The Cost of Doing Business: 
Clean Elections Programs 
and Legislator Ideology

by

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THE COST OF DOING BUSINESS
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# Table of Contents

Acknowledgements 5

**Introduction** 6
- Defining Polarization 9
- Public Financing and Polarization 11
- Plan of the Book 16

**An Assessment of Polarization, Clean Elections, and The Way Forward** 19
- Why We Need Polarization 20
- Historical Trends 22
- Voter’s Responsibility 24
- Structural & Institutional Causes of Polarization 26
- Parties and Party Leadership are to Blame 28
- Campaign Finance 29
- Contribution Regulations 33
- Public Financing 34
- Matching Funds 40
- A Theory of Liberalization 41
- Research Design 45
- Regression Analysis 46
- Synthetic Matching 47
- Data 48

**The Causal Link Between Clean Elections and Polarization** 53
- Research Design 54
- Analysis 58
- Discussion 75

**A Synthetic Approach** 80
- Research Design 80
- Maine 86
  - The History of Clean Elections in Maine 86
  - Clean Elections in Maine 87
  - Clean Elections Candidates in Maine 89
  - Results 91
- Arizona 99
  - The History of Clean Elections in Arizona 99
  - Clean Elections in Arizona 100
  - Clean Elections Candidates in Arizona 102
  - Results 104
- Connecticut 114
  - The History of Clean Elections in Connecticut 114
  - Clean Elections in Connecticut 115
  - Clean Elections Candidates in Connecticut 118
  - Results 119
  - Discussion 126

**Conclusion** 131
- Limitations and Further Research 134
- Theoretical Implications 136
- Policy Implications 137
- Appendix A. Data Sources 139
- Appendix B. Descriptive Statistics 140
Appendix C Participation Data 141
Appendix D Part 1: Imputations 142
Appendix D Part 2: Multiple Imputations 143
Appendix E Placebo Studies for Synthetic Control Matching 144
Bibliography 147

List of Tables
Table 3.1 Clean Elections Dummy Variable Model Results 59
Table 3.2 Difference in Differences Polarization Model Results 66
Table 3.3 Lagged Dependent Polarization Model Results 68
Table 3.4 Lagged DV Model Results w/chamber Clean Elections participation 70
Table 3.5 Party ideology model results 74
Table 4.1 Maine predictor means, by chamber 93
Table 4.2 Synthetic control state weights, by chamber 94
Table 4.3 Arizona Synthetic control state weights, by chamber 107
Table 4.4 Connecticut predictor means, by chamber 121
Table 4.5 Synthetic control state weights, by chamber 122

List of Figures
Figure 3.1 Polarization by Chamber 60
Figure 3.2 Lower Chamber Polarization 64
Figure 3.3 Upper Chamber Polarization 64
Figure 4.1 Maine House Clean Elections Participation 90
Figure 4.2 Maine Senate Clean Elections Participation 91
Figure 4.3 Maine House of Representatives vs. lower chambers 92
Figure 4.4 Maine Senate vs. upper chambers 92
Figure 4.5 Maine House of Representatives vs. synthetic 95
Figure 4.6 Maine Senate vs. synthetic 96
Figure 4.7 Maine House vs. synthetic, gaps 98
Figure 4.8 Maine Senate vs. synthetic, gaps 99
Figure 4.9 Arizona House Clean Elections Participation 104
Figure 4.10 Arizona Senate Clean Elections Participation 104
Figure 4.11 Arizona House of Representatives vs. lower chambers 105
Figure 4.12 Arizona Senate vs. upper chambers 106
Figure 4.13 Arizona House vs. synthetic 108
Figure 4.14 Arizona Senate vs. synthetic 108
Figure 4.15 Gaps: Arizona House vs. synthetic 109
Figure 4.16 Gaps: Arizona Senate vs. synthetic 109
Figure 4.17 CT House Clean Elections Participation 119
Figure 4.18 CT Senate Clean Elections Participation 119
Figure 4.19 Connecticut House vs. lower chambers 120
Figure 4.20 Connecticut Senate vs. upper chambers 120
Figure 4.21 Connecticut House vs. synthetic 123
Figure 4.22 Connecticut Senate vs. synthetic 123
Figure 4.23 Connecticut house vs. synthetic, gaps 125
Figure 4.24 Connecticut senate vs. synthetic, gaps 126
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Introduction

“It is one of the happy incidents of the federal system that a single courageous State may, if its citizens choose, serve as a laboratory: and try novel social and economic experiments without risk to the rest of the country.”

- Justice Louis D. Brandeis

In his seventh Annual Message to Congress, Theodore Roosevelt proposed what he described as a “very radical measure”: in the President’s view, Congress should appropriate funds to the national political parties, in exchange for which the parties would accept limits on contributions made by individuals.¹ Two years later in 1909, the government of Colorado took up Roosevelt’s suggestion and passed the “State Payment of Campaign Expenses Act” to little fanfare. Although the law was struck down in 1910 without having taken effect, it would have created the first system of government funded electoral campaigns in the United States. Sixty-five years later, a wave of almost two-dozen states and the federal government implemented “public financing” programs for all manner of elected office. These programs were a direct response to the Watergate break-in and subsequent cover-up, and were regarded equally as face-saving measures and meaningful policy changes. The individual programs varied tremendously in their scope and the particulars of their implementation, but their underlying logic was consistent: the government would subsidize campaigns for elected office, reducing the need for private funds.

In the majority opinion of the 1976 Supreme Court case of *Buckley v. Valeo*, the Court found that the public financing of electoral campaigns was not only Constitutional, but valuable as well. “Rather than abridging, restricting, or censoring speech, [public financing] represents an effort to use public money to facilitate and

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enlarge public discussion and participation in the electoral process.” The Court was quite clear that the government could not compel participation in these programs. But if candidates chose to take a campaign subsidy willingly, the government could then place a limit on campaign expenditures. That element of the *Buckley* ruling begat the systems of full public financing that are known as Clean Elections programs.

Thirteen states currently administer campaign subsidy programs. All of the programs place certain demands on candidates, including expenditure limits. However, ten of the subsidy programs provide only a small fraction of a candidate’s expenditure limit, and many are limited to judiciary and statewide candidates. Three states—Maine, Arizona, and Connecticut—have implemented subsidy programs that fully finance candidates for legislative office. These “Clean Elections” programs are largely similar in their structure: candidates raise a token number of small qualifying contributions to prove that they have some basis of support, the contributions are certified by the state, which then funds the campaign, in exchange for which the candidate agrees to forego any more fundraising and only spend what the state has allotted to them. Similar programs have been proposed in nearly every state that has endured a political financing scandal, and Congress has seen many similar proposals to finance their races.

In 2000, Clean Elections went into effect in Maine and Arizona, and Connecticut eight years later. The programs are credited with a whole host of benefits, well summarized in Michael Miller’s *Subsidizing Democracy*: candidates are able to spend far less time raising money than they do under traditional fundraising

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systems, time they then spend doing “retail politics”. Voters, even those that object to the government spending money on campaigns, tend to think of this increased engagement with their legislators favorably. Before 2011, participation in these programs was consistently high in both parties. Candidates with grassroots support were able to raise the small “qualifying contributions” without the typical strain of going after large contributors. And yet, participation in Clean Elections is falling of late as a direct consequence of two decisions by the US Supreme: independent expenditures by interest groups have grown by orders of magnitude since the 2010 decision in Citizens United v. FEC, and the Court’s 2011 decision in Arizona Free Enterprise Club v. Bennett which ruled matching funds provisions— which provided added protection for publicly financed candidates against privately funded opponents— as unconstitutional. As a result of these two decisions, candidates in the Clean Elections states are fearful that they will not have the money to compete when they are hamstrung by the spending limits these programs impose.

While there is a wealth of research on the effect of public financing on competitiveness, research on how these programs have impacted legislative chambers is limited. At the core of the research contained herein, there is a question: are Clean Elections programs impacting legislative polarization? Put another way, are the candidates who are reaching elected office as a result of Clean Elections ideologically different than those who are elected using traditional fundraising methods? How are the peculiarities of the states and their implementations of Clean Elections further impacting these changes? There is considerable empirical evidence that public

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financing reduces the need for candidate fundraising, but what does this mean for their legislative behavior? This thesis will attempt to address these questions.

**Defining Polarization**

To understand why legislative polarization might be a byproduct of a seemingly unrelated campaign finance law, we must begin with a clear conceptualization of what polarization is. No matter the nation or party system, the “state and process” of polarization is the separating of parties into ideologically distinct and internally homogenous groups. When the number of issues on which two parties diverge increases, their brands become more distinctive and readily identifiable with a set of beliefs.

At this point, we must distinguish the polarization of the parties in the United States (and other presidential systems) from the polarization of party caucuses under other forms of government. In parliamentary systems, power over the executive and legislature falls to the same party, making friction between the branches nonexistent. Party discipline is absolute under these circumstances and – given a large enough majority – the enactment of the majority party’s policies is a foregone conclusion. The minority’s role in parliamentary systems is to be the voice of dissent, challenging the party in power at every opportunity, but never to actually slow down the operations of the government or to come to an accord with the majority. Attempts at negotiations and consensus building would be confusing, and counter to both the normative ideals of the “Westminster model” of parliamentary politics, and to the

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goals of the individual parties. In a system in which party coalitions are important, polarization is a tremendous problem because the parties are forced to reach a compromise on every policy position. Yet even when the productivity of a parliamentary system grinds to a halt, the ability to call for a vote of no confidence or a new election means that deadlocks are short-lived. Ultimately, the distinctiveness of the parties is essential to the normal functioning of a parliament, as each party provides a clear choice to voters, which they may then implement wholesale (or nearly so, in the case of coalition) when in power.

In the United States there is not, nor has there ever been, the clear sense of how polarized the political parties ought to be. What is immediately apparent in looking at parliaments is that the causes and consequences of polarization under these systems are utterly inseparable from and vital to the functioning of those governments. While *The Federalist Papers* are rife with warnings of the threat of factionalism (and explicitly denounce institutionalized parties), the Founding Fathers nevertheless endorsed majoritarian rule (with caveats) as a guiding principle of the legislative process. The distaste for parties ended almost immediately with the beginnings of our republic, and the efficacy of majority rule—which had been intended to foster compromise—was immediately tested.

The separation of the legislative and executive branches has meant that divided governments have been a common occurrence in the history of this nation, creating a near-constant source of tension. With one branch often taking pains to undermine or countermand the other, “gridlock, dual government policies, and

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unilateral action[s]” have become common occurrences. Only when the same party controls both houses of the legislature and the executive is there any assurance that the majority party can achieve its goals. Yet even in these circumstances, polarization can wholly compromise the ideal functioning of the legislative process. On the one hand, this research will argue that a basic level of polarization is useful for the functioning of this republic. Yet in the eyes of the Founding Fathers and over 8 in 10 Americans according to Gallup polls, compromise remains the ideal. It would appear that our normative desires aren’t matching up with our institutional realities, and the cause of this disconnect is a key concern of this research.

Public Financing and Polarization

The assumption implicit in many campaign finance reforms is that a change in the operations of elections will produce desirable candidate, party, and legislator behavior. This is particularly true of public financing, which proponents claim can produce a range of benefits: more competitive races, a reduced advantage for incumbents, a lower barrier to entering the political process, creating a more diverse and representative candidate pool, and stamping out the influence of large donors and interest groups. What these regulations are actually doing, and whether their effects align with the designs of their creators, should be of great interest to policymakers. A surprising— and unintended— effect of Clean Elections may be a change in the ideological makeup of party caucuses, and an increase in polarization overall.

Conservative ideology generally— and the Republican Party in particular— places a premium on both reducing the role of government down to its most essential functions, and cutting government spending. Given these foundational values,

7 Ibid.
opposition by conservative legislators to Clean Elections legislation was understandably large. However, as will be discussed later, a large number of Republicans have chosen to accept public financing once the programs were in place. A conservative candidate deciding upon whether to accept public financing faces a trade-off: the benefits of participating in Clean Elections are substantial (i.e., reduced fundraising demands, increased engagement with voters), but their own ideology— or that of their conservative constituents— may make this choice costly. A liberal candidate is not burdened by the same cost-benefit analysis.

A candidate could have any number of reasons for rejecting the opportunity to take public financing. They may think they have a low probability of meeting the fundraising thresholds that will trigger the public funds. Candidates opposed to the cost of the program, or the implicit endorsement of a large government institution, would also likely choose to go the traditional fundraising route. Still others may find that the costs of public financing are too high: if a candidate can raise more money from contributors than the spending limits imposed by Clean Elections would allow, then they would have to seriously weigh that opportunity against the costs of eliciting donations. Candidates may also have a strong incentive to choose a traditional fundraising tactic if they have policy positions that align with a large donor base or an influential interest group.

Candidates who participate in Clean Elections programs are not immune from fundraising pressures: to qualify for public financing, candidates must raise sufficient small-dollar qualifying contributions from their constituents. Donors will direct their

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contributions towards candidates whose policy positions align with their own. Whether candidates augment their policy positions to court donors, or if donors are choosing which candidates to contribute to based upon the candidates previously established positions, is a topic of much scholarly research.\(^9\) However, as research has shown Clean Elections increases electoral competitiveness, candidates are likely attuned to the policy positions of constituents. If participating in a public financing program can credibly be treated as a policy position, then voters will weigh this position in their assessment of a candidate. For liberal candidates, accepting public financing would only add to their liberal \textit{bona fides}. Meanwhile, conservative candidates may be both perceived as more moderate by voters, and their legislative behavior may be perceptibly more moderate when they are elected.

Underpinning all of the research in this thesis is an assumption that candidates are well aware of the potential ideological implications of accepting public financing, and are choosing to participate in Clean Elections programs regardless. One possible explanation for conservative’s willingness to participate is the public’s apparent indifference to campaign finance laws.\(^{10}\) If voters are unaware of – or uninterested in– the sources of a candidate’s campaign funds, then a conservative faces no great threat of appearing ideologically inconsistent. But the populations of Maine, Arizona, and Connecticut may be better versed in campaign finance regulations than residents of neighboring states: after a multitude of scandals and well-funded efforts by civic-minded interest groups, these three states implemented Clean Elections programs


with significant popular support. Consequently, the residents of the Clean Elections states are more likely to be attuned to the sources of campaign funds, making candidates acutely aware that their decisions are under scrutiny.

If voters in Clean Elections states are keeping a close watch on sources of campaign funds, then candidates may be pressured into accepting public financing. This would create an ideologically-agnostic norm surrounding participation in Clean Elections. When all members of all parties face equal incentive to participate—without the threat of party or constituent backlash for appearing ideologically inconsistent—then conservatives can freely choose the fundraising tactic that best suits their electoral goals, just as their liberal colleagues can. As will be discussed later, this dynamic appears to have emerged in Connecticut, where participation in Clean Elections has remained consistently high among both Democrats and Republicans.

The final explanation for why public financing may be appealing to a candidate is the simplest, and yet counterintuitive: a candidate choosing to participate in a public financing program may have an expansive conception of the role of government. A candidate who is amenable to a state government expanding it’s purview by creating a new bureaucracy and spending public funds would likely not change their views if elected. Under this theory, public financing is a policy position, one of the first that a candidate will be forced to publicly take during the campaign process. By extension, how candidates choose to finance their campaigns has tangible implications for their legislative behavior.
Although Democrats are generally more receptive to the idea of participating in a Clean Elections program, non-trivial levels of participation in Republican caucuses indicates that partisanship is not the sole determinant of accepting public funding. As incentives to participate in Clean Elections cut across parties, there is not likely to be a uniform ideological portfolio for candidates who choose to participate. In a state where public financing has had its ideological implications muted, or where participation in the program becomes the norm across parties, there is likely no effect on caucus ideology. However, where no norm has emerged, Clean Elections will retain an ideological subtext which candidates will be forced to contend with.

In summary, every candidate for the state legislatures of Maine, Arizona, and Connecticut must weigh the costs and benefits of participating in their state’s Clean Elections program when deciding upon a fundraising strategy. The public funding option may cover the costs of a typical campaign, but the candidate will have to forgo all funds over and above their allotment that they might have raised had they chosen the traditional fundraising route. They may face pressure to accept public financing, or risk drawing the skeptical eye of constituents concerned about corruption. And they must contend with their ideology and the ideology of their constituents: liberal candidates are not likely to have any ideological dissonance as a result of participating in Clean Elections, but conservative candidates may struggle to justify – either to themselves or to their constituents – funding their campaign with government funds. A conservative candidate may be inclined to accept public funding if their party’s leadership has come to expect candidates to rely on these funds, regardless of any ideological discomfort. Alternatively, a candidate’s willingness to
engage in a Clean Elections program may be an indication that they have a more liberal view of the role of government.

**Plan of the Book**

Chapter Two will lay out the theoretical underpinnings for campaign finance laws and their effect on legislative behavior. The extensive canon on legislative polarization will serve as both a source of confounding explanations for caucus behavior, and to create novel hypotheses as to the relationship between participating in Clean Elections and legislative behavior. This chapter will also provide a history of public financing, and will conclude with descriptions of my hypotheses, the research design and the sources of data used in my analysis.

In Chapter Three, I assess the validity of these hypotheses. This analysis will make use of a new, original dataset of Clean Elections participation rates by chamber and party caucus. Using a selection of regression models commonly employed in empirical analyses of the impact of government programs and policy shifts, this chapter will estimate the cumulative effect of full-public financing on the polarization of legislative caucuses. To explore the differing effects of Clean Elections on the two major parties, this chapter will conclude with an estimate of these programs effects on the party caucuses individually. Ultimately, this analysis will conclude that Clean Elections is positively impacting polarization in both lower and upper chambers. Democratic caucuses are disproportionately impacting polarization as a consequence of Clean Elections, due to their higher participation rates than those of Republican caucuses. I theorize that, without the pressures of raising a full campaign budget, exceptionally liberal candidates are willing to run for elected office in the Clean
Elections states. I also estimate that the median ideology of Republican caucuses is more moderate when their Clean Elections participation rates are high, though this finding is more nuanced and suggests that fiscal conservatives are willing to accept public financing under the appropriate circumstances.

For Chapter Four, the focus will shift from a high-level, aggregated view of the Clean Elections states to a more granular view of the individual legislatures. Chapter Four is subdivided, with one section for each Clean Elections state. I will discuss the history, mechanics, and popularity of each full public financing program separately before empirically assessing their effects. Using a process of synthetic control matching, this chapter will explore the difference between the legislatures impacted by Clean Elections and hypothetical counterfactual legislatures that have not. These “synthetic” counterfactual legislatures will be assembled using a weighted average of control legislatures from across the country. These synthetics will create a credible baseline level of polarization (had Clean Elections not been put in place) against which we can assess how far the individual legislatures have diverged. In this section, I conclude that the effect of Clean Elections on legislative behavior is highly contextualized. For instance, Democratic caucuses become significantly more liberal in Arizona and Maine as a consequence of Clean Elections, where accepting public financing retains an ideological implication. Meanwhile, the Republican caucuses of Arizona and Maine were notably moderate in the years immediately after the implementation of Clean Elections, suggesting that accepting public financing retained an ideological component in these years. As Clean Elections became a fixture of the electoral landscape, participation rates went up and the programs lost
their ideological subtext. Connecticut, meanwhile, has had a high rate of participation in Clean Elections among candidates of both parties from the beginning and a virtually unchanged level of polarization. The caucuses of the Connecticut legislatures have remained among the most internally homogenous caucuses anywhere, suggesting that candidates who have very distinct ideologies from the rest of their party have been largely unable to reach elected office. Significant public and elite pressure to accept public financing has ensured that Connecticut’s program has no ideological stigma. This has made a candidates decision to participate in Clean Elections a question of their access to private funds, and the candidate’s willingness to engage in normative behavior.

Finally, Chapter Five will assess these findings holistically. The limitations of this study, possible future research, and the implications of this analysis—both on a theoretical and policy level—will be addressed as well.
An Assessment of Polarization, Clean Elections, and The Way Forward

What’s wrong with polarization? In looking at roll call votes in Congress from the past two and a half decades, several of the key patterns in polarization immediately become apparent: party-line voting is up significantly, intra-party schisms have little to do with policy, party identification has become a shorthand for ideology, ideological extremism (entirely liberal or conservative position-taking) has exploded, and the moderates are being squeezed out.\(^\text{11}\) The parties revel in every opportunity to distinguish themselves from one another, forming ranks around a policy proposal or a piece of legislation in an effort to force the opposition to come out on the “wrong” or unpopular side of an issue.

Polarization, in both the media and the scholarly literature, is treated as a dirty word. Intransigent parties, acrimonious campaigns, and unproductive legislative sessions are just some of the issues blamed on having two wholly oppositional, internally unified parties.\(^\text{12}\) The most polarized Congressional terms have enacted far fewer major pieces of legislation than less polarized terms, while the least polarized terms have enacted between 60% and 166% more.\(^\text{13}\) Furthermore, divided legislatures (with the House and Senate controlled by different parties) are less productive in recent history as a direct result of increased levels of polarization.\(^\text{14}\) This marks a stark change from a half-century ago, when post-WWII governments showed low

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levels of gridlock and were extremely productive. Consequences of polarization specific to Congress (but perhaps emblematic of larger trends) include delayed judicial appointments and damaging the credibility of foreign policy efforts.

Why are legislatures failing to achieve their essential tasks? With high levels of polarization, parties have little incentive to compromise with one another because— with so little ideological matching— all of their policy goals are dependent upon gaining and maintaining a majority in the chamber. The proportion of the electorate that identifies with each of the major parties has remained exceptionally close, which has meant that elite stakeholders treat every election as a potentially control-shifting race. Some observers claim that— with control of the chamber constantly under threat and every act of bipartisanship seen as a blow to the parties overall agendas— the “moderates” who would be willing to cross the aisle have been almost completely wiped out.

**Why We Need Polarization**

Discussion of the merits of polarization are largely a relic of history, but are an essential consideration if we believe that there is an appropriate base level of party polarization. The 1951 American Political Science Association report entitled *Toward a More Responsible Two-Party System* is the guiding document for pro-polarization arguments in the US. The report begins with the proposition that parties are a necessary conduit for the policy preferences of voters. To serve this end, the report argues that the parties ought to function as “agencies of the electorate” which perform

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their duties as delegates with both the broadest possible base of support and well-specified goals.

On the issues of internal coherence and ideological distinctiveness, the Republican and Democratic parties of the mid-20th century were failures. The parties were indistinguishable, the APSA report argued, unrepresentative and could not adequately articulate the varied ideologies of the American electorate. Yet the two-party system is inseparable from the American “political tradition”. As such, the goal of their reform proposal was to bolster the effectiveness of that system, measured by the commitment of the parties to their positions and their possession of “sufficient internal cohesion” to implement their goals.

The APSA report makes a compelling argument for increased polarization using the language of parliamentary systems: an effective opposition party must be in place to “act as the critic of the party in power, developing, defining and presenting the policy alternatives which are necessary for a true choice in reaching public decisions.” It is this element of improved choice that appeals to the normative ideals of democracy: the dissenter’s responsibility is to challenge the wisdom of the party in power, standing in for the people and personifying the principle of “popular sovereignty”. By making parties more coherent, both party leadership and voters have a mechanism to hold their elected officials accountable for their legislative behavior. Under these circumstances, identifying with a party has a clear and unmistakable meaning. Furthermore, when parties have clearly defined, coherent, and different ideologies, voters can more accurately credit or blame a particular party for policy
outcomes. For these reasons, a strong case in favor of polarization can be made, even in the American context.

**Historical Trends**

Over the last several decades, what were once malleable distinctions between the parties have hardened. The words Democrat and Republican have clear and distinct ideological implications: Liberals and conservatives now sort themselves into Democrats and Republicans without a second thought. With this sorting has come a significantly reduced willingness to reach an accord on almost any issue. Strong party identification predates the trend towards polarization, but the ideological purity of the parties is new. For the modern observer of American politics, the very idea of a liberal Republican or a conservative Democrat would confuse and devalue the respective brands. But what happened that induced the divergence of the parties?

In the US, the causes of polarization in state legislatures are often tied up with discussion of polarization in Congress, with varying degrees of validity. Certainly the central distinction between the parties in recent decades, that of the role and correct size of the government, has informed the discourse of Democrats and Republicans at every level of government. Both parties have moved towards the extremes, but the Republican Party has moved much further to the right than the Democratic Party has to the left. The “Southern Realignment”– with the South moving from solidly Democratic to overwhelmingly Republican territory– has significantly contributed to this shift in the ideological medians for the parties: the entirety of both parties have

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18 Barber and McCarty, "Causes and Consequences of Polarization."
diverged from one another, leaving the conservative Democratic bloc from the South to be pushed out by an increasingly conservative Republican party.

Through the early 1970s – when the modern trend towards polarization began in earnest—there was a tremendous amount of diversity within the major parties: liberal Republicans and conservative Democrats were relatively commonplace, and voting patterns could not be so easily tied to party as they are today. In short, the parties were less coherent, and voters who wanted to choose between candidates were obliged to learn about each candidate’s individual policy positions. That the parties were ideologically diverse– or, as this thesis will refer to them, heterogeneous– meant that the parties were closer to the middle of the ideological spectrum, and that compromise was a requirement for legislative productivity.

Contrary to popular wisdom, gridlock need not emerge from polarization: California, with a largely unchallenged Democratic majority, has consistently ranked as the most polarized legislature in the US while exhibiting fairly typical levels of productivity. This dynamic is by no means new in the elite polarization literature: during the “Golden Age” of Congress from the end of World War II to the mid 1960’s, much of the productivity is a direct result not of bipartisanship and deal-making, but super-majorities able to simply drown out the objections of the other party.\textsuperscript{19} While the ideological sorting of the parties had yet to begin in earnest, productivity could be achieved with a modicum of party discipline. With the passage of the Voting Rights Act in 1965 came a tremendous realignment, with the combined differentiation and “purification” of the parties leaving the parties with irreconcilable

\textsuperscript{19} Barbara Sinclair, "Is Congress Now the Broken Branch?," in Governing the United States in 2020 (University of Utah2014).
ideologies that show no signs of growing closer in the near future. No longer are parties conceived of as diverse coalitions where the positions of the individuals are effectively averaged in order to reach a compromise (or median) position that represents the will of the group. There remains negotiation over policy implementations, but the party elites are largely uniform in their positions.

**Voter’s Responsibility**

Candidates in the US have historically chosen to identify with parties (with very rare exception) to serve their central focus of reelection. A candidate’s choice to align with a party – not that they have much of a choice– will alienate a huge proportion of the electorate while ingratiating themselves with others: most of the electorate will look to party identification for all the information they require when voting. Voters’ conceptualizing parties as ideologically monolithic blocks is a new phenomenon, and is partly informed by two complementary shifts in voter behavior. The first has been a move away from even the appearance of positional overlap for both parties. According to a 2014 Pew Research Center survey of US adults, the typical Republican is more conservative than 94% of Democrats, while the typical Democrat is more liberal than 92% of all Republicans. Moreover, the proportion of “extreme” voters– those that express consistently liberal or conservative positions– has more than doubled in the last two decades. In short, the parties have reached unprecedented levels of ideological homogeneity. The literature on the partisanship of the masses posits that elite polarization enables voters to rely on party as a proxy for
ideology.\textsuperscript{20} What is important to remember is that elite and mass levels of polarization have increased dramatically of late, with no sign of slowing.

Stepping into the US specific literature, although there is considerable empirical evidence that voter behavior has changed, there is a small but growing consensus that voter polarization could be contributing to increasing levels of polarization in Congress. As previously stated, more voters than ever before hold either exclusively Democratic or Republican views. Voters could switch parties if they found their policy positions better aligned with the alternative. However, during low information elections (like those for Congress or state legislature) voters will overwhelmingly choose to vote for the candidate from their preferred party with little attention to the idiosyncrasies of a race.\textsuperscript{21} Furthermore, we know that voters who are the most likely to participate are the very same voters most likely to strongly identify with a party (which we know to be a growing demographic).

We have established that voters are strongly identifying with parties at a much higher rate than a generation ago, and those party identifications are closely tied to (and often informing) their policy positions. These vote trends can exacerbate elite polarization in a number of ways. Those same voters are also clustering geographically: people with similar incomes, levels of education, and marital status tend to locate themselves in close proximity to similar people.\textsuperscript{22} When this data is approached with an eye towards polarization, a number of interesting revelations emerge: the poorest districts tend to vote for Democrats, the districts with the largest

\textsuperscript{20} Marc J. Hetherington, "Resurgent Mass Partisanship: The Role of Elite Polarization" \textit{American Political Science Review} 95, no. 3 (2011).


proportion of married residents are likely to vote for Republicans. According to the researchers, nearly 30% of the increase in polarization in the House can be blamed on geographic clustering. And the much-maligned process of redrawing Congressional districts with the implicit purpose of favoring one party, cannot explain away the impact of geographic clustering.

Income inequality is closely related to levels of polarization in the US House and Senate, and there are a variety of explanations as to why. As McCarty et al. found, the “dance” between polarization and inequality begins with rising incomes for the top bracket. The correlation between the two factors is large, with increased wealth for the wealthiest encouraging conservative economic and social policy, pressing Republican caucuses to move their ideology rightward.\textsuperscript{23} The ideological distance between those representing the haves and the have-nots grows more pronounced, the policies they implement are less adept at aiding the poor, inequality worsens, and the ideological distance grows. It is possible is that the separation between rich and poor has a larger impact on the legislative behavior of the lower houses, whose members may feel the effects of the “dance” to a greater degree than members of the upper houses. Further research into income inequality’s effect on polarization has supported this claim: among the most compelling arguments has been the increasing rate of “asymmetric sorting” of highly educated/higher income people into couples, making for an uneven wealth distribution and a reduced sense of shared interests between the wealthy and the poor.\textsuperscript{24}

\section*{Structural & Institutional Causes of Polarization}

\textsuperscript{23} McCarty, Poole, and Rosenthal, \textit{Polarized America}.  
\textsuperscript{24} Research Department, \textit{Income Inequality and Political Polarization: Time Series Evidence over Nine Decades}, 2014.
In any given legislature, we might expect to find two legislators who almost never vote together. But under a polarized system, we find that entire parties have often-irreconcilable policy preferences. Why might the Democratic and Republican parties find themselves so far removed from one another? The international comparative literature has a long tradition of polarization studies, and might offer some clues. For instance, Federalism is an oft-cited cause of internal party disunity (which would make for less polarized parties), as the interests of the national and state parties are not always aligned. In an age with weak parties and malleable conceptions of party ideology, Federalism might have played a role in the relatively moderate levels of polarization seen in the mid-20th century. However, as parties have grown stronger and more cohesive, the moderating impact of Federalism is likely only of marginal significance.

Free and equitable media access has also been shown to lower levels of elite polarization. With an equal likelihood of reaching moderate persuadable voters, the potential media advantage of an incumbent or wealthy candidate is mitigated by the commitment of the electoral institutions to equality. The US Federal Communications Commission’s “equal-time” rule, that compels broadcast stations to provide all candidates equal opportunities to appear on their networks, should not be confused with media allocations under electoral systems elsewhere: under these systems, state television is obliged to provide all candidates time on their air, whereas the FCC only demands that all candidates receive the same amount of programming opportunities.

There are a variety of changes within legislative institutions that might also have polarizing effects. For instance, some measures of polarization which use role-call voting (like DW-NOMINATE scores) have shown increased differences in party ideologies partly as a result of changes in procedures which allowed for greater numbers of amendments to bills, forcing parties to publicly take difficult positions. The literature on “fragmentation”—which is the process of removing much of the power from party leadership and redistributing it among the rank-and-file—provides convincing evidence that negotiating and lawmaking are harder in fragmented systems.\textsuperscript{27} When weak leadership is added to diametrically opposed parties, the efficacy of the parties dramatically plummets. This is a significant issue in Congress, where leaders have struggled to bring together the factions within their parties. For an example, we need only look to former Speaker of the House John Boehner’s struggles to control the Republican caucus. Similarly, the power of party leaders in state legislatures is by no means absolute. Under these circumstances, nearly all legislative activity must be approved by the most extreme members of their caucus, further hardening differences between already polarized parties.

**Parties and Party Leadership are to Blame**

The relationship between the parties in Congress increasingly resembles the dynamics of a parliamentary system, with the cost of losing a majority being an entire legislative agenda. Indeed, the ideological distance in both the House and Senate has increased to its highest levels since Reconstruction. Party identification now informs legislative behavior to such an extent that the one has become decisive of the other, further reducing the incentive the parties might have to work together. An additional

\textsuperscript{27} Pildes, "Why the Center Does Not Hold: The Causes of Hyperpolarized Democracy in America."
inducement for party members to toe the party line is the authority wielded by the party leadership over individual careers. When parties look for candidates or caucuses look for leaders, an often-decisive factor is that party member’s roll call votes or record of positions. Now more than ever, members of our parties are expected to fall in line and take the positions of the party, or place their prospects for advancement within the party in jeopardy. And when running for office, the overwhelming majority of candidates identify with major parties and endorse their party’s platform, if for no other reason than navigating the party bureaucracy has become an efficient means of achieving power. As an opponent’s success poses a threat to all of the beliefs and policy priorities of a candidate, having a strong party apparatus to support a candidate’s efforts is a non-negotiable asset.

**Campaign Finance**

Can any of the increase in polarization be tied to campaign finance laws?

McCarty et al., in their follow up research to the APSA Task Force report from 1951, describe election funding as both signifier and enabler of our increasingly divided politics. In conventionally funded races (like those for Congress), empirical and anecdotal evidence indicates that fundraising has grown increasingly prioritized in recent decades, correlated with exploding costs of campaigns.\(^{28}\) However, a candidate’s ability to spend lavishly on a campaign has a negligible impact on the electoral outcome.\(^ {29}\) Of greater interest is the frequently conflicting research on how the source of contributions might impact legislative behavior.


It has become an electoral truism that the viability of a candidate is directly related to their abilities as a fundraiser (a truism that is not entirely borne out by empirics). A candidate need not only raise money for their own campaign, but for the party and the campaigns of their party brethren. Those candidates particular knack for raising funds for the express purpose of redistributing them within the party have shown a significant advantage in leadership races over the last several decades. Party powerhouses like Minority Leader Nancy Pelosi and former Speaker of the House John Boehner built much of their argument for leadership positions on their abilities to direct contributions where they were most needed, and their parallel success stories are case studies for the relationship between polarization and campaign finances.

Both Pelosi and Boehner are partisans through and through, and have become party stand-bearers during their tenures. They have been consistent in their respective liberalism and conservatism throughout their careers in districts that overwhelmingly support their ideologies. This has meant that their reelections have been foregone conclusions and that the money required for their own campaign efforts would be minimal. But their constituents are more than willing to write checks for the intensely partisan Congressional leaders who happen to represent them. This excess of funds presented Boehner and Pelosi with an opportunity to help their parties, and themselves in the process: both rank-and-file incumbents and challengers are given contributions directly from the leaders, who will even go as far as lending their celebrity to a candidate’s fundraising efforts.

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This largesse does not come free however, but in exchange for consistent and unwavering support for party doctrine. Candidates who deviate from the will of the party will find themselves cut off from the generosity of the leadership, the largest donors to the party, and leadership positions in committees or parties (which come with both added influence and increased campaign contributions). The tie between demands for ideological purity and an individual candidate’s access to the party’s fundraising apparatus is a crushing blow to cooperation in an age of polarized politics. Looking at campaign finance through the lens of the leadership struggle supports McCarty’s statement that “[Although] there is little evidence that the origins of greater polarization lie in campaign finance, the growing participation of ideologically oriented donors appears to have exacerbated the problem.”

Pressuring candidates for ideological purity goes far beyond leadership races. Abramowitz argues that voter polarization is intimately related to their engagement with the political process, with the most politically knowledgeable and engaged tending to be more partisan than independents.  

This forms a kind of echo chamber, with legislators ever-mindful of the positions of their most vocal and politically engaged constituents (partisans), while those same engaged partisans tend to reward the candidates and officials who most closely reflect the ideals of the party with both their campaign contributions and their votes.

In essence, Abramowitz’s logic is that engagement with politics is tied to contributing to candidates, which then aids those candidates who can drive contributions, which then increases levels of elite polarization, in turn stimulating  

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31 Alan I. Abramowitz, *Disappearing Center: Engaged Citizens, Polarization, and American Democracy* (Yale University Press, 2010).
engagement with voters and beginning the cycle again. By sorting elites and voters into clear and distinct parties, the stakes of elections are also raised, as members of one party are less inclined to find any shared ideology with those on the other side of the aisle. But voters also do not have quite as much homework, as the party identification provides a rough approximation of what the candidates will believe.

However, voters’ dedication to the parties does not mean that they are supporting their candidates financially. A look at American National Election Studies (ANES) data from the last several decades reveals that increasing levels of polarization have not been correlated with increased rates of contribution to campaigns: the proportion of the voting public who reported making donations to candidates peaked at 16 percent in 1976 in the aftermath of Watergate, slipped to 6 percent in 1994 during the House Republicans push for the Contract for America, and rose to 13 percent in 2008. By contrast, the overall level of political engagement among voters—as measured in the ANES data by respondent’s interest in election and public affairs, attachment to the success of a party, and their political activities outside of voting—has risen significantly and steadily over the last four decades.

Taken together, the literature on the relationship between campaign finance and polarization indicates that traditional fundraising dynamics have given the most influential funders increasing power to shape the ideological contours of institutions. In the absence of an alternative model of campaign fundraising, this trend will likely continue unabated.

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Contribution Regulations

The study of campaign finance regulations role in the growth of polarization is a growing field with a range of compelling findings. Some of the literature indicates that low contribution limits can effectively reduce polarization, while other research finds that limits can only lower levels of polarization when donors are contributing with the intent of changing legislators policy positions. To this point, it is important to note that in the past, scholars have found that the source of a candidate’s campaign contributions only has a marginal impact on their legislative behavior. More recent literature contradicts this claim: PACs – particularly those with narrowly defined policy goals – can be enormous contributors to candidates, are typically party-agnostic (being more concerned with access), and have an overall moderating effect on legislatures. Meanwhile, individual contributors tend to be more extreme than PACs and less politically active voters. A recent APSA report puts the implications of this quite succinctly: “an increasing reliance of candidates on ideologically extreme individual donors might force candidates to move toward the ideological poles to raise money.” Money coming from many of the most influential PACs may have a moderating effect on party ideologies, but this can be offset by the polarizing influence of individual donors.

Although contributions from many PAC’s have been shown to be more access-oriented, and function more as rewards for “correct” policy positions, the

35 Ansolabehere, Figueiredo, and Snyder, “Why Is There So Little Money in U.S. Politics?.”
37 Martin, "Conditions for Successful Negotiation: Lessons from Europe."
influence of individual contributors is more nuanced. Much of the existing research contends that contributors are significantly more partisan and ideologically extreme than the population who only votes, and significantly more extreme than interest groups. However, there is also evidence that legislators are not altering their roll-call votes in response to individual’s campaign contributions, and contributors do not expect them to. Nevertheless, conventionally funded candidates are getting more of their money from individuals and out-of-state contributors than ever before, and both of those groups are more likely than not to be on the extremes. Taken together with the previously discussed literature, these conclusions make a compelling case: where the role of “access oriented” interest groups is shrunk and individual contributors have outsized control of the financial viability of a campaign, candidates are best served by flexing their ideological extremity.

**Public Financing**

How might an alternative fundraising pattern affect polarization? The most popular replacement of the individual donor-centric model is the public financing of elections. Before we consider what public financing does to polarization, we must first consider how public financing deviates from traditional campaign financing. The publicly financed candidate is only required to raise a token number of $5 contributions if they are to be eligible for funding from the state. The money that they raise is not meant to support their campaign. Instead, those initial contributions provide a proof to the state that the candidate has a basis of support. Candidates

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40 Ansolabehere, Figueiredo, and Snyder, "Why Is There So Little Money in U.S. Politics?"
typically receive a small amount of funding for the primary, and more substantial amount for the general election after they have become their party’s nominee. After the initial round of fundraising, they are explicitly prohibited from raising or spending any funds on top of their state subsidy.

Public financing has been a popular campaign finance reform internationally, and there is considerable (albeit inconsistent) research on its effects: public financing has been shown to both increase party cohesion\textsuperscript{41} and decrease it.\textsuperscript{42} The literature on public financing in the United States is scarce, as these programs do not exist at the federal level. The study of the effect of public financing on polarization in state legislatures is a new area of study, and the two most prominent pieces of literature on the topic have seemingly contradictory findings: public financing may be either increasing polarization\textsuperscript{43} or having no effect.\textsuperscript{44}

Consider for a moment the initial round of contributions which are required if a campaign is to receive state funding. As has been previously discussed, campaign contributors tend to be partisans and ideologically consistent. A candidate who strongly identifies with a party and its doctrine would be able to draw out these donors with relative ease. Again, this qualifying period is not about cultivating a broad base of support: a relatively small number of highly motivated supporters can trigger Clean Elections funding and propel a candidate to electoral credibility. During

\textsuperscript{41} Kevin Casas-Zamora, \textit{Paying for Democracy: Political Finance and Stable Funding for Parties} (Colchester, UK: ECPR Press, 2005).
\textsuperscript{43} Andrew B. Hall, "How the Public Funding of Elections Increases Candidate Polarization," (2014).
these qualifying periods, candidates must appeal to the most engaged elements of
their parties if they are to raise the necessary contributions.

A candidate attempting to prove to the partisans that they are the most in line
with the party’s key tenets is no small feat. With no consequences for alienating more
moderate donors before the general election campaign, candidates can be unrestrained
in their partisanship. Party leadership benefits from this dynamic, as they can be
assured that only the most committed partisans will survive this process. It may be
that the incumbency advantage allows more moderate members to remain in the
chamber for a time. Yet their replacements will come in a time when partisanship is a
non-negotiable job requirement, through a campaign finance system that advantages
partisans.

There is considerable evidence that the choice to participate in a public
financing systems in the United States is not as simple as it is abroad. Conservative
candidates in US elections who are considering public financing must reconcile their
ideology, which prioritizes reducing the role of the government, with their electoral
interests, which will be aided by access to public financing. Public financing
undoubtedly presents a number of advantages, particularly as it frees the candidate
from the fundraising demands of traditionally financed candidates. But conservative
candidates may feel an ideological or electoral “cost” to their participation, as they
may fear alienating fiscally conservative constituents. Meanwhile, a liberal candidate
is not likely to have any ideological objections to public funding of campaigns, and
liberal voters are not likely to find these programs objectionable either.

45 Miller, Subsidizing Democracy.
Democrats disproportionately participate in public financing, suggesting that the liberal ideological implications of accepting government funding is attenuating Republican participation. The availability of public financing has been shown to be a significant encouragement to liberals who are considering running, while conservatives are not encouraged by the prospect. A survey of candidates in states with Clean Elections found that the overwhelming majority (84 percent) of candidates who chose to opt out of public financing did so for ideological reasons. As a program that is “taxpayer-funded… redistributive… [and] costly”, Republicans generally appear loath to implicitly endorse Clean Elections programs by participating in them. In states with partial public financing, the disparity in participation rates is lower, suggesting that the ideological hurdles fiscally conservative candidates must overcome are diminished when government funding only covers a small portion of their campaign costs. But even in states with full funding, a conservative candidate may still choose to overcome ideological objections for purely practical reasons: whether for the challenger with little name recognition, or the incumbent who has alienated donors, Clean Elections provides a safety net.

What appears to be the first article studying the relationship between public financing and polarization was published in 2014 by Andrew B. Hall: in his article, Hall contends that access-oriented interest groups, with no regard for candidate ideology, have a tendency to give far more to moderate candidates than they give to ideologues. With public financing removing the ability of these groups to bolster the

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47 Miller, Subsidizing Democracy.
48 Hall, "How the Public Funding of Elections Increases Candidate Polarization".
chances of their preferred candidates during the qualifying periods, the largesse of small dollar private donors (and individuals, particularly those that contribute regularly, tending towards the extremes) falls on the most polarizing candidates.

Hall’s finding that Clean Elections programs increase polarization is a finding that this thesis will ultimately support, but with significant caveats. Hall’s findings are robust to model specifications using not only the Clean Elections states – with public financing systems which pay for almost the entirety of a candidate’s campaign – but also including Minnesota and Wisconsin, which have had systems of partial public funding since the late 1970s. Under partial public funding systems, the state will only cover half of a campaign’s budget, contribution limits in the qualifying period are much higher, special interest groups are not pushed out of the process, the spending limits imposed by the programs only cover a fraction of a typical campaign, and candidates can continue to elicit contributions after they have received their funding. As a consequence of these limitations, only a small fraction of legislative candidates in Minnesota and Wisconsin participate in these programs. In light of the many differences between these programs and Clean Elections laws, candidates who participate in them should not be considered similar to Clean Elections candidates. That Hall’s results remain largely unchanged regardless of model specification suggests that a more nuanced approach may be warranted.

By contrast, the research of Masket and Miller, which only looks at Arizona and Maine, finds no statistically significant relationship between entering a legislature

\[49\] Wisconsin’s public financing program was defunded by the state legislature in 2011.
using Clean Elections and ideological extremity. These researchers acknowledge the same trends in polarization within the Clean Elections states as Hall, but argue they are more accurately attributed to “historical forces—the realignment of the South, the sorting of voters into like-minded states and districts, the strategic allocation of resources by ideological party insiders, and so on.” This should explain away McCarty’s finding that moderate members of Congress have an easier time raising money than more extreme members: the moderating effect of individual members are drowned by large scale political trends. However, Masket and Miller’s research only looks at candidates who entered the Maine and Arizona legislatures after Clean Elections had been put into effect, and not at legislator ideology in the period before these programs. Furthermore, as their analysis ends in 2010, they do not address the impact of the Supreme Court’s decisions in *Citizens United* and *Arizona Free Enterprise Club*. Assessed alongside Hall’s work, a number of possible avenues for further research become apparent.

Why should Clean Elections impacting legislative polarization or caucus ideology matter? If accepting public financing will have ideological implications for legislators, then a party caucus largely made up of publicly financed candidates is either tolerant of ideological diversity, or aligned with the ideology implied by participating. Previous research indicates that conservative Republicans are less likely to accept public funding than liberal Democrats. Public financing of elections was put forward principally to root out corruption, reduce fundraising obligations for

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50 Masket and Miller, “Does Public Election Funding Create More Extreme Legislators? Evidence from Arizona and Maine.”
51 Ibid.
52 Miller, *Subsidizing Democracy.*
candidates, and provide an incentive for people who might otherwise not consider running to join the electoral process. If Hall is right, then public financing is having a dramatic and unintended effect. If Masket and Miller are right, then policymakers concerned with polarization do not need to consider public financing. Either way, policymakers would be well served by knowing what—if any—impact public financing might have on the ideology of party caucuses, and the differences between them.

Matching Funds

Until 2011, matching funds provisions were in effect for all three Clean Elections programs. Their role was to mitigate two perceived threats: publicly funded candidates facing off against traditionally funded opponents, and independent expenditures funneled into races by interest groups. If the state election commissions saw a candidate being outspent by a well-funded opponent or outside interest groups, the state would match the outside spending dollar for dollar up to an upper limit designed to be high enough to dissuade any outside group. In 2008, a PAC supporting Arizona Republican candidates called the Arizona Free Enterprise Club filed suit against the state. In essence, the petitioners alleged that traditionally funded candidates who ran against publicly funded candidates were forced to limit their spending so as to avoid triggering supplementary funding for their opponents. This limitation served as a de facto limit on their freedom of speech, or so the petitioner’s alleged when they brought their case to the Supreme Court. In a 5-4 decision the
Court struck down the provision, on the grounds that the speech of traditionally funded candidates was “substantially burdened” by the state.\textsuperscript{53}

The effect of matching funds provisions on legislative polarization, would likely be minimal: the provisions seemingly succeeded in dissuading all but a few traditionally funded challengers from spending enough to trigger the additional financing. However, since 2011, dynamics have shifted considerably. No longer concerned with triggering increased funding for their opponents, traditionally funded candidates can raise and spend as much as they like. The significant drop in participation in the Maine and Arizona Clean Elections programs over the last two election cycles has been overwhelmingly attributed to the removal of matching funds provisions.

\textbf{A Theory of Liberalization}

To review, let us imagine a campaign finance system with limits on contributions and expenditures, in which candidates are granted state subsidies if they are able to raise a number of qualifying contributions, and parties retain only limited influence over who is eligible for public funding. A candidate in that environment is beholden to many people making small donations, and many of these people will have highly partisan interests. Candidates whose policy positions align with those of ideologically extreme voters— who are also the most frequent campaign contributors— will be more successful in their pursuit of qualifying contributions and state funding. This would place control over funding from Clean Elections programs – and candidate’s electoral viability – squarely in the hands of these “activists”, who

\textsuperscript{53} “Arizona Free Enterprise Club Freedom Club Pac V. Bennett,” (The Oyez Project at IIT Chicago-Kent College of Law, 2010).
previous research have already shown to have a leading role in polarization.\textsuperscript{54} By this logic, the candidates who are surviving the qualifying process should be simultaneously extremely partisan and financially prepared to put on a credible general election campaign. With a higher rate of participation in Clean Elections, the number of extreme partisans running viable campaigns should increase as well. If these candidates are able to win and form a significant block in their respective caucus, this should lead to fewer intra-party disputes and greater ideological distinctiveness. In states without Clean Elections programs, I would expect to find candidates dependent upon the largesse of “access oriented” interest groups, who can have a profound impact on viability but are largely disinterested in partisanship.

Polarization is not a binary state, but a scale which the studied chambers will fall somewhere along. Much of the existing literature blames Congressional polarization on forces far outside the control of the institution: “the realignment of the South, the sorting of voters into like-minded states and districts, [and] the strategic allocation of resources by ideological party insiders,” to name a few.\textsuperscript{55} Masket & Miller theorize that those same forces are impacting polarization in state legislatures as well, while Clean Elections programs are having no effect. This research will cast doubt on those findings.

The hypotheses described below will posit a theory of why a candidate’s choice to participate in Clean Elections can have implications for their ideology, and their legislative behavior. As discussed previously, liberals are significantly more


\textsuperscript{55} Masket and Miller, "Does Public Election Funding Create More Extreme Legislators? Evidence from Arizona and Maine."
willing to accept public financing. While existing research has assessed the impact of Clean Elections on the movement of legislators towards the ideological poles of their respective parties, I present a theory of party caucus “liberalization” resulting from full public financing.

**H1: Implementing a Clean Elections program leads to higher levels of legislative polarization.**

When a candidate is traditionally funded, their fundraising efforts will be directed at individuals, organizations, and interest groups in equal measure. Interest groups are often less interested in the party of a candidate than in a candidate’s stance on an issue or their powers as a leader. Therefore, these groups have little regard for ideology, and are equally willing to support all candidates that are of use to them. Meanwhile, individuals who contribute to campaigns tend to be ideologically extreme, and support ideologically extreme candidates. Clean Elections regulations upset this balance, driving all fundraising efforts towards individuals who would be willing to contribute during the qualifying period. This benefits candidates who are the most effective at eliciting individual contributions. And given what is known about the relative extremity of individual contributors, extreme candidates are likely to be successful during the qualifying period. This would allow these candidates to raise sufficient contributions to trigger public funding, making them financially viable candidates and positioning them for electoral success. When they win, the ideological extremism of their party caucus increases. As both parties diverge from a median ideology, the cumulative effect is increased polarization. This effect will not be
uniform: Democrats are more receptive than Republicans to public financing programs, so any ideological divergence will be driven by Democrats.

**H2:** Accepting funding from a Clean Elections program is a policy position, and serves as an indicator of a more liberal ideology. Therefore, Clean Elections programs impact the parties differently: Democratic caucuses will be more ideologically extreme as the proportion of participating party legislators increases, while increased participation among the Republican caucus will drive down their extremism.

Participation in Clean Elections is—in effect—a candidate taking a position on the program. This position has implications for their views on the size and role of government. Democratic officials are generally more receptive to proposed public funding programs than Republicans, and are more likely to participate. Democratic candidates likely do not face any ideological dissonance or electoral repercussions for accepting state funding for their campaign. If extremely liberal candidates are (as previously discussed) well equipped to raise sufficient qualifying contributions, then they would stand a significant chance of winning during the general election and driving the median ideology of the Democratic caucus to the left. By contrast, Republican candidates who choose to participate in Clean Elections would likely pay an electoral toll among conservative voters resistant to the idea of a state-sponsored campaign. However, should they be able to win their races, they would likely take further positions which would fall on the liberal side of the ideological spectrum. This would bring the whole party closer the median, reducing polarization.

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H3: The unique qualities of the state’s Clean Elections programs do not significantly distinguish them from one another with respect to their impact on legislator ideology.

The versions of Clean Elections implemented in Maine, Arizona, and Connecticut are largely similar: a candidate must raise a modest number of $5 contributions, after which the state issues the campaign funding on the condition that the candidate does no more fundraising after that point. It is true that the programs vary from state to state in a number of the details: for instance, a candidate for the Maine House of Representatives only needs 60 qualifying contributions, compared to 150 contributions in Connecticut and 250 in Arizona. And while all candidates hoping to qualify for Clean Elections funding must raise sufficient $5 qualifying contributions, only candidates running in Connecticut must meet a separate aggregate fundraising target. Meanwhile, Arizona requires that candidates participate in debates during every election cycle (primary and general) in which they participate. These differences are notable insofar as they can impact candidate behavior. However, there is no clear connection between any of the points of distinction and legislative activity. As such, the first phase of this analysis will treat these laws as functionally equivalent. In the second phase, this hypothesis will be put to the test: if the differences between the Clean Elections programs are uniquely altering median legislator ideologies, then there will be significant variation between the states with respect to caucus polarization. If, for instance, the single qualifying contribution threshold in Arizona and Maine is necessary for Clean Elections to have an impact on ideology, then the stricter regulations of Connecticut may mute this effect.

Research Design
This research will be broken into two distinct phases. In Chapter 3, I will look at the three Clean Elections states as a group, estimating the effect of Clean Elections on polarization and party ideologies as compared to the rest of the country. Chapter 4 will take a more nuanced approached, looking at each state and chamber individually and allowing for the possibility that the differences between states, chambers, and Clean Elections programs may accumulate to impact legislative behavior in distinctive ways. In essence, each of the two phases of this research will apply a different empirical method to analyze the legislatures and party caucuses of Arizona, Maine, and Connecticut which have been “treated” with Clean Elections, and compare them to the “control” units from the rest of the country.

Regression Analysis

The first phase of this research is a regression analysis of the three states with Clean Elections, estimating the effect of these programs on both legislative polarization and party caucus ideology. This phase will use models that include both dummy variables for the existence of Clean Elections, and participation rates in these programs at the level of the chamber or caucus. To perform this analysis, I will employ a selection of estimation techniques commonly employed in “pseudo-experimental” research designs, particularly in studies of governmental policies and programs. I will begin with simple fixed effects regressions, before moving on to difference-in-differences models, and models that include lagged dependent variables. By employing the latter models, I leverage the data available for the “pre-treatment” period from each of the Clean Elections states (1996-2000 for Maine and Arizona,
1996-2008 for Connecticut). The details of these models, including both their merits and their limitations, are discussed in detail in Chapter 3.

**Synthetic Matching**

In Chapter 4, I present my analysis of each chamber in a Clean Elections state individually. For this phase of the thesis, it was imperative to find a means of isolating the impact of Clean Elections in a given legislature as compared to a credible counterfactual. After briefly discussing why direct comparisons between legislatures would be rife with bias, I propose a preferable methodology that would produce a true counterfactual: a nearly identical state legislature across all of the relevant variables, save for the absence of a Clean Election program. This counterfactual legislature would have a nearly identical history of polarization in the period preceding implementation of Clean Elections, and the matching values for the predictors would allow the effect of public financing to be clearly observed. Synthetic control matching is just such a method, used in comparative case studies to create a composite control unit from an entire untreated sample.\(^{57}\) In terms of this research, a synthetic legislature will be assembled from states that do not have Clean Elections laws. Our synthetic control would have nearly identical pre-implementation levels of polarization and values for all of the relevant predictors at the regional, state, and legislative level. This estimate of the effect Clean Elections on legislative polarization in Maine, Arizona, and Connecticut will be the difference in party medians in the three states and in their synthetic controls after the passage of Clean Elections. In comparing the difference in party medians in the synthetic control legislature against

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the real legislatures with Clean Elections, this methodology will allow us to
determine clearly just how much polarization public financing is causing in a given
legislature. A synthetic control is the closest approximation to a true counterfactual.

Data

The key variable for this research is the rate of participation in Clean
Elections among members of each chamber and party caucus. Some of this
information is available from public databases and previous research, but until now
no comprehensive dataset of chamber and party caucus participation rates for all three
Clean Elections states exists. To create this dataset, I compiled data from the agencies
responsible for administering these programs in each of the states: the Maine Ethics
Commission, the Citizens Clean Elections Commission of Arizona, and the State
Elections Enforcement Commission of Connecticut were able to provide all of the
information needed to compile this dataset, including a list of members in each
legislative session, their party, and their participation in the state’s Clean Elections
program during the preceding election cycle. For the purpose of this research,
“participation” does not only mean willingness to accept public funds, but also the
successful completion of all qualifications and the issuing of funds by the relevant
agency. A detailed view of these participation rates can be found in Appendix C.

In order to perform the previously discussed regressions and synthetic
matching, a reliable measure of legislative polarization— which is comparable both
across time and legislatures— is required. There are many methods of measuring
ideology and polarization, with the most frequently used being DW-NOMINATE.\textsuperscript{58} These measures typically will capture where all of the legislators in a given chamber fall along a scale. The scale goes from the most liberal position possible to the most conservative position, and a legislator’s vote on a piece of legislation is treated as an endorsement of a liberal or conservative viewpoint. With all of their votes for their entire career factored in, the measure can calculate what is known as their “ideal point”. When presented with a future vote, an observer could then look to the legislators “ideal point” and safely assume that the result the legislator would want would be the one that came closest to that point.

The most popular ideal point measure in the US literature is the DW-NOMINATE score. However, the purely roll call based NOMINATE scores are not intended for inter-legislature comparisons, with the peculiarities of each chamber and state augmenting the voting patterns of legislators in ways that would lead to misleading conclusions. Professors Boris Shor and Nolan McCarty have put together a useful metric of ideology for state legislators in the form of NP scores, their improvement on the ideal points calculations assigned by the oft-used NOMINATE scores. Shor-McCarty scores are based on a combination of factors: the results from the candidate survey the National Political Awareness Test (NPAT) conducted by Project Vote Smart, and roll call votes by state legislators, using votes from all legislative sessions for both upper and lower houses between 1993 and 2014.\textsuperscript{59} In addition to calculating scores individually, aggregate data is available for each

\textsuperscript{58} In international studies, the Rice Index is a very popular because it is a simple measure of how much a party votes together. Although this would more accurately be described as a measure of party unity, it functions as a proxy. However, Rice cannot tell the difference between legislative discipline and actual legislator positions.

legislative term over the last 20 years for each of the 99 chambers in the US, and a basis of comparison is provided in the form of data on Congress. From the raw surveys and roll call votes, ideal points are estimated for each legislator in the context of their particular state and chamber.

The key improvement of NP scores over previous ideological scores is in their comparability across legislatures: Shor and McCarty’s inclusion of NPAT data allows them to calculate legislator ideal points along a common scale, meaning that they are comparable across states and time period. In context, this means that (unlike previous attempts at ideal points calculations) it is readily apparent that, although legislators across the country identify as Democrats and Republicans, the ideological differences among legislators who associate with these parties can be vast. For instance, the members of the Republican caucuses of Connecticut are significantly more moderate than the Republican caucuses of Texas. In short, legislator scores are comparable, satisfying an important prerequisite of any study of legislators nationwide. Aggregated ideal points for party caucuses are also comparable, and provide a rich opportunity to detect systemic shifts in polarization over time. The measure of polarization this research will use, as favored by Shor & McCarty, is the distance between the median ideal points for each party caucus within each chamber.

Until very recently, cross-state analysis of levels of income inequality has been hampered by ineffectual metrics. Data quality issues with publicly available IRS files and the Current Population Survey administered by the Census Bureau have presented challenges to translating inequality metrics that are viable at the national level to state level data. Furthermore, neither dataset provided is ideal: IRS data is
rich, but only covers tax-filers, while Census Bureau data is more representative, but is censored geographically and suffers from under-reporting. A new dataset created by Voorhees, et al. utilizes the Census Bureau data, while providing the necessary corrections to create a representative state-level measure of income inequality. 60 Although the dataset provides a number of inequality metrics, this research will use Gini coefficients for each state from 1993-2012.

The question of whether legislatures can function independent of financial pressures and influences is at the core of this research. As such, a measure of legislature professionalism provides a useful proxy for how well they can perform their joint tasks of both governing and seeking reelection. To that end, Squire has operationalized legislative professionalism as a continuous variable. 61 This determination is based on a combination of time spent working, pay scale, and staff size. Legislators in professional chambers work a full day, are paid accordingly, and have a supporting staff making them more efficient in their responsibilities. We would expect increased professionalism to have a positive, large, and highly significant relationship with polarization. This is expected, given that with increased professionalism comes greater demands from the party, the caucus, and individual constituents. Legislatures which are only part-time jobs, or do not have as wide of a purview, may mean that parties demand less ideological purity from their members.

In addition to the previously discussed covariates, a host of additional covariates are included in both phases of this research to control for a range of

confounding factors. These include regional proximity (as defined by the US Census Bureau), the ideological heterogeneity of the Democratic and Republican party caucuses, the proportion of the legislature held by Republicans\textsuperscript{62}, the ideology of the state\textsuperscript{63}, vote share for the Republican presidential candidate in the preceding election cycle, the size of the legislature, the existence of term limits, the average population of legislative districts, real per capita income, the party of the governor, divided government, and the proportions of the population which are under 25 years old, over 55 years old, college educated, unemployed, in a union, and foreign born.

Descriptions of these variables and their sources can be found in Appendix A. Descriptive statistics for both these variables, and the variables discussed previously, can be found in Appendix B.

The Causal Link Between Clean Elections and Polarization

Arizona State Senator Al Melvin first won his seat in 2008, and he is unambiguous with his opinion on how he emerged victorious: "I probably would not be in the Senate today," Melvin stated in an interview with The Los Angeles Times, "if it wasn't for 'clean elections.'" His strong endorsement of public financing might come as a surprise, given Melvin’s strongly conservative credentials. His praise is perhaps less of a surprise once, in the same interview, Melvin comments "Clean Elections was designed by liberals to get more of their own elected, but the opposite happened." Could Melvin be right? Can Clean Elections change the ideological makeup of a chamber?

Although there is a growing body of literature on the effect of public financing on legislative behavior, the extant literature suffers from several key weaknesses: overestimating these programs popularity among elected legislators (by not accounting for participation rates), overlooking the potentially differing effects upon Democrats versus Republicans, and failing to acknowledge the shifts in the electoral calculus that candidates engage in since the Arizona Free Enterprise Club decision irrevocably altered fundraising dynamics in Clean Elections states. This research most significantly departs from previous efforts by asserting that accepting Clean Elections funds is an ideological position that may have broad implications for the legislative behavior of elected officials. The rest of this chapter will estimate the effect of Clean Elections on ideology, both at the chamber and party caucus level. If Clean Elections is simply increasing the extremity of caucus ideologies, the

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64 David G. Savage and Nicholas Riccardi, "Arizona Election Law Heads to Supreme Court," The Los Angeles Times, 3/16/11 2011.
difference between them would grow by a very large margin. However, if Clean Elections is a leading indicator of a more liberal ideology, then the median party caucus ideologies should both become more liberal.

**Research Design**

The first phase of this research begins with a regression analysis of aggregate levels of polarization within the 94 lower and upper chambers available for study.\(^{65}\) The purpose of this analysis is twofold: use of the largest possible dataset will allow the models to account for alternative hypotheses as possible causes of legislative polarization, and will be particularly effective in controlling for the effect of national trends on the 47 states included in this analysis. Most importantly, if these models estimate a substantial relationship between Clean Elections and polarization with a high degree of confidence, the subsequent discussion of the individual states will be that much more illuminating.

All models will use ordinary least squares (OLS) regressions, with fixed effects for state and year. Three different modeling techniques will be applied: simple fixed effects regressions, difference in differences (DID) estimation, and a fixed effects model which includes a lagged dependent among the covariates. These models will utilize a continuous dependent variable as the measure of polarization for either the state House or Senate in each legislative session.\(^{66}\) The sample will be made up of legislative sessions in each state from 1996 to 2014. The early models include a binary variable that will reflect whether Clean Elections have been implemented, while the latter models will utilize the new dataset of participation rates. Also

\(^{65}\) Nebraska is excluded from this research due to the idiosyncrasies of its nonpartisan, unicameral legislature. Wisconsin and Minnesota are excluded due to their partial public financing programs.

\(^{66}\) “Distance between party medians,” from the Shor-McCarty Aggregate State Ideology dataset.
included will be measures of party heterogeneity (the ideological diversity of the party), vote share for the Republican candidate in the most recent Presidential election\textsuperscript{67}, the ideology of the state, average district population, chamber size, real per capita income, the proportion of the state that is a member of a labor union, unemployed, foreign-born, under 25 years old, over 55 years old, and college educated.\textsuperscript{68}

The complicating factor in assembling this model is accounting for the greatest possible number of causes for polarization. Despite concerted efforts, the models would be limited in their explanatory power by the likelihood of having significant variables unaccounted for. For instance, the dependent variable in the early models is for chamber-level polarization, so the differences in the behavior of Houses and Senates will be accounted for. But do the individual parties respond to Clean Elections differently? To address this concern, there will be a separate set of models, which will use party ideology within a specified chamber as the dependent variable. House Republicans, House Democrats, Senate Republicans, and Senate Democrats will all have unique model specifications, with each of their ideology scores serving as a dependent variable of a separate model. These regressions will include all of the specifications applied to the chamber level models, while also including the percentage of the caucus that accepted Clean Elections funding during the previous campaign cycle. Taken together, these models will provide the clearest possible explanation of what, if any, impact Clean Elections are having.

\textsuperscript{67} The choice to input Republican vote share—instead of Democratic vote share—is arbitrary. This variable serves as a proxy for party size and strength in the state.

\textsuperscript{68} Income inequality is excluded from the covariates due to a lack of available data for 2013-2014.
Do the states with Clean Elections have functionally equivalent campaign finance regulations? Put another way, are the Clean Elections programs different enough from one another to have varying effects on polarization? The peculiarities of a state’s Clean Elections program could have marginal but detectable effects on polarization. For instance, Connecticut has a unique requirement that a House candidate attempting to qualify for funding reach both a dollar fundraising threshold ($5000) and an adequate number of $5 qualifying contributions (150). By creating this second hurdle for candidates, Connecticut has given a small leg up to candidates who have a broad base of support in a way that neither Arizona nor Maine does. In fact, all of the states have implemented slightly different versions of Clean Elections. The details of these differences will be discussed in Chapter 4, and are worthy of study for policy-makers. However, for the purpose of this regression analysis it is assumed that their differences are not substantial enough to suggest that they would have differing effects on polarization.

Although each model will include sixteen covariates, fully capturing every possible cause of polarization would be an impossible task. Omitted variables are inevitable (either as a consequence of data collection issues, or factors which cannot be captured like state culture), and will have a profound impact on the validity of our model. Put more simply, there are characteristics of states which will impact polarization that the previously discussed covariates will not account for. Some of these explanations will remain stable over time in a given state. There will also be factors which will have a consistent effect across states within a given time period.

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69 For instance, Arizona’s requirement that candidates participate in debates, or Maine’s exceptionally low demand on qualifying contributions.
Time effectively serves as a proxy for national trends: as we have discussed previously, polarization has been on an upswing in nearly every state for the last two decades. Whether stable among states within a period of time, or across time for an individual, the effects are “fixed”. In specifying a fixed effects model, the principle concern which is addressed are unobserved variables which change over time, or unobserved variables that will affect all legislatures equally during a particular year. The best argument for a fixed effects model is that the unobserved variables that would remain stable within a particular state or year are controlled for, even without being explicitly specified in the model. If, for instance, the existence of Mount McKinley had a significant impact on polarization, its effect is controlled for by the state level dummy variable. The limitation of fixed effects is that we cannot estimate the effect of these stable characteristics on the dependent variable.

Each model will include dummy variables for every state to account for time-invariant state qualities. A second set of dummy variables for the years studied should control for national trends. With fixed effects for both state and year under control, the cumulative impact will be a model that does not overstate the impact of the key variables. For these models, we must exclude variables that do not vary over time within a given state (as this effect will be captured by our state dummies). As such, we cannot include time-invariant variables such as region and legislative professionalism, but we can be assured that their effect is included in the state-level fixed effects.
Analysis

Firstly, we can consider whether the existence of a Clean Elections law, irrespective of the participation rate among elected candidates, is having an impact on the ideological distance of the parties. This is a plausible scenario, because states that institute these programs have typically undergone significant scandals related to campaign finance. Therefore, there could be equal pressure upon all members of a chamber to accept public financing, potentially creating an ideological wedge between the caucuses. This model uses a dummy variable equaling 1 if the state has a Clean Elections law in a given chamber-year. The results, as reported in Table 3.1, are mixed: the law appears to have a large, positive, and significant effect on polarization in both lower and upper chambers, but the effect is much larger in upper chambers.

There is no immediately apparent reason why the chambers should respond differently. It may be that the behaviors of representatives and senators are simply different, resulting in a stronger polarizing effect upon the latter. For instance, upper chambers are frequently empowered to confirm executive appointments, which may go a long way towards explaining why divided government is significant for upper chambers and not significant for lower chambers. Meanwhile, lower chambers are often the only body from which new taxes can originate. This control of the state’s income is partially responsible for a perception that— with members of a lower chamber typically representing smaller districts— they are able to be (in the words of the Texas House of Representatives) “closely in tune [with] the needs and concerns of
Table 3.1 Clean Elections Dummy Variable Model Results

<table>
<thead>
<tr>
<th></th>
<th>Lower Chamber</th>
<th>Upper Chamber</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(I)</td>
<td>(II)</td>
</tr>
<tr>
<td>Clean Elections</td>
<td>0.1118</td>
<td>0.0935**</td>
</tr>
<tr>
<td></td>
<td>(0.1162)</td>
<td>(0.0266)</td>
</tr>
<tr>
<td>% of chamber GOP</td>
<td>0.3234**</td>
<td>0.2873***</td>
</tr>
<tr>
<td></td>
<td>(0.1102)</td>
<td>(0.0768)</td>
</tr>
<tr>
<td>Avg. district size (in 1,000s)</td>
<td>0.0051***</td>
<td>0.0012***</td>
</tr>
<tr>
<td></td>
<td>(0.0012)</td>
<td>(0.0003)</td>
</tr>
<tr>
<td>Term limits</td>
<td>0.0011</td>
<td>-0.0263</td>
</tr>
<tr>
<td></td>
<td>(0.0260)</td>
<td>(0.0211)</td>
</tr>
<tr>
<td>GOP heterogeneity</td>
<td>0.0336</td>
<td>0.0528</td>
</tr>
<tr>
<td></td>
<td>(0.1014)</td>
<td>(0.0515)</td>
</tr>
<tr>
<td>Dem. heterogeneity</td>
<td>-0.1489</td>
<td>0.0051</td>
</tr>
<tr>
<td></td>
<td>(0.1445)</td>
<td>(0.0671)</td>
</tr>
<tr>
<td>Chamber size</td>
<td>0.0017</td>
<td>0.0072**</td>
</tr>
<tr>
<td></td>
<td>(0.0009)</td>
<td>(0.0025)</td>
</tr>
<tr>
<td>% GOP Pres. vote share</td>
<td>-0.0091</td>
<td>-0.0009</td>
</tr>
<tr>
<td></td>
<td>(0.2405)</td>
<td>(0.2025)</td>
</tr>
<tr>
<td>Income per capita ($1,000s)</td>
<td>-0.0111**</td>
<td>-0.0097***</td>
</tr>
<tr>
<td></td>
<td>(0.0035)</td>
<td>(0.0028)</td>
</tr>
<tr>
<td>% of pop. with BA</td>
<td>-0.0040</td>
<td>0.1248</td>
</tr>
<tr>
<td></td>
<td>(.3530)</td>
<td>(0.4066)</td>
</tr>
<tr>
<td>% of pop. in a labor union</td>
<td>0.4464</td>
<td>-1.0573**</td>
</tr>
<tr>
<td></td>
<td>(0.3488)</td>
<td>(0.3978)</td>
</tr>
<tr>
<td>Unemployment</td>
<td>-0.4411</td>
<td>-0.8310*</td>
</tr>
<tr>
<td></td>
<td>(0.3488)</td>
<td>(0.3778)</td>
</tr>
<tr>
<td>Democratic Governor</td>
<td>-0.0118</td>
<td>-0.0139</td>
</tr>
<tr>
<td></td>
<td>(0.0121)</td>
<td>(0.0092)</td>
</tr>
<tr>
<td>Divided Government</td>
<td>0.0252</td>
<td>0.0826***</td>
</tr>
<tr>
<td></td>
<td>(0.0432)</td>
<td>(0.0222)</td>
</tr>
<tr>
<td>% of pop. foreign born</td>
<td>-0.0511</td>
<td>-1.1888**</td>
</tr>
<tr>
<td></td>
<td>(0.4542)</td>
<td>(0.3869)</td>
</tr>
<tr>
<td>% of pop. under 25</td>
<td>0.0340</td>
<td>-0.2848</td>
</tr>
<tr>
<td></td>
<td>(0.0765)</td>
<td>(0.3811)</td>
</tr>
<tr>
<td>% of pop. over 55</td>
<td>0.1664</td>
<td>-0.6591</td>
</tr>
<tr>
<td></td>
<td>(0.4807)</td>
<td>(0.3975)</td>
</tr>
<tr>
<td>Constant</td>
<td>1.2743***</td>
<td>0.2760</td>
</tr>
<tr>
<td></td>
<td>(0.0241)</td>
<td>(0.3153)</td>
</tr>
<tr>
<td>N</td>
<td>876</td>
<td>876</td>
</tr>
<tr>
<td>R²</td>
<td>0.9545</td>
<td>0.9827</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.9507</td>
<td>0.9809</td>
</tr>
<tr>
<td>Root MSE</td>
<td>0.1080</td>
<td>0.0673</td>
</tr>
</tbody>
</table>

*** p<0.001, ** p<0.01, * p<0.05

Entries are linear regression coefficients with state-clustered robust standard errors in parentheses. The dependent variable is the difference in party medians (polarization) in the chamber. State and year fixed effects are included but not reported.
create greater electoral rewards for moderate (or at least conciliatory) position-taking. It may be that the removal of traditional fundraising obligations for Senate candidates allows for even more extreme candidates to reach elected office than are allowed into the House. Senates also have fewer members, and many Senates only have elections every four years, rather than the more typical biennial elections for lower chambers. In fact, the upper houses of Arizona, Maine, and Connecticut are three of only twelve upper chambers nationwide that have two-year terms. Shorter terms would allow for greater turnover, which in turn would create more opportunities for extreme candidates to enter the legislature.

Figure 3.1 Polarization by Chamber
All of these are credible hypotheses, none of which explain why the polarization of lower chambers has been higher than that of upper chambers for fifteen years, nor why the effect of public financing should be more pronounced in upper chambers. As we observe in Figure 3.1, the polarization trends of both lower and upper chambers have followed a similar upward trend. The disparity in polarization between the chambers is largely time-invariant, and the pressures and incentives created by public financing should be similar across chambers. This implies that the effect of Clean Elections should remain largely consistent in our models of upper and lower chamber polarization.

The key concern from the outset of this research has been getting at a credible claim of causal inference. The causal pathway between Clean Elections and polarization could theoretically flow in either direction: it may be that a particularly polarized electorate or legislative session would be a driving force behind the passage of a whole host of election reforms, with Clean Elections only being one among many. After all, the states that choose to pass a drastic campaign finance reform are not likely to do so if they are satisfied with their legislature. If, for instance, Clean Elections were a byproduct of a particularly polarized legislature, then our model results would be biased. But the level of polarization of the three legislative sessions immediately preceding implementation of public financing was either at the mean for all states (Maine), slightly above the mean (Arizona), or below the mean (Connecticut), and none of the Clean Elections states exhibited uniquely polarized legislative behavior immediately preceding implementation. As such, there is little
reason to expect that polarization is a decisive factor in the choice to institute a public financing program.

A truly experimental design would be ideal for the study of a policy change, as the researcher can then control for a multitude of variables before the “treatment” is given. The real world is not quite so generous to the researcher, and rarely creates a natural experiment that completely removes selection bias. But there are certain moments in which a quasi-experimental design can emerge. When single states implement a policy change, it is frequently treated as an opportunity for what is known as a “difference-in-differences” estimation (DID). This technique leverages the unique qualities of panel data to better understand how one state diverges from others as a consequence of a unique policy. To best understand the merits of DID, consider Arizona, Maine, and Connecticut as states that have been “treated” with Clean Elections, in comparison to the rest of the states that make up a “control” group. We want to know how different polarization is in the treatment states after they implemented their programs relative to the period before Clean Elections, but that’s not all we want to know. We want to know the difference between pre-treatment and post-treatment polarization for the Clean Elections states and the difference in the pre-treatment and post-treatment polarization of the control states, and the difference between those differences. DID estimation is able to calculate these differences, controlling for covariates just as one would in a typical regression analysis, and estimate the significance of the difference in differences.

Key to this estimation technique is the assumption that the change in polarization over time for the treatment group would have been similar to the change
for the control group had Clean Elections not been put in place. This is known as the Parallel Paths assumption, and should show a change in the slope of our dependent variable in the period immediately following implementation of the program in the treatment group (a slope change which we do not observe in our control group) before returning to a similar trend line. As we see in Figures 3.2 and 3.3, the story is a bit murky: polarization in the lower chambers with Clean Elections actually falls after 2000, rises dramatically two years later, before then following a parallel path (the apparent spike in 2009-10 is due to missing observations). The upper chambers show a similar pattern, with a marked increase in polarization three years out from implementation of Clean Elections, before following a similar polarization trend in the years that followed.

Why the apparent delay? As I will discuss in detail later, if public financing programs are going to impact the ideological makeup of a legislature, this effect should be more clearly observed with a high rate of participation in the program. In the first election season with Clean Elections in place, participation rates in the unproven program were understandably low. When only 7% of a chamber is made up of publicly funded legislators (as the Arizona Senate was in 2001-2002), the effect that this small group can have on the median ideology of their parties is marginal. After the 2002 election cycle, the proportion of the Maine and Arizona legislatures made up of candidates who had received public financing more than doubled in every chamber, making up almost half of the Arizona House and three out of four members of the Maine Senate. With that dramatic of an increase in the Clean Elections
participation rate, it is reasonable to suspect that it would be during this second election cycle that we would see an ideological shift (if there is one to see).

**Figure 3.2 Lower Chamber Polarization**

*The period 2009-2010 has a seemingly dramatic spike because missing observations for Connecticut and Maine from these years in the Shor & McCarty (2011) dataset.

**Figure 3.3 Upper Chamber Polarization**

*The period 2009-2010 has a seemingly dramatic spike due to missing observations for Connecticut (2009) and Maine (2009-2010) in these years in the Shor & McCarty (2011) dataset.
As we can see in Figures 3.2 and 3.3, the polarization in states with Clean Elections follows a similar trajectory to the rest of the country, save for the expected jump in the difference in party medians just as the participation rate in Clean Elections first spikes. Therefore, we have satisfied the Parallel Paths assumption necessary to credibly implement a DID estimation of both lower and upper chambers. The results of these analyses can be found in Table 5. The first models for each chamber (models I and III) are simple fixed effects regressions using an independent variable equal to 1 if the state had Clean Elections in the preceding election cycle, a dummy variable for the post-implementation period, and a second dummy indicating the “treatment” states (this is a standard DID regression structure). The second set of models (II and IV) duplicate the previous DID estimations, now including all previously discussed time-varying covariates.
Table 3.2 Difference in Differences Polarization Model Results

<table>
<thead>
<tr>
<th></th>
<th>Lower Chamber</th>
<th>Upper Chamber</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(I)</td>
<td>(II)</td>
</tr>
<tr>
<td>Clean Elections</td>
<td>0.2259***</td>
<td>0.1106***</td>
</tr>
<tr>
<td></td>
<td>(0.0518)</td>
<td>(0.0235)</td>
</tr>
<tr>
<td>% of chamber GOP</td>
<td>0.3345***</td>
<td>0.3156**</td>
</tr>
<tr>
<td></td>
<td>(0.0779)</td>
<td>(0.1049)</td>
</tr>
<tr>
<td>Avg. district size (in 1,000s)</td>
<td>0.0046***</td>
<td>0.0012***</td>
</tr>
<tr>
<td></td>
<td>(0.0010)</td>
<td>(0.0003)</td>
</tr>
<tr>
<td>Term limits</td>
<td>0.0041</td>
<td>-0.0278</td>
</tr>
<tr>
<td>GOP heterogeneity</td>
<td>0.0225</td>
<td>0.0511</td>
</tr>
<tr>
<td></td>
<td>(0.0549)</td>
<td>(0.0511)</td>
</tr>
<tr>
<td>Dem. heterogeneity</td>
<td>-0.1759</td>
<td>0.0075</td>
</tr>
<tr>
<td></td>
<td>(0.0678)</td>
<td>(0.0680)</td>
</tr>
<tr>
<td>Chamber size</td>
<td>0.0016**</td>
<td>0.0068**</td>
</tr>
<tr>
<td></td>
<td>(0.0006)</td>
<td>(0.0024)</td>
</tr>
<tr>
<td>% GOP Pres. vote share</td>
<td>-0.0119</td>
<td>-0.0194</td>
</tr>
<tr>
<td></td>
<td>(0.1278)</td>
<td>(0.2011)</td>
</tr>
<tr>
<td>Income per capita ($1,000s)</td>
<td>-0.0102***</td>
<td>-0.0097***</td>
</tr>
<tr>
<td></td>
<td>(0.0017)</td>
<td>(0.0028)</td>
</tr>
<tr>
<td>% of pop. with BA</td>
<td>-0.1138</td>
<td>0.1491</td>
</tr>
<tr>
<td></td>
<td>(.2268)</td>
<td>(0.4078)</td>
</tr>
<tr>
<td>% of pop. in a labor union</td>
<td>0.7487***</td>
<td>1.0082*</td>
</tr>
<tr>
<td></td>
<td>(0.2306)</td>
<td>(0.3963)</td>
</tr>
<tr>
<td>Unemployment</td>
<td>-0.4185*</td>
<td>-0.8622*</td>
</tr>
<tr>
<td></td>
<td>(0.2088)</td>
<td>(0.3800)</td>
</tr>
<tr>
<td>Democratic Governor</td>
<td>-0.0115</td>
<td>-0.0137</td>
</tr>
<tr>
<td></td>
<td>(0.0059)</td>
<td>(0.0093)</td>
</tr>
<tr>
<td>Divided Government</td>
<td>0.0259</td>
<td>0.0845***</td>
</tr>
<tr>
<td></td>
<td>(0.0200)</td>
<td>(0.0222)</td>
</tr>
<tr>
<td>% of pop. foreign born</td>
<td>-0.1314</td>
<td>-1.1178</td>
</tr>
<tr>
<td></td>
<td>(0.2489)</td>
<td>(0.3764)</td>
</tr>
<tr>
<td>% of pop. under 25</td>
<td>0.0340</td>
<td>-0.2179</td>
</tr>
<tr>
<td></td>
<td>(0.2153)</td>
<td>(0.3723)</td>
</tr>
<tr>
<td>% of pop. over 55</td>
<td>0.3146</td>
<td>-0.6145</td>
</tr>
<tr>
<td></td>
<td>(0.2550)</td>
<td>(0.3931)</td>
</tr>
<tr>
<td>Constant</td>
<td>1.274***</td>
<td>0.2665</td>
</tr>
<tr>
<td></td>
<td>(0.0238)</td>
<td>(0.1714)</td>
</tr>
</tbody>
</table>

N                                 876            876            889            865
R²                                0.9547         0.9828         0.8975         0.9596
Adjusted R²                       0.9508         0.9809         0.8888         0.9552
Root MSE                          0.1079         0.0673         0.1666         0.1046

*** p<0.001, ** p<0.01, * p<0.05

Entries are linear regression coefficients with state-clustered robust standard errors in parentheses. The dependent variable is the difference in party medians (polarization) in the chamber. State and year fixed effects are included but not reported.
According to the DID models, Clean Elections has a strong and highly significant relationship with polarization. The effect of public financing remains smaller in lower chambers, however these estimates indicate that neither chamber is immune from the change in legislator ideology created by this program. The dominance of a single party having a polarizing influence on a legislature is a finding which is not altogether surprising: a majority unencumbered by the need to reach an accord with a minority party is likely to be freer to propose and vote in favor of legislation more clearly in line with party doctrine. The significance of increasing chamber size is supported by previous research, finding that larger legislatures tend to be more partisan as a result of increased reliance on party structures, reducing demand for inter-party collaboration.\(^70\) A strong positive relationship between the percentage of the state population represented by labor unions and polarization is also an expected finding, as this group still forms a substantial base of economically liberal supporters of the Democratic. Divided government influencing polarization in the upper chambers and not the lower chambers is likely related to the upper chamber’s role in executive branch oversight (ie. confirming executive appointments). This division of power would give the opposition party control of the chamber with the most power over the Governor’s legislative agenda, allowing ample opportunity for them to use their control to draw stark ideological lines. That the unemployment rate has a significant negative relationship with polarization is a curious finding, as it is positively correlated with income inequality, which previous

\(^70\) Justin H. Kirkland, "Chamber Size Effects on the Collaborative Structure of Legislatures," Legislative Studies Quarterly 39, no. 2 (2014).
research has also shown to have a significant and positive relationship with polarization.

Again, a principal concern in this analysis is adequately addressing unobserved covariates that may influence our dependent variable. Therefore, in addition to DID this analysis includes an additional regression strategy, placing a lagged dependent variable among our covariates. We may safely assume that the polarization we are attempting to account for is not fully explained by the previously enumerated covariates. However, the recent history of a chamber’s polarization will be a strong predictor of it’s future. And as both observed and omitted covariates will explain the past, including a lagged dependent variable provides a proxy for observing the unobserved. Using a lagged dependent variable has one additional benefit over a DID specification: we are no longer concerned with satisfying the Parallel Paths assumption. An abbreviated summary of the results of these models can be found in Table 3.3.

**Table 3.3 Lagged Dependent Polarization Model Results**

<table>
<thead>
<tr>
<th></th>
<th>Lower Chamber</th>
<th>Upper Chamber</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(I)</td>
<td>(II)</td>
</tr>
<tr>
<td>Clean Elections</td>
<td>0.0350</td>
<td>0.0569***</td>
</tr>
<tr>
<td></td>
<td>(0.0276)</td>
<td>(0.0194)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.1971***</td>
<td>-0.0084</td>
</tr>
<tr>
<td></td>
<td>(0.0361)</td>
<td>(0.1256)</td>
</tr>
<tr>
<td>N</td>
<td>820</td>
<td>820</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.9894</td>
<td>0.9919</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>0.9885</td>
<td>0.9910</td>
</tr>
<tr>
<td>Root MSE</td>
<td>0.0528</td>
<td>0.0466</td>
</tr>
<tr>
<td>Controls?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Fixed effects?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Lagged DV?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*** p<0.001, ** p<0.01, * p<0.05

Entries are linear regression coefficients with state-clustered robust standard errors in parentheses. The dependent variable is the difference in party medians (polarization) in the chamber. State and year fixed effects are included but not reported.
As Table 6 shows, the results of the models utilizing a lagged dependent variable are quite similar. The inclusion of covariates in models II and IV only marginally changes the coefficient estimates from the simplistic models (I and III), but Clean Elections are highly significant with all control variables in place while they are not significant without them. Although the significance of Clean Elections remains high using both DID and a lagged dependent variable, the size of the effect is reduced considerably under the latter specification. Nevertheless, taken together these findings continue to lend credibility to the idea that chambers in which some proportion of the body is elected using public financing are more ideologically polarized than those without.

However, although it is reasonable to suspect that the chambers ought to respond similarly to the same stimuli, it is likely unreasonable to think that all members of the chamber respond to the availability of Clean Elections in the same way. As was discussed previously, a candidate elected under a traditional fundraising program would be subject to the pressures of access-oriented interest groups in ways that candidates elected with public financing would not. Legislators who accepted public financing should have policy positions more in keeping with individual campaign contributors than interest groups, with the former typically more ideologically extreme than the latter. As such, we must consider participation rates. Table 3.4 displays the abbreviated results of OLS regressions with chamber-level participation as an independent variable. Also included among the covariates is a lagged dependent variable, all of the previously discussed control variables, and state and year fixed effects.
Table 3.4 Lagged DV Model Results w/chamber Clean Elections participation

<table>
<thead>
<tr>
<th>% “Clean”</th>
<th>Lower Chamber</th>
<th>Upper Chamber</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(I)</td>
<td>(II)</td>
</tr>
<tr>
<td></td>
<td>0.0633</td>
<td>0.1004**</td>
</tr>
<tr>
<td></td>
<td>(0.0332)</td>
<td>(0.0320)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.1979***</td>
<td>-0.0087</td>
</tr>
<tr>
<td></td>
<td>(0.0474)</td>
<td>(0.1159)</td>
</tr>
<tr>
<td>N</td>
<td>820</td>
<td>820</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.9895</td>
<td>0.9920</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>0.9885</td>
<td>0.9911</td>
</tr>
<tr>
<td>Root MSE</td>
<td>0.0527</td>
<td>0.0465</td>
</tr>
<tr>
<td>Controls?</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Fixed effects?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Lagged DV?</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Entries are linear regression coefficients with state-clustered robust standard errors in parentheses. The dependent variable is the difference in party medians (polarization) in the chamber. State and year fixed effects are included but not reported.

Under this model specification, the effect of Clean Elections on the distance between party ideologies remains substantial and significant. As the proportion of the lower chamber elected under Clean Elections approaches 100%, the projected level of polarization increases by 0.1 units in the lower chambers. The story is much the same in the upper chambers, with polarization rising by 0.08 units as the rate of public financing among legislators increases. This model supports the initial explanation for the seemingly delayed response in legislative behavior to public financing as a result of very low levels of participation among officials elected in 2000.

There are also interesting findings with respect to several of the control variables. Both the size of the GOP presidential vote share and the proportion of the legislature made up of Republicans are now highly significant for both chambers. However, while the party dominance of a chamber is positively related to polarization, the share of the presidential vote has a negative relationship with
polarization. As the dominance of the majority caucus increases, the minority has reduced power in the chamber, and diminishing impact on policy outcomes. Instead of coming to an accord with the majority caucus, the minority has a strong incentive to zealously represent the ideology of their constituents. The counterintuitive finding with respect to presidential vote is in an area that needs further research, but one possible explanation would be that in states where a sizable majority of the population is voting Republican, Democratic legislative caucuses might benefit electorally from acquiescing to a more conservative ideology. After all, this variable is used as a proxy for the strength of the parties among voters. A state where the Republican candidate for president won by a commanding margin is likely a more partisan state than one where their victory was narrower. Under these circumstances, Republican candidates for the legislature must be highly conservative if they are to win. And given what we know about the interaction between ideological and geographical voter preferences (liberals overwhelmingly choosing to live near other liberals, conservatives doing likewise), the Democratic enclaves of these highly conservative states are small, but ideologically distinct.\[^{71}\] The average size of legislative districts has a positive and significant impact on polarization, while increases in real per capita income have a negative effect. The ideological diversity of the legislative caucuses, the size of the chamber, the percent of the population with a bachelor’s degree, the unemployment rate, term limits, and the proportions of the state that are under 25 or over 55 years old, all do not have statistically significant effects.

\[^{71}\] For instance, the legislators representing Boise, ID are almost all Democrats. This solidly liberal bastion provides most of the Democrats in what are otherwise GOP-dominant chambers.
The share of the population that is foreign born has a negative, highly significant relationship to polarization, but only for the upper chambers. The three states with Clean Elections have relatively consistent proportions of their population’s born internationally, with Arizona having the largest share hovering around 15%. Meanwhile, Maine has one of the smallest proportions of foreign-born residents in the country at 2.9% just this past year. A large foreign-born population makes immigration a highly salient issue to voters, which can drive an ideological wedge between the parties. In Clean Elections states, where the will of interest groups is superseded by the demands of highly ideologically driven individual contributors, this effect should be even more pronounced. That this is not occurring is a curious finding which deserves further study.

As discussed in Chapter 2, the impact of Clean Elections may not be uniform across parties. Chambers controlled by both parties have passed legislation supporting public financing, and candidates of both parties confront some similar opportunities and liabilities based upon whether they decide to participate in Clean Elections. For instance candidate who chooses to accept public financing might have been able to raise funds over and above the state allotment had they gone the traditional fundraising route. Knowing this, a candidate may still choose to accept public financing, as they might feel their time and efforts would be put to better use in other campaign activities (ie. meeting voters, holding forums, GOTV efforts). By accepting
public financing, a candidate limits the funds available for their campaign, risking being outspent by a traditionally funded opponent.\footnote{This was not a concern until 2011, when the Supreme Court decided in \textit{Arizona Free Enterprise Club v. Bennett} that the “matching provisions” – which provided additional funds to publicly financed candidates who were being outspent by a traditionally funded opponent – were unconstitutional.}

Candidates also must contend with concerns specific to their party when deciding to accept public financing. Republican candidates may pay a high electoral cost for participating in public financing: taking a substantial sum of taxpayer money may create ideological dissonance for fiscally conservative voters. If the program is popular among voters, conservative candidates may find the costs associated with accepting public financing lowered, and will choose to participate. Republican candidates may also choose to participate in Clean Elections if they are fiscally moderate, a quality which would carry over to their legislative behavior. By contrast, Clean Elections programs are quite popular among Democratic voters, candidates, and legislators. Democratic candidates who choose to finance their campaigns with private funds may well be tarred with the perception of being out of step with the base. This adds pressure to accept public financing, or risk an electoral backlash.

The effect of aggregate participation in Clean Elections on legislative behavior has been largely consistent in its size, direction and significance across chambers. That the direction and size of the change has remained close across chambers indicates that institutional factors are not markedly altering the degree of this effect. And yet, our model may be better served by considering the party caucuses individual rates of participation in Clean Elections as predictors of the caucuses median ideology. To explore this possibility, the next set of models will take as their dependent variable the parties ideology scores. Specifically, these estimations
will be fixed effects models that predict party ideology, using the same party participation rate in Clean Elections as one of the independent variables. The convention Shor & McCarty devised for their party ideology scores is to give liberal ideologies negative values and conservative ideologies positive values: the lower the score, the more liberal the party caucus. Each specification will include all of the previously discussed covariates, and each chamber will have one model per party. If our original hypothesis is correct— that the parties would respond to Clean Elections differently, with increased Democratic participation increasing the ideological distance between the parties while increased Republican participation brings the parties closer together— then the single party model should bear that out.

Table 3.5 Party ideology model results

<table>
<thead>
<tr>
<th></th>
<th>Lower Chamber</th>
<th></th>
<th>Upper Chamber</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Democrats</td>
<td>Republicans</td>
<td>Democrats</td>
<td>Republicans</td>
</tr>
<tr>
<td>% of party Clean</td>
<td>-0.1161**</td>
<td>-0.1046*</td>
<td>-0.1188**</td>
<td>-0.0658</td>
</tr>
<tr>
<td></td>
<td>(0.0350)</td>
<td>(0.0422)</td>
<td>(0.0387)</td>
<td>(0.0340)</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.0264</td>
<td>-0.0794</td>
<td>0.2400***</td>
<td>0.3068</td>
</tr>
<tr>
<td></td>
<td>(0.2080)</td>
<td>(0.2303)</td>
<td>(0.0560)</td>
<td>(0.2986)</td>
</tr>
<tr>
<td>N</td>
<td>820</td>
<td>820</td>
<td>814</td>
<td>814</td>
</tr>
<tr>
<td>R²</td>
<td>0.9818</td>
<td>0.9817</td>
<td>0.9599</td>
<td>0.9488</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.9798</td>
<td>0.9796</td>
<td>0.9553</td>
<td>0.9430</td>
</tr>
<tr>
<td>Root MSE</td>
<td>0.0544</td>
<td>0.0503</td>
<td>0.0819</td>
<td>0.0824</td>
</tr>
<tr>
<td>Controls?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Fixed effects?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Lagged DV?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*** p<0.001, ** p<0.01, * p<0.05
Entries are linear regression coefficients with state-clustered robust standard errors in parentheses. The dependent variable is the party caucus ideology in the chamber. State and year fixed effects are included but not reported.

The results from the party ideology models need some parsing: as the proportion of the Democratic caucus in the lower chamber approaches 100%, the median ideology in the caucus gets 0.116 units more liberal. Under the same
circumstance in upper chambers, the Democratic caucus is predicted to get 0.1188 units more liberal. Meanwhile, the models estimate that Republican caucuses also become more liberal as their ranks increasingly accept public financing. The effects are smaller and less significant than the estimates from the Democratic models, but are a tremendously interesting finding nonetheless. The p-value for Republican participation rate in the model of upper chamber Republican ideology is equal to 0.053. That this estimate is on the edge of significance is suggestive of a relationship. This finding lends credence to our initial hypothesis that Republicans elected with public funding are more likely to be in the ideological middle. That the effect of participation in Clean Elections is almost identical across chambers supports the assumption that the chambers would exhibit similar responses. In essence, Clean Elections appears to be making both parties more liberal, though the Democrats more so than Republicans. Put another way, if a large proportion of the GOP caucus accepts public funding, we can reasonably expect that caucus to be more liberal than they would be otherwise. On the other side of the aisle, increased participation by Democrats has a large, significant, positive relationship with caucus liberalism, increasing overall polarization.73

**Discussion**

The models in this chapter represent a variety of theoretical justifications as to how and why Clean Elections programs may drive party caucuses apart. These results consistently point to a substantial, significant, positive increase in polarization, and are robust across a number of specifications. Recall that these results included the

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73 This finding is robust to an alternate model specification that again uses aggregate polarization as it’s dependent variable and party-level participation rates as a predictor variable.
effect of the existence of a Clean Elections law, the aggregate participation in Clean Elections for a given chamber, and the effect of the individual parties participation rates on their own ideological medians. That the party models indicate that Republican and Democratic caucuses display more liberal ideologies as their participation rate increases indicates that accepting public financing is in itself a policy position and may be an indicator of a more liberal ideology overall. Why then do the models indicate that Clean Elections are driving up polarization? If both parties become increasingly liberal, shouldn’t the difference in party medians stay the same or grow narrower? The models would indicate as much, were it not for the significantly larger proportion of Democratic legislators that typically accept public financing when compared to their Republican colleagues.

There are a number of possible explanations for the disparity in participation rates between the parties. As previously discussed, accepting public financing may have ideological implications for legislators. According to surveys of candidates in Clean Elections states, 83 percent of Democrats and 37 percent of Republicans “believe that public funding improves democracy.”\(^{74}\) These findings point to a deep ideological divide on participating in Clean Elections in the first place.

So it may be true Republicans may face significant pressure not to participate, in keeping with a fiscally disciplined conservative ideology. Republican candidates may nevertheless choose to accept public financing if public sentiment moves in favor of Clean Elections, or if their own ideology permits them to do so. The likelihood that voters will electorally penalize a Republican candidate for accepting public financing, and by extension how likely it is for a GOP candidate to participate

\(^{74}\) Miller, *Subsidizing Democracy*. 
in Clean Elections, will largely depend upon the prominence of issues of campaign finance, the state’s budget, and corruption. But for the unknown Republican challenger, traditional fundraising may not be a viable option. Instead, they may make the strategic choice and have their campaign coffer filled by the state.

According to the models of both polarization and party ideology, many of the covariates utilized in this analysis had little to no impact on the polarization of the state legislatures: demographic characteristics for state populations had no effect, nor did divided control of the branches of the state government. Real per capita income’s negative relationship with polarization – when incomes rise statewide, polarization falls – supports previous research on the interaction between income inequality and legislative behavior.75

That the proportion of a given chamber controlled by one party has a consistent, positive impact on polarization indicates that interparty dynamics may have an underappreciated effect on legislative behavior. A durable and dominant majority party gives the opposition two options: either embracing the will of the larger state population, or embracing the contrarianism of their districts and carving out a distinct ideological identity. These models indicate that the membership of caucuses which consistently remain in the minority become increasingly extreme with each passing year. The majority caucuses in these states, perhaps emboldened by their unchallenged dominance of the chamber, also move towards the extremes. Though this behavior has not been adequately studied, the effect can be readily observed in a number of states including California, Montana, and Arizona.

75 Voorheis, McCarty, and Shor, "Unequal Incomes, Ideology and Gridlock: How Rising Inequality Increases Political Polarization."
The greatest blows to the Clean Elections programs undoubtedly came in 2011, with both coming from the US Supreme Court. The Court’s decision in *Arizona Free Enterprise Club v. Bennett* removed matching funds provisions that had given publicly financed candidates facing a traditionally funded opponent a powerful weapon. Until this decision, a traditionally funded candidate would have to weigh their spending carefully or risk triggering a windfall for their opponent. Since spending triggers were found to be unconstitutional, participation rates have fallen dramatically in both Arizona and Maine, though the fall off is disproportionately due to Republicans turning to private money. After the 2014 legislative election in Maine, 50 percent of Republican Senators and 26 percent of Republican Representatives had accepted public money (down from 90 percent and 68 percent four years earlier. The drop off has been so pronounced that in 2015 Maine voters overwhelmingly voted in favor of Question 1, which increased the funding allotments for Clean Elections participants. During this time frame, Democratic participation has remained largely stable or increased in Maine and Connecticut. In Arizona however, Democratic participation in Clean Elections has fallen by more than half since the *Arizona Free Enterprise Club* decisions.

What can we take from these findings, and how do they fit with existing literature? In a post on *The Washington Post* sponsored blog *The Monkey Cage*, Seth Masket and Michael G. Miller attempt to reconcile their findings on the effect of Clean Elections laws on polarization with the seemingly contradictory results of Andrew Hall, ultimately concluding that what the two papers share “is the clear finding that public funding of campaigns does not produce less polarized political
The results of the models presented in this chapter suggest that Clean Elections is having a polarizing influence, in large party driven by increasingly liberal Democratic caucuses. Any moderating effect these programs may be having on Republican caucuses is being drowned out by the increased extremity across the aisle. The fall off in participation in Arizona and Maine indicates that a Clean Elections program is only as appealing as its ability to bolster a candidate’s chances of electoral success. However, the enduring, overwhelming popularity of Clean Elections among Connecticut legislators of both parties indicates that there may be other factors at work. The unique qualities of each state, legislature, and Clean Elections program may interact to have an effect that these models have been unable to capture. Chapter 4 will explore this possibility in depth.

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76 Seth Masket and Michael G. Miller to The Monkey Cage, 1/22/2015, 2015.
A Synthetic Approach

The “Clean Election” laws of Maine, Arizona, and Connecticut are similar in their most essential attributes. These are the only states that fully subsidize campaigns for both statewide office and their legislatures. In order to trigger any public financing, all three states require candidates to pass an initial credibility test in the form of a threshold number of small ($5) contributions from a token amount of donors. This is designed to ensure a minimal number of fringe candidates will qualify for full funding, as only those with a basis of support will be able to get past his phase. With the initial goal met– and following verification by the state’s election commission– funding is issued and the candidate agrees to forgo raising further private donations. If the candidate wins their primary, they are given a second round of funding for the general election. Candidates in uncontested races receive smaller amounts than those facing a challenger.

However, these programs and these states differ in a litany of ways, both large and small. In this chapter, I will discuss these differences in detail and attempt to isolate the effect of Clean Elections on each chamber individually. To do this, I create counterfactual legislatures that have not implemented full public financing programs. In comparing the real legislatures to the counterfactuals, we can see why the effect of Clean Elections is context specific.

Research Design

With the large-scale analysis complete, the second phase of this research is a series of three pairwise comparisons. In Chapter 3, the regression models estimated a significant relationship between polarization and Clean Elections, with much of the increase in the difference between the party medians falling on Democratic caucuses.
But our goal in this phase is minimizing the points of distinction that might obscure the impact of Clean Elections on the behavior of legislators. The regression analysis in the first phase has estimated the significance of the effect of Clean Elections on legislative behavior, the direction of that influence, and how strong that influence is.

In this second phase of this research, each of the legislatures that have a Clean Elections program in place will be paired with a counterfactual legislature state without Clean Elections funding. The purpose of this analysis is to illuminate just how polarized the legislatures of Maine, Arizona, and Connecticut would be without their public financing programs.

In order to create an unbiased estimation of the effect of Clean Elections on polarization in a given state legislature, this analysis requires a counterfactual version of the same state legislature that does not have a public financing program. One possible method would be to select states without Clean Elections programs using $k$-means cluster analysis. The broadly defined goal of cluster analysis is to form clusters of similar entities such that the members of one cluster are more similar to one another than they are to any member of any other cluster. In $k$-means clustering, the number of entities $n$ is divided evenly among $k$ number of clusters. In this case, each cluster would be made up of state legislatures, ranked in terms of their proximity to a “centroid” Clean Elections legislature. For instance, a state in the cluster for the Maine House of Representatives that is identical to it across all of the variables of interest would be “closest” to Maine. Although this is a viable methodology, $k$-means cluster analysis cannot produce an ideal counterfactual. Clusters can weigh certain predictors more heavily if the researcher theorizes that their effect would be of greater
importance than others, but the comparison would inevitably be inexact, creating numerous opportunities for potential bias. An ideal counterfactual legislature would be indistinguishable from their real world counterparts across a range of variables in the period before Clean Elections took effect. Creating an ideal counterfactual would provide for a clearer understanding of how polarization in each chamber changes as a result Clean Elections. Having addressed the uniqueness of each chamber– in the context of the many alternative explanations for polarization that have been previously discussed– what would remain are the differences in their legislative behavior.

To create these counterfactual legislatures, and to avoid the bias of methods like k-means clustering, synthetic control matching will be used. The broadly defined goal of synthetic matching is to form a weighted average of control units (in this case, legislatures) such that the synthesized unit is indistinguishable from the treated unit in the pretreatment period. For the purpose of this research, the forty-four legislatures that do not have public financing programs will serve as the “donor pool” of control units (the non-partisan, unicameral legislature of Nebraska is excluded; the legislatures of Wisconsin and Minnesota, two states with partial public financing programs, are also excluded). Each synthetic legislature will be created from an assembly of control legislatures such that the synthetic can closely match the Clean Elections state on a whole range of predictor variables during the pre-treatment period.

\footnote{In Sidney Tarrow’s meta-study of paired comparisons in political science research, he recognizes that this design is decidedly short on degrees of freedom. However, “it [also] allows for and indeed demands a degree of intimacy and detail that inspires confidence that the connections drawn between antecedent conditions and outcome are real.”}

\footnote{We must acknowledge that no synthetic state will likely be a perfect match across all of the variables under consideration, but this method has proven extremely robust across a wide range of social science studies (see Abadie, et al. (2010)).}
period. The predictor variable selection will include all of the covariates from the regression analysis, as well income inequality and time-invariant factors such as legislative professionalism and a Census Bureau derived regional specification. The predictors given the greatest weight in creating the synthetic legislatures will be those that are the strongest predictors of polarization, and that most closely mirror the mean covariate values in the legislatures being studied during the pre-treatment period. If, hypothetically, income inequality in the synthetic legislature is well balanced with the real value and highly predictive, the weighted value of this variable will be higher.

In creating the synthetic legislatures, special consideration is given to the correlation between the levels of polarization before the Clean Elections state adopts public financing. A strong alignment between the level of polarization in the real and synthetic legislatures in the pre-treatment period will be a validity test of our synthetic units, and will serve to either confirm or reject the selection of the state weights. The level of polarization should be similar in the Clean and synthetic legislatures in the pre-treatment period. They should respond to national trends in similar ways, and their parties should be subject to similar pressures. However, once Clean Elections becomes popular the real legislatures and the synthetics should show their dissimilarity. In this way, Maine, Connecticut, and Arizona are “treated” legislatures while the synthetic states form the “controls”. If, however, the correlation in the polarization levels is weak before Clean Elections is even implemented, this may mean that the synthetic unit has been poorly specified and is in need of revision.

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80 This is to address concerns that regional, rather than national factors are having outsized influences on polarization.
The decisive factors in creating a synthetic control state are twofold: the selection of the “donor pool” of non-treated controls from which the composite is derived (using weighted averages), and the choice of predictors upon which the donor legislatures is compared to the treatment state. For this analysis, the donor pool is comprised of the lower or upper chamber of the 44 states with no public funding programs for legislators. The predictors that will be used to fit the synthetic control legislature to the treatment include regional proximity (as defined by the US Census Bureau), legislative professionalism, income inequality, the ideological heterogeneity of the Democratic and Republican party caucuses, the proportion of the legislature held by Republicans, the ideology of the state, vote share for the Republican presidential candidate in the most recent election, the size of the legislature, term limits, the average population of legislative districts, real per capita income, the party of the governor, divided government, and the proportions of the population which are under 25 years old, over 55 years old, college educated, unemployed, in a union, and foreign born. Each predictor is averaged over the pre-treatment period (1996-2000 in Maine and Arizona, 1996-2008 in Connecticut), and will be supplemented by including a lagged measure of polarization in 1996, 1998, and 2000 (as well as 2002, 2004, 2006, and 2008 for Connecticut). The similarity of the synthetic legislature in their pre-treatment level of polarization is of special importance, as it is beyond this point that this analysis will determine whether Clean Elections is inducing unexpected legislative behavior. This methodology has several advantages over the regression analysis in Chapter 3. Chief among them is that, by virtue of the treatment group including only one chamber in one state at a time, this technique allows the
researcher to take a more nuanced approach to their analysis. In this way, the analysis using synthetic controls will be an iterative process free from assumptions of uniform behavior across Clean Elections states or chambers.\textsuperscript{81}

The rest of this chapter is broken up into four sections, one for each Clean Elections state and a concluding section to summarize the preceding analysis. Each state section begins with a history of Clean Elections in the state, a discussion of how their program operates, and a discussion of how legislators have responded to the program. Afterwards, there will be a section dedicated to describing the synthetic control analysis for the state and the results. The final section will conclude with a description of what the results mean in a larger context.

\textsuperscript{81} One note on synthetic controls: the ‘synth’ extension in R is a powerful implementation of synthetic matching which has no tolerance for missing data in the "special predictors" that make up the pre-treatment period of the dependent variable. Given this, conditional expected values were used to populate the missing data. A description of this process and its results can be found in Appendix D.
The adoption of Clean Elections in Maine owes more to the coordinated efforts of civic-minded interest groups driving the financing of candidates to the fore of the public discourse than any event in Maine’s history, scandalous or otherwise. Public sentiment on campaign finance reform shifted as a result of the efforts of reformist groups like Common Cause, who were able to repeatedly overcome the objections of the legislature and pass a public financing referendum, setting a precedent for every state that followed.\(^8^2\) The members of the House of Representatives, for whom any change in the financing of elections would have the most profound impact, were not indifferent to the cause, as was evidenced by their dozens of attempts at reform over the preceding decade. However, all of the previous pieces of campaign finance reform legislations were quite modest when compared to the 1996 ballot measure that instituted Clean Elections.

In 1993, the local chapters of the AARP, Common Cause, the AFL-CIO, and the League of Women Voters joined forces to create Maine Voters for Clean Elections. This organization was created with the explicit purpose of enacting public subsidies of elections by placing a referendum on the ballot, hoping to circumvent the entrenched interests that had sunk previous efforts. In 1995, volunteers for the MVCE were able to gather more than enough signatures to refer the Maine Clean Elections Act (MCEA) to the legislature (besting the signature requirement by more than 10,000). The legislature threatened with the new initiative was made up of many of

the same members who had rejected previous efforts at campaign finance reform in the recent past. In spite of their previous failure—and unwillingness to cede any of their authority to the citizenry by allowing the initiative onto the 1996 ballot—the committee reviewing the legislation proposed an almost verbatim copy of the initiative to be passed by the legislature. In addition to being able to take credit for the reform, passing the bill through the legislative process would allow the House and Senate to “have more control over the legislation, and could more easily amend it.”

However, a conference committee could not come to an accord and the legislative version of the Clean Elections effort died before gaining much traction. A last ditch effort by the House to challenge the popular initiative in the Maine Supreme Court failed to stop the proposal from coming to a vote.

On the 1996 ballot, Question Three read “Do you want Maine to adopt new campaign finance laws and give public funding to candidates for state office who agree to spending limits?” With 56% voting in favor of the citizen’s initiative, Maine would become the first state in US history to fully finance the campaigns of candidates for both the legislature and the governorship.

**Clean Elections in Maine**

Maine’s General Assembly is split between a Senate with 35 seats and a House with 151 seats. Members of both chambers are allowed to serve four two-year terms, while statewide office holders are elected every four years. The 2000 legislative election was the first campaign season to have the Clean Elections program in effect. Eligibility for funding is determined by meeting a token

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83 Ibid.  
fundraising threshold, which serves as a proxy for electoral viability. In order to reach the threshold, candidates are also allowed (but not required) to raise a small amount of “seed money” to aid their fundraising efforts. This assistance comes in the form of contributions of no more than $100, with an aggregate limit of $50,000 for statewide office, $1,500 for the Senate, and $500 for the House. With their seed money in hand, candidates must then set about raising sufficient $5 contributions from registered voters (3250 for candidates for statewide office, 175 for Senatorial candidates, and 60 for the House) to trigger public financing. Each contribution is paid into the Maine Clean Elections Fund, where it is joined with funds from fines against violators of the law, funds appropriated by the legislature, and income taxes that are written off by taxpayers as deductions.

With their qualifying contributions certified by the Maine Ethics Commission, the candidate is issued their campaign funds by the Clean Elections Fund, after which they are prohibited from taking any additional private contributions. The amount of funding is determined by taking the average spending on the same race in the previous two election cycles, adjusted for the phase of the campaign (general or primary) and whether the candidate is facing competition. Unchallenged candidates receive forty percent of the funding they would receive had they faced competition. Candidates from minor parties, who do not go through a primary process but are eligible to appear on the ballot as a result of a petition, are issued reduced funding during this first phase. Although funding varies significantly across the primaries, all eligible candidates during the general election receive the same allotment.
Until 2011, candidates were also eligible for matching funds: if the opposition did not take public financing—enabling them to raise and spend significantly more than the subsidized candidate—or independent expenditures against the publicly financed candidate outstripped the amount of the allotment, the mismatch would trigger matching funds provided by the state up to double the initial allotment. However, the Supreme Court’s 2011 decision in Arizona Free Enterprise Club vs. Bennett threw out the matching funds provisions.

Clean Elections Candidates in Maine

The first race with the MCEA in effect occurred in 2000, when only 33% of the 350 candidates participated. Two years later, the rate of participation nearly doubled to 62%. During the election for the 124th Maine Legislature, which served from 2008-2009, 81% of the candidates received funding under the Maine Clean Elections Act, and 85% of those elected were state subsidized.85 The success rate for Clean Elections participants has fallen precipitously in the last two election cycles: from a typical 79% in 2010, the proportion of the General Assembly which had accepted public funding fell to 70% in 2012.86 In 2014, 199 candidates in Maine ran under Clean Elections, or 53% of the 376 total candidates. Out of the 186 winners, 58% or 107 candidates took public financing.

The fall in participation has cut across parties. With poor showings in both overall participation in the program and success for recent MCEA candidates, in 2015 a revitalized reform movement led by Maine Citizens for Clean Elections sought to fix what they perceived as the biggest threat to the MCEA: the removal of matching

funds and the rise of independent expenditures brought on by the *Citizens United* decision. Admittedly, independent expenditures are rising by orders of magnitude across the country in recent elections. But in Maine, where there is no longer any additional state aid for candidates who are opposed by a conventionally financed opponent with a large war chest, the limits placed on candidates are more of a liability than ever. This may be why independent expenditures have risen from $500,000 in 2006 to almost $14 million in 2014.\(^\text{87}\) Figures 4.1 and 4.2 show the changes in participation rates among members of the Democratic and Republican caucuses in both the House and Senate.

**Figure 4.1 Maine House Clean Elections Participation**

Figure 4.2 Maine Senate Clean Elections Participation

Results

As we observe in Figure 4.3 below, the Maine House of Representatives has exhibited consistently increasing levels of polarization since 1996, significantly above the mean for lower chambers without Clean Elections. The rate at which the party medians diverge has grown since 2005, following a similar trend as the control legislatures. Figure 4.4 displays polarization in the Maine Senate, where polarization has ebbed and flowed while still remaining above the national mean.

As previously discussed, the synthetic Maine chambers are constructed of a weighted average of chambers in the donor pool that are most proximate to the Maine chambers by way of their pre-Clean Elections mean for the predictor variables. Table 4.1 reflects the results of this computation for Maine, the synthetic state, and for the entire control group. We can plainly see from the control group means that using this entire group as a control unit would be an unwise proposition in either chamber. For
Figure 4.3 Maine House of Representatives vs. lower chambers

Figure 4.4 Maine Senate vs. upper chambers
instance, the polarization of the Maine Senate in the pre-treatment period is markedly higher than in the 44 upper chambers that have never had a Clean Elections program. Furthermore, Maine has a notably smaller population of foreign-born residents, dramatically smaller average populations for the districts represented by the House of Representatives (due to the unusually large size of that body), and lower levels of legislative professionalism.

Meanwhile, the synthetic legislatures are much more closely aligned with the genuine articles, though some of the comparisons continue to be inexact. However, this methodology retains its validity as the predictor values on which the synthetic chambers most strongly diverge from the Maine chambers are also the weakest predictors of polarization and are therefore not weighted as heavily.

**Table 4.1 Maine predictor means, by chamber**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Lower chambers</th>
<th>Upper chambers</th>
<th>Avg. of 44 control states</th>
<th>Avg. of 44 control states</th>
</tr>
</thead>
<tbody>
<tr>
<td>D. caucus ideology</td>
<td>-0.791</td>
<td>-0.730</td>
<td>-0.659</td>
<td>-0.893</td>
</tr>
<tr>
<td>R. caucus ideology</td>
<td>0.557</td>
<td>0.618</td>
<td>0.630</td>
<td>0.660</td>
</tr>
<tr>
<td>State ideology</td>
<td>61.965</td>
<td>57.891</td>
<td>46.682</td>
<td>61.965</td>
</tr>
<tr>
<td>Income inequality</td>
<td>0.414</td>
<td>0.422</td>
<td>0.446</td>
<td>0.414</td>
</tr>
<tr>
<td>Professionalism</td>
<td>0.089</td>
<td>0.138</td>
<td>0.185</td>
<td>0.089</td>
</tr>
<tr>
<td>Chamber size</td>
<td>151.00</td>
<td>127.926</td>
<td>110.391</td>
<td>35.000</td>
</tr>
<tr>
<td>Avg. district pop.</td>
<td>8.196</td>
<td>24.830</td>
<td>56.610</td>
<td>35.358</td>
</tr>
<tr>
<td>Percent chamber R.</td>
<td>0.468</td>
<td>0.412</td>
<td>0.480</td>
<td>0.440</td>
</tr>
<tr>
<td>R. POTUS vote %</td>
<td>0.307</td>
<td>0.353</td>
<td>0.413</td>
<td>0.307</td>
</tr>
<tr>
<td>Percent bachelors</td>
<td>0.150</td>
<td>0.164</td>
<td>0.159</td>
<td>0.150</td>
</tr>
<tr>
<td>Percent in a union</td>
<td>0.140</td>
<td>0.135</td>
<td>0.129</td>
<td>0.140</td>
</tr>
<tr>
<td>Unemployment</td>
<td>0.055</td>
<td>0.045</td>
<td>0.049</td>
<td>0.055</td>
</tr>
<tr>
<td>Divided Govt.</td>
<td>1.000</td>
<td>0.315</td>
<td>0.439</td>
<td>1.000</td>
</tr>
<tr>
<td>Percent foreign</td>
<td>0.024</td>
<td>0.035</td>
<td>0.060</td>
<td>0.024</td>
</tr>
<tr>
<td>Percent under 25</td>
<td>0.313</td>
<td>0.357</td>
<td>0.364</td>
<td>0.313</td>
</tr>
<tr>
<td>Percent over 55</td>
<td>0.234</td>
<td>0.202</td>
<td>0.203</td>
<td>0.234</td>
</tr>
<tr>
<td>Polarization, 1996</td>
<td>1.329</td>
<td>1.327</td>
<td>1.251</td>
<td>1.770</td>
</tr>
<tr>
<td>Polarization, 1998</td>
<td>1.343</td>
<td>1.337</td>
<td>1.287</td>
<td>1.496</td>
</tr>
<tr>
<td>Polarization, 2000</td>
<td>1.369</td>
<td>1.367</td>
<td>1.316</td>
<td>1.501</td>
</tr>
</tbody>
</table>
In Table 4.2 are the weighted values of each possible control chamber in the synthetic Maine chambers. As we see from these weights, the Maine House of Representatives in the pre-treatment period is best recreated using Washington, Mississippi, Florida, Delaware, Idaho, Iowa, Rhode Island, Vermont, New Hampshire, New Mexico, and West Virginia. Due to the unique institutional qualities of the Maine Senate, this synthetic control requires a slightly different assembly of chambers, utilizing New Hampshire, Indiana, Mississippi, Rhode Island, Vermont, and West Virginia.

**Table 4.2 Synthetic control state weights, by chamber**

<table>
<thead>
<tr>
<th>State</th>
<th>Lower Chamber weight</th>
<th>Upper Chamber weight</th>
<th>State</th>
<th>Lower Chamber weight</th>
<th>Upper Chamber weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>0</td>
<td>0</td>
<td>Nevada</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Alaska</td>
<td>0</td>
<td>0</td>
<td>New Hampshire</td>
<td>0.169</td>
<td>0.337</td>
</tr>
<tr>
<td>Arkansas</td>
<td>0</td>
<td>0</td>
<td>New Jersey</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>California</td>
<td>0</td>
<td>0</td>
<td>New Mexico</td>
<td>0.010</td>
<td>0</td>
</tr>
<tr>
<td>Colorado</td>
<td>0</td>
<td>0</td>
<td>New York</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Delaware</td>
<td>0.001</td>
<td>0</td>
<td>North Carolina</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Florida</td>
<td>0.131</td>
<td>0</td>
<td>North Dakota</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Georgia</td>
<td>0</td>
<td>0</td>
<td>Ohio</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Hawaii</td>
<td>0</td>
<td>0</td>
<td>Oklahoma</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Idaho</td>
<td>0.002</td>
<td>0</td>
<td>Oregon</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Illinois</td>
<td>0</td>
<td>0</td>
<td>Pennsylvania</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Indiana</td>
<td>0</td>
<td>0.054</td>
<td>Rhode Island</td>
<td>0.006</td>
<td>0.387</td>
</tr>
<tr>
<td>Iowa</td>
<td>0.002</td>
<td>0</td>
<td>South Carolina</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Kansas</td>
<td>0</td>
<td>0</td>
<td>South Dakota</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Kentucky</td>
<td>0</td>
<td>0</td>
<td>Tennessee</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Louisiana</td>
<td>0</td>
<td>0</td>
<td>Texas</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Maryland</td>
<td>0</td>
<td>0</td>
<td>Utah</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>0</td>
<td>0</td>
<td>Vermont</td>
<td>0.161</td>
<td>0.062</td>
</tr>
<tr>
<td>Michigan</td>
<td>0</td>
<td>0</td>
<td>Virginia</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mississippi</td>
<td>0.132</td>
<td>0.154</td>
<td>Washington</td>
<td>0.107</td>
<td>0</td>
</tr>
<tr>
<td>Missouri</td>
<td>0</td>
<td>0</td>
<td>West Virginia</td>
<td>0.279</td>
<td>0.321</td>
</tr>
<tr>
<td>Montana</td>
<td>0</td>
<td>0</td>
<td>Wyoming</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Figures 4.5 and 4.6 display the difference in party medians in the lower and upper chambers as compared to their synthetic controls from 1996-2014. The estimated effect of Clean Elections on polarization is the difference in the levels of
polarization between the Maine chamber and its synthetic match in the period after Clean Elections took effect in 2000. The synthetics and the real chambers exhibit nearly identical levels of polarization in the pre-Clean Elections period. As the predictor variables for both chambers are also closely aligned with those from the synthetics, we can safely assume that the controls present a credible representation of the level of polarization both chambers would have exhibited without a Clean Elections program.

**Figure 4.5 Maine House of Representatives vs. synthetic**

![Maine House vs. Synthetic](image)

In the lower chamber, the effect is initially small, likely an artifact of low initial participation in the program and high rates of incumbency. After the third election with a public financing program in place, participation among legislators in the lower chamber reached 77 percent (with 26 percent more of the Democratic caucus accepting Clean Elections funding than the Republican caucus). It is in this period that the ideological distance between the parties begins to dramatically grow. A slight decrease from 2008-2009 tracks with a stable 94% of the Democrats having
accepted public financing, while the proportion of the Republican caucus reaches a high of 72 percent. In 2013-2014, Republican participation in Clean Elections fell to 40 percent of the caucus, their lowest participation rate since 2004. Meanwhile, Democratic participation remained at a relatively high 85 percent. As posited in Chapter 3, high Democratic participation and low Republican participation in Clean Elections appears to be the driving force behind the increasing distance in the party medians in the Maine House.

**Figure 4.6 Maine Senate vs. synthetic**

What is immediately apparent when comparing Figures 4.7 and 4.8 is that although polarization in the House is markedly higher than in its synthetic counterpart, the results for the Senate paint a more complex picture. As the Maine Senate could not be perfectly recreated by the synthetic during the pretreatment period (because no upper chamber nor combination thereof exhibited such a
significant drop in polarization from 1996 to 1997), we must view cautiously the relationship between the Maine Senate and it’s synthetic match.

In 2000, Republican State Senators in Maine are hesitant to accept public financing. Meanwhile, a majority of their Democratic colleagues have financed their campaigns using Clean Elections during the first election it was available. This disparity in their participation rates (and a significant amount of legislator turnover) is the likely driving force behind this initial rise in polarization. In 2005, participation in the Republican caucus spikes to almost ninety percent, and polarization begins to decline. For the next few years the level of Republican participation is at parity with the Democratic caucus, tracking with a significant decline in the difference between the party medians. After the 2010 election, 90 percent of Republican Senators have been elected using public financing, while 79 percent of Democratic Senators have done the same. During this period, the difference in the party medians grows, but remains well below polarization in the synthetic Senate. In 2012, 89 percent of elected Democrats and 80 percent of Republicans accepted public financing. During the legislative sessions that followed, the difference in party medians grows as predicted.

To a large extent, the peaks and valleys of polarization in the Maine Senate follow our expectations with respect to the effect of party participation. The difference in party medians declines significantly against the synthetic control unit in 2005-2006 and is at it’s lowest in 2011-2012, when the rate of participation among Republicans was above that of the Democratic caucus. The 2003-2004 and 2007-2008 legislative sessions, during which a slightly greater proportion of the Democratic
caucus had been elected using Clean Elections than of the Republican caucus, are also the periods during which polarization was highest (during the former) or beginning to rise (during the latter). That the parties found themselves closer together ideologically than the synthetic control unit would predict for much of the period during which their participation rates were nearly the same supports a small amendment to the original hypothesis: assuming an equivalent and opposite effect of Clean Elections on legislative behavior for each party caucus, the increasingly extreme views of one party may be offset (or more) by the more moderate behavior of the other.

**Figure 4.7 Maine House vs. synthetic, gaps**
Arizona
The History of Clean Elections in Arizona

From the mid-1980’s through to the end of the century, Arizona politics was rocked at regular intervals by scandals: a Governor impeached for misuse of public funds; nine members of the legislature caught taking bribes; and the “Keating Five”, US Senators (including Senators John McCain and Dennis DeConcini) who intervened with a regulatory agency on behalf of a campaign contributor. But it was Governor Fife Symington’s forced resignation in September 1997, after having been convicted of seven counts of bank fraud, which propelled Clean Elections into the popular discourse. As in Maine four years before, a collection of interest groups saw took it upon themselves to institute campaign finance reforms, and together they formed Arizonans for Clean Elections (ACE), which drafted the text of an initiative.

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ACE, like MVCE before them, bypassed the entrenched interests in the legislature and took their proposal directly to voters in a popular initiative. The petition faced significant opposition, with the signatures themselves challenged on highly technical grounds in the Arizona Supreme Court. Once the signatures were certified, the proposition did not have to overcome the administrative hurdles the legislature of Maine put in front of their Clean Elections act. Instead, Proposition 200 (also known as “The Arizona Citizens’ Clean Elections Act”) was allowed to proceed directly to a vote in November 1998, just over a year after Governor Symington’s forced resignation. On the ballot, the text describing Prop. 200 explained that it would establish the Citizens Clean Elections Commission and declare how public funds were to be administered, and would also lower contribution limits to candidates who chose traditional fundraising.\(^9\) By a two-point margin, the act passed into law.

**Clean Elections in Arizona**

Arizona’s state legislature is divided between a House of Representatives with sixty members and a Senate with thirty, with each of the state’s thirty districts electing two Representatives and one Senator. There is one House race in each district, and the two candidates who receive the most votes are both elected to a seat. Each member may serve four two-year terms, while those elected to statewide office are elected to four-year terms. Clean Elections took effect in Arizona for the 2000 cycle, with all members of the legislature and all statewide offices up for election. To begin the process, Arizona permits a certain amount of “early contributions” which are intended to help the candidate elicit their qualifying contributions (these

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contributions cannot exceed $160 per individual, and each candidate may raise up to $55910 for Governor, $3813 for the Legislature). 

Businesses, labor unions, PACs, and the parties are explicitly enjoined from contributing to this early funding stage.

As in Maine, becoming eligible for public financing in Arizona requires candidates to elicit a number of $5 qualifying contributions from registered voters: 4500 for Governor, 2800 for the Secretary of State and the Attorney General, 1700 for Treasurer and members of the Corporation Commission, 650 for Mine Inspector, and 250 for the Legislature. These small contributions serve as a sanity check on potential candidacies, as the amounts that are raised only make up a small fraction of the ultimate campaign budget. After a candidate has met the threshold number of qualifying contributions, they may then apply for public financing from the office of the Secretary of State. By participating in Clean Elections, candidates agree to participate in one debate per election phase (primary and general). Once the Secretary has verified the legitimacy of the qualifying contributions, the state will issue the candidate their allotment: for the 2014 election cycle, the participating candidates for the Governor’s race received $753616 during the primary, $1,130,424 during the general election; candidates for the legislature received $15,253 for the primary and $22,880 for the general. If a district is “party-dominant”—meaning one party has at least a 10% lead among registered voters over all other parties—the candidate from the majority party has “The Reallocation Option”, allowing them to take what would be their general election financing for the primary race. In these districts, where the primary is thought of as a de facto general election, participating candidates opting for “reallocation” has proven to be an enormously popular option.

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Arizona’s program is also enormously flexible, with public financing indexed to inflation and the number of qualifying contributions up for review every four years.\footnote{Brickner and Mueller, "Clean Elections: Public Financing in Six States, Including New Jersey's Pilot Projects".} Unopposed candidates do not receive full financing, but rather only the amount they submitted to the CCEC during the qualifying contribution phase. Independent candidates also do not receive full financing, but 70% of the funding a major party candidate would be eligible for.

As in Maine, until 2011 matching funds provided for public financing up to three times the initial allocation if independent expenditures or a traditionally funded campaign outstripped the public financing. Funding for Clean Elections is principally provided by a surcharge on court assessments, with supplementary funding provided by penalties levied by the CCEC, an optional tax check-off, and the qualifying contributions raised by the individual candidates.

**Clean Elections Candidates in Arizona**

Both Maine and Arizona’s Clean Elections program got off to a slow start. During the 2000 election cycle, 26% of candidates participated in the program, and only 18% of the ultimately elected legislators had taken public funds.\footnote{Campaign Finance Reform: Early Experiences of Two States That Offer Full Public Funding for Political Candidates, 2003.} After the 2002 election, the proportion of publicly funded elected legislators rose to 36%, with 39 out of the 89 candidates participating winning their races.

In 2003, the Government Accountability Office conducted a large-scale analysis of the electoral landscape in Arizona and Maine after their first two elections with Clean Elections in place. In addition to comprehensive data on the popularity and efficacy of the program, the study included a survey of candidates, voters, and
stakeholders. The GAO found no increase in the number of candidates who ran for office, no greater proportion of close races, no uptick in voter participation or confidence in government, and decidedly mixed feelings on any perceived reduction on the influence of interest groups.\(^93\) Furthermore, in both cycles independent expenditures rose significantly. Nevertheless, public funding has continued unabated in Arizona, with the results continuing to be mixed: for the 2010 race, 48% of general election candidates accepted public funding, as did 38% of winners.\(^94\) In 2012, 58% of all candidates (including 28% of Republican candidates) and 22% of winning candidates had accepted public funding. 2014 saw a steep decline in Clean Elections participation, with only 25% of all general election candidates participating, and only 16% of all winners.

As in Maine, Arizona Republicans (15%) and incumbents (14%) were less likely to participate than challengers (34%) and Democrats (40%) in 2014.\(^95\) A possible cause for this massive fall in participation is the substantial increase in the contribution limits: PACs no longer have any limit on what they may contribute to state legislative races, and individuals may now contribute up to $4000 (up from $440).\(^96\) Overall, Arizona continues to have the lowest rate of Clean Elections participation among the three full-funding states. Caucus participation rates are visualized in Figures 4.9 and 4.10.


\(^95\) "First Look: Small Donors, Big Money, and the 2014 Elections".

Results

In the last 15 years, both the Arizona House of Representatives and Senate have shown enormous growth in their levels of polarization. This dramatic increase far outpaces polarization among both lower and upper chambers that do not have
Clean Elections, as shown in Figures 4.11 and 4.12. In recent years, only the legislatures of Colorado and California have topped Arizona in terms of the relative extremity of their caucuses. The responsibility for the increase lies with both House caucuses, who have diverged at nearly identical rates. In the Senate as well, the caucuses have largely mirrored one another in their movement away from the ideological middle, though Republicans at a slightly faster rate than Democrats. Also noteworthy has been the unbroken, two decade Republican majority of the House. Control of the Senate has also fallen to the Republicans in every legislative session since 1992, with the exception of a perfectly divided chamber from 2001-2002 (15 D, 15 R).

**Figure 4.11 Arizona House of Representatives vs. lower chambers**
Figure 4.12 Arizona Senate vs. upper chambers

The states legislatures that constitute the synthetic control units, and their weighted averages, are shown in Table 4.3. Half of the weights for the synthetic Arizona House is given to New Mexico, a state with a similarly long history of high levels of polarization. Virginia, Oklahoma, North Carolina, Colorado, and Tennessee make up the balance. As would be expected, much of the weights for the Senate are derived from the highly polarized legislatures of New Mexico and California, and the Republican dominant chambers of Texas and Kansas. The remaining weights are taken from New York and Alabama.

As in Maine, the states that make up the synthetic analogues to the Arizona legislatures are chosen and assembled based upon their ability to recreate the conditions of their real world counterparts across a range of predictor variables. The mean values of these variables in the pre-treatment period for the Arizona legislatures, the synthetic legislatures, and the entire control group closely resemble the behavior observed in Maine. Although the predictor means for some of the
variables are markedly different in the synthetic states than in the real legislatures (for instance, average district populations), these disparate values are assigned no weight in the final calculations. The greatest share of the weight in creating both the synthetic House and Senate is given to the pre-treatment levels of polarization. As a robustness check, this process was recreated using a multitude of different combinations of variables, with negligible effect on the final results.

Table 4.3 Arizona Synthetic control state weights, by chamber

<table>
<thead>
<tr>
<th>State</th>
<th>Lower Chamber weight</th>
<th>Upper chamber weight</th>
<th>State</th>
<th>Lower Chamber weight</th>
<th>Upper chamber weight</th>
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<tbody>
<tr>
<td>Alabama</td>
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<td>New Hampshire</td>
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<td>0</td>
</tr>
<tr>
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<td>0</td>
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<td>0</td>
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<td>0.128</td>
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<td>Oklahoma</td>
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<td>Oregon</td>
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<td>0</td>
</tr>
<tr>
<td>Illinois</td>
<td>0</td>
<td>0</td>
<td>Pennsylvania</td>
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<td>0</td>
</tr>
<tr>
<td>Indiana</td>
<td>0</td>
<td>0</td>
<td>Rhode Island</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Iowa</td>
<td>0</td>
<td>0</td>
<td>South Carolina</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
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<td>0.428</td>
<td>South Dakota</td>
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<tr>
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<td>Vermont</td>
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<td>0</td>
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<td>0</td>
<td>Washington</td>
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<td>Missouri</td>
<td>0</td>
<td>0</td>
<td>West Virginia</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Montana</td>
<td>0</td>
<td>0</td>
<td>Wyoming</td>
<td>0</td>
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</tr>
</tbody>
</table>

Plots of the difference in party medians from 1996-2014 of the real legislatures and their synthetic controls are shown in Figures 4.13 and 4.14. Both synthetic units show significant increases in their levels of polarization after 2000 (with a notable exception in the House from 2001-2002), capturing both the increasing ideological distance of legislative caucuses nationwide, and the implicit
validity of this estimation technique. To more clearly display the extent to which the Arizona legislatures have diverged from the predicted behavior shown by the synthetic units, Figures 4.15 and 4.16 plot the gap between the pairs over the duration of the study.

Figure 4.13 Arizona House vs. synthetic

![Arizona House vs. Synthetic](image1)

Figure 4.14 Arizona Senate vs. synthetic

![Arizona Senate vs. Synthetic](image2)
The Arizona House immediately distinguishes itself from the synthetic lower chamber by demonstrating a marked downturn in polarization for the period immediately following implementation of Clean Elections. The vast majority of this move towards the middle is a result of the Republican caucus ideology score falling a
largely unthinkable 0.193 units (becoming more liberal). Although it is tempting to attribute this downturn to Clean Elections, the proportion of the House Republican caucus elected in 2000 using public financing was only 5.5 percent, while 40 percent of Democratic legislators participated.

2000 was a trying election for the Arizona House, with the average margin of victory declining 5 percent, and nearly 50 percent of the legislature elected by a margin of less than 10 percent (an unprecedented twofold increase over two years prior). The hard-fought election, combined with the scandal-riddled recent history of the chamber, may have induced the parties to conduct their legislative behavior in a more conciliatory and moderate fashion, overwhelming the expected effect of Clean Elections on polarization. This is, however, a conjecture that requires analysis by future researchers.

A sharp upturn in Clean Elections participation among winners in the 2002 election sets off the upward climb of polarization in the Arizona House. The Democratic caucus, possibly emboldened by a government divided with the election of Democrat Janet Napolitano to the Governor’s office, shows the sharpest increase in 2003-4. The imbalance in participation rates between the party caucuses is substantial for every subsequent election cycle. This disparity peaks in 2007-8, when 35 percent more of the Democratic caucus has accepted public financing than the Republican caucus. Differing participation rates between the parties closely follow the rise of polarization in the state.

In 2010, the suspension of the matching funds provision of the Clean Elections law seems to reduce the incentive for members of either party to accept public financing, and overall participation declines 20 percent. Two years later, the Clean Elections participation rate in the Arizona House falls an additional 20 percent, the lowest proportion of the legislature accepting public financing since the program began. And as the proportion of the chamber accepting public funding plunges, polarization significantly increases.

From 2001-20014, polarization in the Arizona House increases by 0.95 units over the synthetic control. This is the largest increase in this period of any lower chamber in the country and a dramatic divergence from the synthetic state. Clean Elections alone likely would not cause this level of increase in polarization. That the trend towards increased polarization persisted seemingly irrespective of participation rates among the caucuses serves as a reminder that the effects of Clean Elections may be overwhelmed by outside forces. However, as I will discuss with respect to the Senate, public financing may be exacerbating other drivers of polarization.

The Arizona Senate consistently ranks the lowest among the six studied chambers on participation in Clean Elections. After 2000, 6 percent of both Senate caucuses had accepted public money, and we see that Arizona matches the synthetic exactly in the legislative sessions immediately afterwards. Closely following the behavior of the House, Senate Democratic caucus participation rises four-fold two years later, while participation among the Republicans rises a more modest 5 percent. With this disparity, we begin to see the expected divergence in the party medians. The difference in the Democratic and Republican participation rates grows from 11
percent in 2003 to 29 percent in 2008, while polarization over and above the synthetic control grows by 0.35 units. Put simply, as the difference in party participation rates increases, so too does Senate polarization during this period.

However, over the next four years Democratic participation remains flat while Republican participation nearly triples. The Senate does not exhibit the immediate drop-off in participation rates after the removal of the matching funds provision. And from 2011-12, a greater share of the Senate GOP caucus has been elected using Clean Elections than in the Democratic caucus. During this period, polarization continues to climb. After the 2012 election, only 13 percent of Arizona Senators had been elected using Clean Elections, and polarization in the chamber declined. The responsibility for this fall-off lies with the Democratic caucus, whose ranks swelled significantly in this election with significantly more moderate members.

In most state legislatures, the responsibility for increasing polarization falls on significantly more conservative Republican caucuses. This Senate is distinctive among the upper chambers because almost 70 percent of the increase in the polarization of the chamber has been in the markedly more liberal Democratic caucus. Only in Idaho, Mississippi, and California have Democratic caucuses exhibited comparable behavior. And in all four states, the asymmetric polarization of the upper chambers is less pronounced in the lower chambers. Although these states are different across any number of dimensions, one notable quality that they also share has been long periods of unbroken single party dominance across both legislative chambers. However, as this is only tangentially related to the topic at hand, this finding is put to other researchers to explore.
That the Arizona legislatures have exhibited extraordinary growth in the ideological distance between their party caucuses is readily apparent. The responsibility for this divergence rests largely on the Democratic caucuses, which had large proportions of their members elected using Clean Elections until 2011. In the 2011-2012 legislative session, legislative polarization declined in the Senate, the only sessions in the history of Clean Elections in Arizona during which a greater proportion of the Republican caucus had participated in the program than in the Democratic caucus.

When compared to their synthetic analogues, the growth in the difference in party medians is enormous, far outpacing the expected effects of Clean Elections discussed in Chapter 3. And yet, the expected relationship between caucus participation rates and aggregate polarization is supported by this analysis. It is important to note that the increases of legislative polarization in the Arizona House and Senate far outpace the estimations of the regression analysis. This suggests that legislative behavior in Arizona has become so different from their contemporaries that the model is simply ill-prepared to capture the true effect of Clean Elections. Yet even under these aberrant circumstances, the absolute difference in the ideology of the legislative caucuses is largely responsive to shifts in participation rates.
Connecticut
The History of Clean Elections in Connecticut

The passage of Clean Elections in Connecticut was arduous, precedent setting, and fraught with challenges the reformers in Maine and Arizona had not faced. Unlike those previous efforts, the people of Connecticut cannot pass popular initiatives themselves, meaning that all proposals must proceed through the normal processes of the legislature. There had not been any great demand for campaign finance reform until 1999, when Connecticut’s former State Treasurer Paul Silvester plead guilty on six counts of racketeering. With kickbacks he received from a consultant for the state, he gave individuals up to $1500, which they then contributed to his campaign.\(^{98}\) Then-Governor Rowland, who had selected Silverster for Treasurer, called upon the legislature to send him a package of election reforms. Months later, “An Act Proposing Comprehensive Campaign Finance Reform” arrived on the Governor’s desk. Rowland balked at the $40 million price tag for full public financing of campaigns, and vetoed the bill. By 2005, Rowland had resigned under threat of impeachment by the legislature, and Lieutenant Governor Jodi Rell took the top job just as public confidence had reached its nadir. Initially opposed to public financing in light of both the expense and the expanded role of the government, pressure from the legislature and popular opinion forced Governor Rell’s hand: Rell endorsed public financing after the legislature agreed to expand the package of reforms to include prohibitions against lobbyists and contractors contributing to campaigns, and a reduction in the contribution limit for individuals.\(^{99}\) The revised

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reform package was signed into law in November 2005, with contribution limits taking effect in 2007, public financing in place for legislative candidates in 2008, and statewide offices in 2010. The provisions covering contributions from contractors and financing for minor party candidates were challenged immediately. And as in Arizona and Maine, the Supreme Court’s decision in *Arizona Free Enterprise Club* removed the matching funds provisions from the law.

**Clean Elections in Connecticut**

Connecticut’s General Assembly is divided between a 151-seat House of Representatives and a 36-seat Senate. Just as in Maine and Arizona, the process of obtaining a campaign subsidy from the Citizens Election Program (CEP) begins with raising qualifying contributions from registered voters: House candidates must raise 150 $5 contributions from residents of their districts and raise $5000 from voters in any district; Senate candidates must elicit 300 contributions and $15000. These contributions also take on the same function as seed funding in the previously discussed states, do not count towards the qualifying contribution threshold, but are applied to the aggregate spending limit. The Connecticut State Elections Enforcement Commission (SEEC) provides certification for candidates who meet the twin thresholds, and issues public financing based upon office sought, “election cycle”, party dominance in the district, and contestation of the race. In 2014, primary financing for Representatives could not exceed $11140, or $38990 for Senators. Funding for Clean Elections is provided by sales of unclaimed property.

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101 Brickner and Mueller, "Clean Elections: Public Financing in Six States, Including New Jersey’s Pilot Projects".
Like in Arizona, Connecticut’s “party-dominant” districts—in which the number of voters registered with one party exceeds the number of voters registered with the next most popular party by 20 points or more—candidates for the primary of the dominant party are eligible for larger allotments ($27850 for Representative; $83550 for Senator). For House candidates, the maximum amount of funds available during the general election is $27850, and $94690 for Senate candidates. A candidate is eligible for the full allotment if they meet one of three criteria: they are nominated by a “major party”, whose candidate for Governor in the previous election cycle received 20% of the vote or whose membership makes up 20% of all registered voters; they are nominated by a “minor party”, which “is defined as a political party that is not a major party” whose candidate for the office in the previous election received at least 20% of the vote; or they may submit a petition with signatures totaling 20% of the vote for the office in the previous election. If the candidate meets one of these “20% thresholds”, but is unopposed in the general election, they will only receive 30% of the maximum allotment. And in a feature unique among the Clean Elections states, if a candidate is facing only token opposition in the form of a “minor party” candidate, they will receive 60% of maximum allotment. Candidates from “minor parties” are eligible for public funds equal to two thirds of full funding if they meet the “15% threshold” (the party received 15% of votes cast in the previous election, or the candidate submits a petition signed by 15% of the number of voters in the previous election), or one-third of full funding if they meet a “10% threshold”. Candidates receiving these smaller allotments may also raise “differential contributions” up to the amount of the maximum allotment.
From the outset, the CEP has been beset by challenges and controversy. The conditions placed on “minor party” candidate participation were immediately a point of contention, as they seemed to create an undue burden on qualified candidates. However, in the name of cost-saving and reducing the threat of fringe candidates, the “threshold” criteria remains in place. Trade and labor organizers, incensed over the ban on contributions from contractors, threatened to file suit but failed to follow through. In 2013, the legislature responded to the looming threat posed by the *Citizens United* decision with a package of reforms designed to maintain the value of public financing. The amount donors could contribute to parties doubled from $5000 to $10000. With these raised limits on contributions to party committees came permission for the parties to spend as much as they like on behalf of a candidate. Consequently, large donors are increasingly directing their contributions to the parties.\(^{102}\) And at least in the case of State Senator Ted Kennedy Jr. during the 2014, nearly all of the contributions to the Democratic Party from his supporters were then spent on his race.

Kennedy’s apparent end-run around contribution limits for publicly financed candidates proved to be only the first controversy surrounding the Connecticut Democrats in 2014: a GOTV mailer supporting the reelection efforts of Gov. Dannell Malloy was paid for with the party’s federal account. This account is normally used for US House and Senate races, and is able to accept contributions from state contractors up to $10000. The SEEC scolded the Democrats, but no other repercussions have yet materialized. Even without this creative accounting, a high

\(^{102}\) Christine Stuart and Hugh McQuaid, "Election Highlights Flaws in Campaign Finance System," *CT News Junkie* (2014); ibid.
rate of CEP participation belies an explosion in independent expenditures. While almost the entirety of the fivefold increase in independent expenditures from 2010 to 2014 went towards the Governor’s race, there is nothing preventing spending on legislative races to similarly grow.

**Clean Elections Candidates in Connecticut**

Connecticut, for all the apparent complexity of their public financing system, has the most popular system of the three full-funding states. From the first race in 2008, participation was high, with 73% of candidates and 78% of elected legislators taking CEP funding. In the SEEC’s own post-election analysis in 2010, they pointed to an increasing number of primaries for seats in the legislature (21 in 2010, up from 12 in 2006), a reduction in unopposed races (53 in 2008, down to 32 in 2010), and a narrowing margin of victory for competitive races. In 2014, 73% of the 375 candidates running for office participated in Clean Elections. And of the 193 candidates who won their race, 84% had received campaign subsidies. As in Maine and Arizona, there is a disparity between the parties: 88% of Democratic winners and 78% of Republican winners received CEP funds. Party caucus participation rates are displayed in Figures 4.17 and 4.18.

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Results

Connecticut—joining the likes of Massachusetts, North Dakota, and Oklahoma—exhibits none of the polarization trends we have come to expect from the rest of the country. As we see from Figures 4.19 and 4.20, the difference in party medians for both chambers have remained largely unchanged since 1996. Although
polarization in the Connecticut Senate had been well above the national average until 2008, more recent years have seen the ideological distance between the party caucuses rise in almost every upper chamber except in Connecticut.

**Figure 4.19 Connecticut House vs. lower chambers**

![Graph showing comparison between Connecticut House and other lower chambers](image)

**Figure 4.20 Connecticut Senate vs. upper chambers**

![Graph showing comparison between Connecticut Senate and other upper chambers](image)

As should be familiar from the previous discussions of Maine and Arizona, the synthetic Connecticut legislatures are constructed of weighted averages of
legislatures in the donor pool that are most proximate to the Connecticut legislature by way of their pre-Clean Elections mean for the predictor variables. Table 4.4 presents the means of the predictors for Connecticut, the synthetic legislature, and for the entire donor pool. The means of each of the predictors for the synthetics are very close to their real world counterparts, particularly in the pre-Clean Elections levels of polarization. That we are able to track the pre-treatment level of polarization over a greater number of years should lend added credence to the synthetic matches of the Connecticut chambers. To reiterate, the predictor mean values for the synthetic legislatures that are too far removed from their real world counterparts are not assigned any weight in creating the final estimations.

**Table 4.4 Connecticut predictor means, by chamber**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Lower chambers</th>
<th></th>
<th>Upper chambers</th>
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<td></td>
<td></td>
<td>Avg. of 44 control states</td>
<td></td>
<td>Avg. of 44 control states</td>
</tr>
<tr>
<td></td>
<td>Real</td>
<td>Synthetic</td>
<td>Real</td>
<td>Synthetic</td>
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<td>-1.081</td>
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<td>Income inequality</td>
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<td>0.482</td>
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<td>Professionalism</td>
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<td>Chamber size</td>
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<td>Avg. district pop.</td>
<td>22.288</td>
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<tr>
<td>Percent chamber R.</td>
<td>0.350</td>
<td>0.322</td>
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<tr>
<td>R. POTUS vote %</td>
<td>0.388</td>
<td>0.381</td>
<td>0.388</td>
<td>0.366</td>
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<tr>
<td>Percent bachelors</td>
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<td>0.236</td>
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<tr>
<td>Income per capita</td>
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<td>44.847</td>
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<td>Percent in a union</td>
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<td>0.163</td>
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<td>Percent foreign</td>
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<td>Percent under 25</td>
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<td>Percent over 55</td>
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<tr>
<td>Polarization, 1998</td>
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<td>1.169</td>
<td>1.517</td>
<td>1.488</td>
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<tr>
<td>Polarization, 2000</td>
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<td>1.177</td>
<td>1.519</td>
<td>1.465</td>
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<tr>
<td>Polarization, 2002</td>
<td>1.174</td>
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<td>1.481</td>
<td>1.466</td>
</tr>
<tr>
<td>Polarization, 2004</td>
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<td>1.183</td>
<td>1.480</td>
<td>1.527</td>
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<tr>
<td>Polarization, 2006</td>
<td>1.229</td>
<td>1.226</td>
<td>1.414</td>
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<tr>
<td>Polarization, 2008</td>
<td>1.266</td>
<td>1.262</td>
<td>1.440</td>
<td>1.398</td>
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</tbody>
</table>
Table 4.5 includes the weighted values of each possible control legislature in the synthetic Connecticut legislatures. In creating the synthetic House, thirty states make trace contributions, cumulatively less than five percent of the total. Almost seventy percent of the weight is assigned to lower chambers in Connecticut’s northeast neighbors (with similarly long histories of Democratic control over the legislature) Massachusetts and New York. Delaware, Idaho, Illinois, Montana, New Mexico, and West Virginia make up the rest. The synthetic Connecticut Senate is comprised of Michigan, Massachusetts, New York, and a trace of New Hampshire.

Table 4.5 Synthetic control state weights, by chamber

<table>
<thead>
<tr>
<th>State</th>
<th>Lower Chamber weight</th>
<th>Upper Chamber weight</th>
<th>State</th>
<th>Lower Chamber weight</th>
<th>Upper Chamber weight</th>
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<tr>
<td>Alabama</td>
<td>0.001</td>
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<td>Nevada</td>
<td>0</td>
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<td>Alaska</td>
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<td>0</td>
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</tr>
<tr>
<td>California</td>
<td>0.001</td>
<td>0</td>
<td>New Mexico</td>
<td>0.031</td>
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<tr>
<td>Colorado</td>
<td>0.002</td>
<td>0</td>
<td>New York</td>
<td>0.251</td>
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<td>Delaware</td>
<td>0.031</td>
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<td>North Carolina</td>
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<td>0</td>
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<tr>
<td>Florida</td>
<td>0.004</td>
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<td>Ohio</td>
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<td>0</td>
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<tr>
<td>Georgia</td>
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Figures 4.21 and 4.22 plot the levels of polarization in the Connecticut chambers alongside their synthetic counterparts. Both synthetic units mirror the pretreatment levels of polarization quite well. Taken together with the extended
period on which the synthetics are able to mirror the real legislatures and the strong balance of the predictor means, these estimations should be very strong indications of how the Connecticut legislatures would have behaved in the absence of Clean Elections.

**Figure 4.21 Connecticut House vs. synthetic**

![Connecticut House vs. Synthetic](image)

**Figure 4.22 Connecticut Senate vs. synthetic**

![Connecticut Senate vs. Synthetic](image)
Unlike in Maine and Arizona, participation in Connecticut’s Clean Elections program was immediately high. Having seen how markedly public funds had reduced the need for fundraising in the states that already had Clean Elections, eight out of ten members of the House accepted public financing and the party participation rates were nearly identical. Given these unprecedented participation rates, we can safely assume that accepting public financing in Connecticut was not an ideologically or electorally costly act. This claim gains added credibility when we look at the ideology of the Republican caucuses: peaking at 0.135 in the House and 0.18 in the Senate, the Republican caucuses of Connecticut are amongst the most moderate in the country. Combined with a high rate of incumbency, that polarization in the chamber did not substantively diverge from the synthetic House immediately after implementation of Clean Elections is no great surprise.

In 2010, Republicans picked up 14 seats in the House, and although some of the new Representatives are elected using public financing, the participation rate of the caucus falls 10 percent. Polarization between the caucuses remains unchanged, while the synthetic House begins to climb upward. In 2012, Republicans gained two more seats, both of which were filled by publicly financed candidates. Participation rates for the Democratic and Republican caucuses went up, even without matching funds to incentivize them. Again, the ideological distance between the parties remains the same, while polarization in the synthetic House continues to rise.

The Connecticut Senate almost exactly mirrors the House. After the first year of Clean Elections, participation is high for both parties (83 percent of Republicans and 92 percent of Democrats accept the public funding option) and only one seat
switches sides, leaving the ideological makeup of the chamber largely in tact.

Polarization in 2011-12 again remains flat in the Connecticut Senate, but the synthetic shows a large increase in polarization during this time. During these two years, Republican caucuses across the country – most notably in New York, the largest contributor by weight to the synthetic Connecticut Senate – display considerably more conservative legislative behavior. The Connecticut Republican caucus does not shift, and Figure 4.23 displays the resulting gap between expected polarization and actual polarization. That the gap begins to close in 2013-14 is not the responsibility of a more polarized Connecticut legislature, but a markedly less polarized synthetic unit.

Participation among the parties remains extraordinarily high during these legislative sessions, with 93 percent of Republicans and 86 percent of Democrats choosing to accept public financing.

**Figure 4.23 Connecticut house vs. synthetic, gaps**
Figure 4.24 Connecticut senate vs. synthetic, gaps

What is happening here? In the section discussing Maine, there was mention of a small revision to an earlier hypothesis: assuming the effect of Clean Elections on each party is equivalent and opposite, and similar participation rates between the caucuses, then the relative extremity of one party could be offset by more moderate behavior in the other. The caucuses of the Connecticut House or Senate seem to have been ideologically unmoved by Clean Elections, or anything else for that matter, for the last two decades. These chambers, and the caucuses within them, are remarkable in their stability. In fact, Clean Elections appears to have preserved the status quo levels of polarization, even in the face of national trends.

Discussion

The Clean Elections programs that have been discussed differ in several important ways, particularly with respect to the details that can impact polarization. Firstly, a candidate’s eligibility for Clean Elections is tied to their relationship to a party, but the parameters surrounding their eligibility differ from state to state. More
vexing, however, are the varying demands of the initial fundraising phases: in Connecticut, a candidate must meet the twin thresholds of both in-district contributions and aggregate dollars raised. Donors tend to be more ideologically extreme than the population that only votes, and increased extremity does tend to generate more money. Given this finding, we might expect Connecticut to have more polarized legislators than Arizona and Maine, where candidates need only raise qualifying contributions. As we just saw, nothing could be further from the truth.

Arguably the most significant difference between Connecticut and the original Clean Elections states were created as a result of a 2013 change to the CEP. The revisions allowed donors to double their contributions to the parties, and allowed the parties to spend unlimited sums on publicly financed candidates. Democratic leaders defended the changes, saying that outside spending in the wake of *Citizens United* would drown publicly financed candidates. Both parties have been judicious in how they have used this new power, with the prominent exception of the $207,000 the Democratic Party spent on State Senate campaign Ted Kennedy Jr. But this change in the law suggests a model of party influence over candidates: assuming that all candidates and incumbents are principally concerned with reelection, in a non-professional legislature with a strong party structure, there is likely no challenger or incumbent who would wish to antagonize their party. If they did, the protection that the parties can provide in the face of outside spending may well not be there when

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they need it. This dynamic maintains the party’s dominance, and ensures that the party line is held at all times.

Perhaps the second most prominent element setting Connecticut’s Clean Elections program apart from the rest is this: it not only breaks out its financing allocations based on whether or not the race is contested (which all three states do), but also by how that contestation manifests itself: for instance, if a major party candidate (who has qualified for the subsidy) is running in the general election against a minor party candidate who did not reach the minimum threshold for Clean Elections, then the major party candidate will only be funded at 60% of the maximum allotment. In spite of the reduced funding, the major party candidate is nonetheless advantaged in the contest. The minor party candidate in CT faces an additional struggle: unable to receive primary funds (unlike in ME, where a reduced allotment would be available to them), the minor party candidates funding is dependent upon the party’s performance in the previous election cycle: a minimum of a 10% showing the previous election, in addition to the qualifying contributions required of all candidates, is required to trigger partial funding. Full funding, which can only be received by candidates of parties that received at least 20% of the vote in the previous election, has been an unattainable goal for all but the two major parties. Given that minor party and independent candidates have a very difficult time making themselves known and convincing voters that they are a credible option, the added bureaucratic obstacles put in place by Clean Elections ensure these ideologically distinctive candidates are unlikely to succeed.
The Clean Elections programs do share certain qualities: for instance, Connecticut and Arizona both recognize that a primary in a district with a population mostly of one party will be functionally equivalent to a general election, and will provide more funds to the candidates in the dominant party primary. This structure could facilitate the nomination of the more extreme candidate: frequent contributors tend to be ideologues who are more likely to give to extreme candidates, who are therefore more likely to receive primary financing than their more moderate opponent.  

And yet, the upper and lower chambers of the Connecticut legislature exhibit the most stable polarization rates of the three states with Clean Elections programs, levels even below their synthetic control units. One possible explanation for this equanimity is that from the outset, participation rates in Connecticut have been exceptionally high, suggesting a cultural norm surrounding the act of taking public funding. Participation rates have remained steady in Connecticut, even when matching funds provisions were struck down by the Supreme Court. This is in stark contrast to the sharp decline in participation rates in Maine and Arizona. This suggests a number of possible explanations: that ordinary funding levels are high enough that the majority of Connecticut legislative candidates are untroubled by the specter of outside spending, that most candidates are unable or unwilling to return to the old ways of financing their campaigns, or that the public financing norm is so powerful that legislators would be worried about potential backlash. This last explanation is surprisingly credible given the overwhelming and exceptionally negative response the Democratic caucus received in 2015 when they proposed

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suspending the CEP for one year. Republican legislators and editorial boards across the state cried foul, suggesting that the proposal was a ploy by Democratic leaders concerned that their longstanding majorities in both chambers are slipping away (Republicans have gained 26 seats in the House and 3 in the Senate in the last three elections). Democrats, the logic went, would have an easier time defending their majority if they were able to maximize the fundraising advantage provided to them as incumbents. To clarify, Republican lawmakers defended a program that they themselves had decried as governmental overreach only nine years earlier. The Democrats plan was quickly scuttled.
Conclusion

Existing literature on the effect of public financing has focused on either the absolute difference in party medians or in the relative extremity of individual members of Clean Elections legislatures. By taking the party caucus as the focus of this analysis, this research complements previous efforts. Incorporating caucus participation in Clean Elections allows this research to clearly observe the effect of even an incremental change in caucus acceptance of public financing on median party ideology. In both Arizona and Maine, Democrats have become dramatically more liberal, while the Republican caucuses have become significantly more conservative. The close relationship between participation rates and caucus ideology in Maine and Arizona indicates that Clean Elections may be exacerbating polarizing trends already in place.

As discussed in Chapter 4, the seemingly varying effects of public financing appear to largely depend on the conditions of the legislature and state. The Maine caucuses are particularly responsive to the vicissitudes of caucus participation rates. In this regard, the Maine legislatures most closely conformed to the hypothesized behavior of a state with Clean Elections in place. Polarization in the Arizona legislatures also seems to be attuned to changes in party participation rates. Meanwhile, the legislative caucuses of Connecticut are notably liberal, ideologically stable, and their Clean Elections participation rate have been high from the beginning. This suggests that, in all three of the original Clean Elections states, a candidate accepting full public financing is a liberal policy position that can have enduring implications for a candidate’s legislative behavior.
The ideological diversity within the Republican caucuses of Arizona and Maine, which had been high when more liberal members were elected to office, has fallen to historic lows of late. While the *Citizens United* and *Arizona Free Enterprise Club* decisions significantly reduced participation in Clean Elections among candidates from both parties, the party caucuses in these legislatures have only grown more polarized in recent years. This suggests that Clean Elections exacerbated polarization over and above what would have occurred without these programs due to disproportionate participation by Democrats. The endurance of the Clean Elections participation disparity means that the parties are unlikely to grow closer.

In Connecticut, polarization and party ideology have remained virtually unchanged since Clean Elections was put in place. That this trend is a continuation of the period before implementation of public financing suggests that the polarizing effect of Clean Elections can be counteracted by institutional and cultural factors. Connecticut has the second highest rate of income inequality in the United States, only narrowly beaten out by New York. And yet, polarization remains relatively low and largely unchanged. It is worth reiterating that a low level of polarization does not mean that both parties have moved towards the ideological middle: in Connecticut, for instance, the House and Senate Republican caucuses are amongst the least conservative in the country, while the Democratic caucuses are quite liberal.

Why should a norm surrounding public financing emerge in Connecticut, but not in Arizona or Maine? The Republican caucuses hold the answer: in the Connecticut chambers—dominated by liberal Democrats—the Republican caucuses are notable for both their ideological moderation, and their lack of ideological
diversity. If we take this finding together with our assumption that candidates are well
aware of the ideological implications of Clean Elections, then we can reasonably
conjecture that public financing is simply in keeping with their moderate ideology.
Consistent, high levels of Democratic and Republican participation suggest that
candidates are quite liberal, and their legislative behavior appears to bear this out.

Legislators in the original Clean Elections states appear threatened by the
prospect of being outspent by a traditionally financed candidate (or a well-funded
interest group) now that they lack a mechanism to challenge unrestrained fundraising.
This anxiety was best summarized in a 2015 editorial written by a former member of
the Maine House of Representatives who had lost her reelection bid to a traditionally
financed opponent supported by outside interest groups: “If you want to assure that a
broad range of everyday people can run in Maine elections — not just the well-to-do
or the well-connected — then vote yes on Question 1 on Nov. 3.”

Question 1, which was approved by a 10 point margin, increased the seed money cap for
legislative elections, increases the maximum allotment for qualifying candidates,
allows candidates to raise supplemental qualifying contributions which the state
would then supplement, and requires “communications that are independent
expenditures to include a conspicuous statement listing the top 3 funders of the entity
making the independent expenditure.” Whether this will be sufficient encouragement
to bring candidates back into the Clean Elections fold remains to be seen. But if high
participation rates are the goal for Clean Elections programs, then policymakers will

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107 Lisa Miller, "Mainers Wanted Clean Elections System So Candidates Would Focus on Issues,"
have to either remove the ideological implications of participating in these programs, or recruit candidates whose personal ideology does not conflict with participating.

**Limitations and Further Research**

Although finding a polarizing effect of Clean Elections has been robust to a variety of specifications, the sample is only comprised of thirty-four chamber years. Although the three Clean Elections states are enormously different in their state demographics, political cultures, and institutional factors, these states are not a representative sample for the entire nation. Furthermore, the removal of matching funds and the increasing spending of interest groups have had a profound influence on participation rates in these programs. Maine voters hope that the passage of Question 1 in November 2015 will induce more candidates to accept public financing, and future research would do well to consider the impact of these changes.

We don’t have a measure of how able a particular candidate would be to raise significant contributions, nor do we have a clear sense of how the ideology of a candidate, as reflected in their legislative behavior, changes from before they accepted public financing to after. And even if we did, we would have to account for how interparty tensions and legislative parties can change individual legislator behavior. We cannot determine the ideology of those who lost in the general election, so this potential wealth of counterfactuals is unavailable.

Arizona’s Senate and House hold two dubious distinctions: they are both among the most polarized and fastest polarizing legislatures in the country. The only states which are able to challenge Arizona on both of these counts are California and

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Colorado. Three neighboring states exhibiting identical polarizing trends (far outpacing similar trends elsewhere) indicates that similar forces are driving the ideological divergence of the party caucuses. This research, although well equipped to isolate the effect of Clean Elections, will leave this observation for future researchers. Research into why legislative behavior in these particular states should change so drastically changed in just a few years would likely want to fit their behavior into the larger narrative of polarization in the West. Almost all of the greatest increases in polarization over the last two decades have occurred west of the Mississippi River, and the change is particularly pronounced in the Southwest. The geographic sorting of voters into districts and cities of like-minded people has likely played a role in this change, but this is unlikely to be the whole story.

There are a number of lingering questions which this research brings up: are public financing recipients more receptive to the ideological demands of their constituents? Are Clean Elections candidates more representative of the ideology of their constituency? What forces are offsetting the polarizing effect of public financing in Connecticut? A cultural norm of participation in Clean Elections would certainly blunt this effect, but how do we explain static levels of polarization in other states? What if the existence of Clean Elections laws is having one effect on caucus ideology as a result of participating candidates, and an entirely separate effect on candidates who run against publicly funded candidates? The models that included the Clean Elections law dummy variable certainly could have suffered from an omitted variable bias, as could the model that only included chamber participation rate. Does the existence of Clean Elections laws alter the partisan makeup of the legislatures they
are present in? This last question has profound implications for legislative behavior: if Clean Elections can shift the balance of power in a chamber, caucuses will alter their behavior accordingly.

Why have the party caucuses of the Connecticut legislatures remain ideologically unmoved when nearly every other caucus in the country has moved towards the extremes? Why have the Arizona legislatures exhibited the most dramatic growth in polarization of any state, making even their polarized neighbors look conciliatory by comparison? If we were to match each legislative caucus to a synthetic control, how would the ideology of the counterfactuals compare to their real world counterparts? Further research will be needed to address these questions.

**Theoretical Implications**

This thesis takes for granted the adage that elected officials are “single minded seekers of reelection.”\(^{109}\) That is, both incumbents and candidates, when faced with a tension between their ideology and their need to win, will choose to behave in the manner which will best suit their electoral interests. Public financing presents a number of unique wrinkles in this calculus. Forgoing traditional fundraising allows the candidate to significantly increase the time they can spend engaging with voters outside of a fundraiser. The voters who will most likely receive the bulk of this attention are the same voters who will be providing qualifying contributions: highly engaged partisans.

And yet, in the context of a particular state or legislature, participating in Clean Elections can have ideological implications. Specifically, by accepting government assistance for their campaign, candidates can implicitly express a

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favorable view of governmental intervention in the campaign process, and by extension a liberal view of the role of government. This research supports this claim, indicating that voters could take this electoral behavior as a cue for future legislative behavior.

**Policy Implications**

These findings support previous research that election laws can significantly impact legislative behavior. This research does not challenge the key justifications for the passage of all three Clean Elections laws. As measures designed to increase electoral competitiveness, they have proven effective. In their efforts to reduce the influence of interest groups and provide a bulwark against corruption, the efficacy of these laws is difficult to assess. Although, every legislature cites uprooting corruption as justification for passing the program, Clean Elections are often not implemented alone. For instance, Arizona and Maine implemented their Clean Elections programs alongside term limits for state legislators, reforms that could impact legislative behavior. Policymakers would do well to consider how packages of reforms interact with one another, and particularly how Clean Elections would support their existing regulatory environment.

This research does not presume to make a normative claim on whether Clean Elections externalities – in the form of changing caucus ideologies – would be a desirable outcome for policymakers. Certainly in Connecticut, where an expected change in legislator behavior has not come to pass, Clean Elections may be moderating caucuses that face pressures to diverge. A variety of factors appear to have conspired to dampen the polarization projected by the models (ie. the long
records of success for participating candidates in Arizona and Maine creating a norm). Policymakers considering a public financing system would do well to consider how the individual parties would respond to a Clean Elections program given the experiences of these three states. States with either a dominant Democratic legislative caucus or a campaign finance scandal in their recent history will have less difficulty implementing Clean Elections programs.

However, if the goal of policymakers it to create a truly inclusive program of public financing, then the ideological dynamics of their states must be factored into their assessment of Clean Elections. High participation can only come when candidates are ideologically tolerant of a public subsidy for legislative campaigns, when the electoral benefits of participating outweigh the ideological costs, or when public pressure forces their hand. Candidates considering participating in Clean Elections will have far more on their mind than just the cost of doing business.
## Appendix A. Data Sources

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</tr>
<tr>
<td>Percent of lower chamber Republican</td>
<td>931</td>
<td>0.49</td>
<td>0.49</td>
<td>0.16</td>
<td>0.08</td>
<td>0.87</td>
</tr>
<tr>
<td>Percent of upper chamber Republican</td>
<td>950</td>
<td>0.50</td>
<td>0.51</td>
<td>0.17</td>
<td>0.04</td>
<td>0.91</td>
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<tr>
<td>Real per capita income ($1,000s)</td>
<td>950</td>
<td>34.67</td>
<td>34.07</td>
<td>8.35</td>
<td>18.30</td>
<td>64.86</td>
</tr>
<tr>
<td>Percent over 25 years old</td>
<td>950</td>
<td>0.35</td>
<td>0.35</td>
<td>0.03</td>
<td>0.28</td>
<td>0.48</td>
</tr>
<tr>
<td>Percent over 55 years old</td>
<td>950</td>
<td>0.23</td>
<td>0.23</td>
<td>0.04</td>
<td>0.08</td>
<td>0.34</td>
</tr>
<tr>
<td>Percent unemployed</td>
<td>950</td>
<td>0.06</td>
<td>0.06</td>
<td>0.02</td>
<td>0.02</td>
<td>0.15</td>
</tr>
<tr>
<td>Percent foreign born</td>
<td>950</td>
<td>0.08</td>
<td>0.05</td>
<td>0.06</td>
<td>0.01</td>
<td>0.28</td>
</tr>
<tr>
<td>Percent in a union</td>
<td>950</td>
<td>0.12</td>
<td>0.11</td>
<td>0.06</td>
<td>0.02</td>
<td>0.27</td>
</tr>
<tr>
<td>Percent college educated</td>
<td>950</td>
<td>0.18</td>
<td>0.18</td>
<td>0.04</td>
<td>0.10</td>
<td>0.31</td>
</tr>
</tbody>
</table>
Appendix C Participation Data

This table presents the number of members of each party caucus who participated in the state’s Clean Elections program during the preceding election cycle for each legislative session. This dataset was compiled for the first time for this research. Data was collected from the Maine Ethics Commission, the Arizona Citizens Clean Elections Commission, and the Connecticut State Elections Enforcement Commission.

<table>
<thead>
<tr>
<th>State</th>
<th>Year</th>
<th>Lower Chamber Democrats</th>
<th>Lower Chamber Republicans</th>
<th>Upper Chamber Republicans</th>
<th>Upper Chamber Democrats</th>
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<tbody>
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<td>1</td>
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<tr>
<td>AZ</td>
<td>2002</td>
<td>10</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>AZ</td>
<td>2003</td>
<td>12</td>
<td>16</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>AZ</td>
<td>2004</td>
<td>12</td>
<td>16</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>AZ</td>
<td>2005</td>
<td>15</td>
<td>21</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>AZ</td>
<td>2006</td>
<td>15</td>
<td>21</td>
<td>3</td>
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<tr>
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<td>2007</td>
<td>18</td>
<td>12</td>
<td>3</td>
<td>6</td>
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<tr>
<td>AZ</td>
<td>2008</td>
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<td>12</td>
<td>3</td>
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<tr>
<td>AZ</td>
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<td>19</td>
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<td>6</td>
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<td>3</td>
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<tr>
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<tr>
<td>ME</td>
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<td>68</td>
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<td>14</td>
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<tr>
<td>ME</td>
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<td>14</td>
<td>15</td>
</tr>
<tr>
<td>ME</td>
<td>2008</td>
<td>84</td>
<td>41</td>
<td>14</td>
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</tr>
<tr>
<td>ME</td>
<td>2009</td>
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<td>39</td>
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<tr>
<td>ME</td>
<td>2010</td>
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<td>39</td>
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<td>16</td>
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<tr>
<td>ME</td>
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<td>ME</td>
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<td>76</td>
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<td>ME</td>
<td>2014</td>
<td>76</td>
<td>23</td>
<td>12</td>
<td>17</td>
</tr>
</tbody>
</table>
Appendix D Part 1: Imputations

For synthetic matching analysis, a dataset with no missing values for the dependent variable is required. Unfortunately, the Shor & McCarty dataset is missing approximately 7% of it’s values from 1996-2014. To populate these fields, values were imputed for the missing observations using their conditional expected values. Conditional expected values are the predicted values of a variable at a particular point in time. To create these values, I’m taking a draw from a normal distribution where the conditional expected value is the point on the loess curve for state \( n \) at time \( y \). Since there is no statistical inference in synthetic control analysis, we don't care about standard errors, but we do care about conditional expected value.

Admittedly, there's limited research on imputing values this way. However, simulations were run as a test of validity of the method: by randomly removing values from states with complete sets of data many times over in many different ways, then using this method to repopulate the values and comparing the real values to the imputed values, we can see that not only are the imputed values within the bands of the standard errors, but behave remarkably well against our expectations for the values. For demonstration, below is a plot of polarization in the Maine House of Representatives, which is missing observations for 2009-2010. The blue line is the loess curve fitted to the actual values of polarization represented by the black dots. As we can see, the missing values fall on the curve, as do several of the real values.
Appendix D Part 2: Multiple Imputations

As a test of the previously discussed imputations, I also produced multiple imputations random draws from the imputation model. Averaging all of the imputed values for a missing observation together would get the expected value, and the standard deviation is the error. This method selects one value randomly from the distribution between the lower and upper bands. At the beginning and ends of the time series, there is no way to interpolate. So, for the ends the expected value is carried backwards (or forwards, as the case may be). For these end cases, the standard errors grow.

I conducted a robustness check on these imputations using an iterative process, which applies a regression model to each imputed dataset, then combines the results using Rubin’s combining rules.\(^\text{110}\) Essentially, combining rules average all of the models. One regression is run on each imputed dataset, which gives us a slope for that line. When I have a slope for each run of an imputed dataset through the regression model, I average the slopes together, and I get the overall estimate of the slope. Every time a regression is run, the slope is accompanied by an error of the slope, so the errors then have to be averaged. The final models are averages for the slopes and standard errors of each regression from each imputed dataset. The overall error is a measure of the average error and the weighted variation between errors.

This robustness check is a test of the assumption that data is missing completely at random. Complete case analysis assumes that missing values are randomly distributed (the fact that it’s missing has nothing to do with the missing value itself or the values of covariates). Multiple imputations analysis relaxes that assumption: it assumes that values can be missing due to values of the covariates, but it still assumes that the missing values are not missing because of themselves. The purpose of the robustness check is to see how reliant my results are on assuming that the data is missing completely at random, because the “completely at random” assumption is one not taken lightly. If the results of multiple imputation analysis are different than the complete case analysis, then the assumption that missing values are distributed completely at random is influencing the results. Estimations under complete case analysis and multiple imputation analysis are proximate, suggesting that it was robust to the assumption that I made in the first place.

Appendix E Placebo Studies for Synthetic Control Matching

The gaps below represent placebo studies of polarization in each of the studied chambers. The black line running horizontally on each graph represents the baseline level of polarization created by the synthetic control against which the genuine articles are judged. The second black line on each graph is the gap between the legislatures being studied and their synthetic matches. The grey lines are the gaps between states in the donor pool and their synthetic matches according to the same process described in Chapter 4. The plots on the right exclude synthetic matches with mean predicted standard errors (MPSE) at least twenty times greater than in the real legislatures. On the left, observations with MPSE at least two times greater are excluded.

Arizona House

Maine House
CT House

![Graphs showing gap in lower chamber polarization for CT House.](image)

Arizona Senate

![Graphs showing gap in upper chamber polarization for Arizona Senate.](image)
Maine Senate

Connecticut Senate
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Hetherington, Marc J. "Resurgent Mass Partisanship: The Role of Elite Polarization ". American Political Science Review 95, no. 3 (2011).


