenthe@ucsd.edu with the subject line reading: "TOWN SURVEY QUESTIONNAIRE". Thank you for your participation!

Scott Guenther, Ph.D. Candidate
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Department of Political Science
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La Jolla, CA 92093-0521

1. Town name:
2. County name:
3. Name of School district:

We are now going to ask a series of questions about the type of procedures are used to vote for specific elected positions and budget items.

TOWN MODERATOR

4. How does your town currently vote for the town meeting moderator?

- Australian Ballot
 - Floor Vote
5. What year did your town start using this voting procedure to elect the town meeting moderator?
 6. What voting rule was in place before the current system for the town meeting moderator?
 - Australian Ballot
 - Floor Vote
 - Has Not Changed

TOWN CLERK

7. How does your town currently vote to elect the town clerk?
 - Australian Ballot
 - Floor Vote
8. What year did your town start using this voting rule to elect the town clerk?
9. What voting rule was in place before the current system for electing the town clerk?
 - Australian Ballot
 - Floor Vote
 - Has Not Changed

SELECTBOARD MEMBERS

10. How does your town currently vote to elect the selectboard members?
 - Australian Ballot
 - Floor Vote
11. What year did your town start using this voting rule to elect the selectboard members?
12. What voting rule was in place before the current system for electing the selectboard members?
 - Australian Ballot
 - Floor Vote
 - Has Not Changed

SCHOOL BUDGET

13. How does your town currently vote for the school budget?
 - Australian Ballot
 - Floor Vote
14. What year did your town start using this voting procedure for the school budget?
15. What voting rule was in place before the current system for the school budget?
 - Australian Ballot
 - Floor Vote
 - Has Not Changed

TOWN BUDGET

16. How does your town currently vote for town budget articles?
 - Australian Ballot
 - Floor Vote
17. What year did your town start using this voting procedure for town budget articles?
18. What voting rule was in place before the current system for the town budget?
 - Australian Ballot
 - Floor Vote
 - Has Not Changed

MEETING TIMES

19. What time of day is your town meeting held?
 - Morning (08:00-11:00)
 - Mid-day (11:01-14:00)
 - Afternoon (14:01-17:00)
 - Evening (17:01-23:59)
20. What time of day is your school meeting held?
 - Morning (08:00-11:00)
 - Mid-day (11:01-14:00)
 - Afternoon (14:01-17:00)

- Evening (17:01-23:59)
- Different Day

21. In what year did your school meeting begin starting at this time?

22. If the time has changed, what was it before?

- Morning (08:00-11:00)
- Mid-day (11:01-14:00)
- Afternoon (14:01-17:00)
- Evening (17:01-23:59)
- Not Applicable

23. Name of questionnaire respondent:

24. Email Address:

25. Please provide any additional comments in the space below that may help clarify your answers.

Appendix B

School Board Survey

INSTRUCTIONS: This brief survey asks questions about school financing in Vermont towns. As a member of your town’s school board you have unique insight into how different rules may affect your community. Please answer the questions to the best of your abilities. Please use the open response section at the end to indicate any additional information you may think is helpful. This survey is part of a broader dissertation project on public financing of local services. If you have any questions concerning the survey please e-mail sguenthe@ucsd.edu with the subject line reading: “School Board Survey”. Thank you for your participation!

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1. Town name:
2. School district name:
3. What is your age?
4. What is your gender?
 - Male
 - Female
 - Decline to state
5. What is your role on your school board?

- School Board Chair
 - School Board Member
 - Not a School Board Member
6. How many years have you served on the school board?
7. When was the most recent election for your position?
- 2014
 - 2013
 - 2012
 - 2011
 - 2010
 - 2009
 - 2008 or before
8. Was your election contested by another candidate?
- Yes
 - No
9. What percent of the vote did you receive in this most recent election?
10. What was the voting procedure for your last election?
- Australian Ballot
 - Public Vote in School Meeting

The purpose of the following section is to better understand how your school board develops its school budget.

11. On average, over the course of the year how many meetings open to the public does your school board hold relating to the development of the school budget?
- 0
 - 1
 - 2
 - 3
 - 4
 - 5
 - 6

- 7
- 8
- 9
- 10+

[If 0 Is Selected, Respondent Skipped To Question 13]

12. What percent of the time do the following groups of community members attend school board meetings on budgetary issues?

	Never	About 25%	About 50%	About 75%	Always
School Administrators					
Teachers					
School Staff					
Parents of Current Students					
Students					
Lower Spending Advocates					
Higher Spending Advocates					
Non-Residents					

13. To your knowledge has your town's school budget vote ever failed?

- Yes
- No

[If No Is Selected, Respondent skipped to Question]

14. To the best of your abilities identify the years in which the vote for the school budget failed.

- 2014
- 2013
- 2012
- 2011
- 2010
- 2009
- 2008
- 2007
- 2006
- 2005
- 2004

- 2003
 - 2002
 - 2001
 - 2000
15. How many votes were held in the most recent failed budget vote?
16. Does your town's annual school meeting occur the same day as the annual town meeting?
- Yes
 - No
17. What factors influence having the meeting at the time that you do (Check all that apply)
- Tradition
 - Larger attendance than alternatives
 - Access to space
 - Most convenient for school board members
 - Attendees at this time are more supportive of public education
 - Determined by last annual meeting
 - Other
18. How does your town currently vote for the final school budget?
- Australian Ballot
 - Public Vote in School Meeting
 - Secret Vote in School Meeting

[If Public Vote in School Meeting Is Selected, Respondent Skipped to Question 22]

19. Were you a member of the school board when the Australian ballot was adopted for passage of the school budget?
- Yes
 - No
20. To what extent has the adoption of the Australian ballot affected your town's school budget on the following issues?

	Strongly Disagree	Disagree	N/A	Agree	Strongly Agree
The school budget is more difficult to put together					
The public's influence on the budget has increased					
The school board drafts more cautious budgets					
The school budget is more likely to fail					
Fewer people attend the school meeting					
More people attend school board budget meetings					

21. In your opinion has the adoption of Australian Ballot voting made it more difficult to pass a school budget in your town?

- Yes
- No

[Survey Ends]

22. Has your town formally considered voting on the school budget by Australian ballot?

- Yes
- No

23. Do you think the adoption of the Australian ballot in your town would make the budget more difficult to pass?

- Yes
- No

24. To what extent do you think the adoption of the Australian ballot for the school budget would affect the school budget process?

	Strongly Disagree	Disagree	N/A	Agree	Strongly Agree
Would increase public influence on the budget					
School board would draft more conservative budgets					
Year-to-year changes in the budget would increase					
The school budget would be voted down more often					
Would increase board meeting attendance					

Please provide any additional comments that you may have about how your school board develops the school budget or about the survey in general. Please provide your email if you would like to receive an update on this project after the data have been analyzed.

Appendix C

Committee Chair Election Results and Analyses

An additional question in assessing the relationship between chair elections and the distribution of reported bills is whether the effects of chair elections were heterogenous across committees. The heterogenous composition of committees chairs could respond quite differently to the reforms given their own policy preferences, as well as the composition of preferences on the committee. At the beginning of the 93rd Congress with the introduction of secret chair elections, all but one chair up for a vote previously led the committee. The new chair, Representative Diggs (D-MS), would lead the District of Columbia Committee, replacing McMillan of South Carolina, who lost his Democratic primary. The vote totals for and against the proposed chairs in the 93rd Congress and the 94th Congress are listed in Table C.1. The Committee on Internal Security was disbanded at the end of the 93rd Congress and thus no chair elections occurred the following Congress.

To assess whether the reform affected committees differently Figure C.1 displays the visually weighted lowess regressions for each committee's reported bills in the Congress before and after the implementation of secret chair elections. The blue lines depict the 92nd Congress prior to reform and the orange lines depict the 93rd Congress following reform. The significant differences in legislative success among

Table C.1: Vote Totals for 93rd and 94th Congress Chair Elections

Committee	93rd Congress				94th Congress		
	Chairman	For	Against	District	Chairman	For	Against
Agriculture	Poage	169	48	TX-11	Poage	141	146
Appropriations	Mahon	190	19	TX-19	Mahon	193	94
Armed Services	Hebert	154	41	LA-1	Hebert	133	152
Banking and Currency	Patman	155	40	TX-1	Patman	117	152
District of Columbia	Diggs	154	36	MI-13	Diggs	259	18
Education and Labor	Perkins	170	16	KY-7	Perkins	258	27
Commerce	Staggers	150	6	WV-2	Staggers	194	54
Foreign Affairs	Morgan	173	9	PA-22	Morgan	260	13
Government Operations	Holifield	172	46	CA-19	Brooks	260	9
House Administration	Hays	117	39	OH-18	Hays	161	111
Interior Affairs	Haley	139	16	FL-8	Haley	205	48
Judiciary	Rodino	141	9	NJ-10	Rodino	240	6
Merchant Marine	Sullivan	155	4	MO-3	Sullivan	219	16
Post Office	Dulski	155	5	NY-41	Henderson	206	7
Public Works	Blatnik	155	4	MN-8	Jones	208	10
Rules	Madden	154	7	IN-1	Madden	236	48
Science & Astronautics	Teague	156	9	TX-6	Teague	182	26
Standards of Conduct	Price	156	2	IL-23	Price	193	3
Veterans Affairs	Dorn	149	4	SC-3	Roberts	184	8
Ways and Means	Mills	152	9	AR-2	Ullman	185	19
Internal Security	Ichord	108	49	MO-8	-	-	-



Figure C.1: Bootstrapped Lowess Regressions of Bill Success by Committee.

moderate Democrats shown in previous models is not as pronounced at the committee level. This figure reproduces at the committee level the estimation strategy employed in Figure 3.4. Two noteworthy trends are made clear in the figure. First, on its face the effects of reform do not appear systematic. While the Appropriations Committee and the Ways and Means Committee appear to shift leftward in Nominate space, other committees appear unchanged. Second, there is pronounced variation in authors' bills under consideration across committees and between Congresses—detected by the presence and absence of color across the range of Nominate space. No systematic trend is visually apparent across committees. This may suggest heterogeneous effects of the reform, though it is equally likely to be the consequence of small samples leading to noisy estimations.

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