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Competing Principals: The Increasing Prominence of Out-of-District Contributors and their
Effects on Representation in Congress

By

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DISSERTATION

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Table of Contents

Table of Contents	i
Abstract.....	v
Dedication	vi
Acknowledgments	vii
Lists of Tables.....	viii
Lists of Figures	ix
Executive Summary	x
Chapter 1	1
Abstract	1
Introduction.....	2
Campaign Contributions	4
Competing Principals Problem	7
Principle 1: The General Election Median Voter	8
Principal 2: The Primary Constituency	9
Principal 3: The Donor Constituency	10
Unfair Competition in the Competing Principals Problem.....	15
Systemic Bias Favors Donors	15
Donors and Voters Have Different Political Engagement Levels	19
Reelection Incentives Favor Donors	19
Competing Principals Advantage and Representing Out-of-District Donors.....	20
Measuring the Quality of Representation	22
Proximity.....	23
Responsiveness	25
Measuring Proximity and Responsiveness using CFscores.....	26
Testing the Assumptions of the Competing Principals Problem	28
Measuring Competing Principals Ideology	29
Principals Have Distinct Ideological Positions.....	32
Prominence of Out-of-District Funding	34
Conclusion	36
Chapter 2	39
Abstract	39
Introduction.....	40

Measuring Ideology in the Constituency	42
General Election Electorate	44
Primary Electorate	45
Methodology	47
Measuring the Primary and General Election Electorate’s Ideology.....	47
Feature Selection and Model Fit	49
Model Evaluation.....	52
Out-of-Sample Predictions.....	54
Results.....	58
Examining the Distribution of Competing Principals’ Ideology	58
Comparison With Existing Measures	60
Competing Constituencies	64
Discussion.....	67
Chapter 3	70
Abstract.....	70
Introduction.....	71
The Influence of Outside Money in Politics	73
The Donor Constituency and Competing Principals Problem.....	77
Methodology.....	84
Using Redistricting to Disentangle Contributions & Position Taking Relationships.....	86
Calculating Partisan Donors Lost Score	87
Redistricting Analyses	93
Results.....	98
Redistricting Enhances Out-of-District Contributions.....	98
Redistricting Enhances Members’ Ideological Proximity to Out-of-District Donors	99
Redistricting Enhances Members’ Responsiveness to Out-of-District Donors.....	101
Conclusion	104
Supplementary Materials.....	108
Chapter 1 Supplemental Material.....	109
Variation in Donor Type Across Contribution Source	110
Meaningful Distinction Between In-District and Out-of-District Donors	111
Chapter 2 Supplemental Material.....	114

Decade Over Decade Correlations	115
Responsiveness Analysis	116
Chapter 3 Supplemental Material	120
Tables with Full Model Specifications from Results Sections	121
Redistricting Measure Validation	124
Robustness Checks.....	125
How much do members rely on past donors after redistricting?	125
What about using change in out-of-district contributions, proximity and responsiveness?	127
What are the results if I use the overall donor lost score?	132
Does losing donors predict incumbents' decisions to run for reelection?	136
References	138

Abstract

In the 2020 election, candidates for the US House raised more than 8.7 billion dollars, and about 80 percent of it originated from contributors living outside members' congressional districts. These numbers raise normative concerns about who receives representation: the donors members need to run their campaign, or the voters members need to win it. This dissertation examines this tension by analyzing the extent to which out-of-district contributions to US House members' campaigns distort representation between members and their constituents. In Chapter 1, I derive a novel theoretical framework—the competing principals theory, which generates predictions about how members of Congress will balance multiple principals with distinct interests seeking to influence high-stakes policy outcomes and receive representation. In Chapter 2, I develop a new set of procedures for estimating the general and primary electorate's ideology on the CFscore scale. This data represents the first time anyone has estimated the general and primary electorate's ideology on the CFscore scale during these periods. In the final chapter, I leverage redistricting as an identification strategy to examine members' proximity and responsiveness to their voters and donors. I find evidence suggesting that out-of-district contributions may undermine representation between members and their voting constituents and, instead, favor campaign contributors. Overall, my dissertation raises warnings about the influence of money in politics, particularly about contributions that originate outside members' congressional districts.

Dedication

To my mom and dad

Acknowledgments

First and foremost, I want to thank my mom and dad. Without you, none of this success would be possible. You always placed tremendous value on education. You hired tutors, sent me to the best schools, and even stopped them when they tried to hold me back in 3rd Grade. Your sacrifices gave me the best education and instilled a commanding work ethic, and your unwavering support made a herculean undertaking like graduate school, a dissertation, and Ph.D. possible. Your love made the difference.

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Lists of Tables

Table 3.1: Joint Distribution of Utah’s 1992 Congressional Districts into the 2002..... 90

Table 3.2: Distribution of Donor Population Across Utah’s Congressional Districts between 1992 and 2002..... 90

Table 3.3: Partisan Donor *Continuity* of Utah’s 1992 congressional districts into the 2002..... 91

Table 3.4: Out-District Amount Percentage Model..... 99

Table 3.5: Regression Results for the Proximity Advantage Across Competing Principals 100

Table 3.1A: Out-District Amount Percentage Model 121

Table 3.2A: Regression Results for the Proximity Rule Using General Constituency Measure 122

Table 3.3A: Regression Results for the Proximity Rule Using Primary Constituency Measure 122

Table 3.4A: Regression Results for the Proximity Rule Using In-District Donor Constituency Measure..... 123

Table 3.5A: Percentage of Holdover Donors in the In-State Out of District Category 126

Table 3.6A: Percentage of Holdover Donors Across Partisan Donor Lost Score 127

Table 3.7A: Change in Out-District Amount Percentage Model..... 129

Table 3.8A: Change in Proximity Model..... 130

Table 3.9A: Overall Partisan Donors Lost Score & Amount Percentage Model 133

Table 3.10A: Overall Partisan Donors Lost Score & Donor Proximity Advantage Model Using General Constituency 134

Table 3.11A: Joint Distribution of Incumbents Seeking and Winning Reelection Before and After Redistricting 136

Table 3.12A: Marginal Effects of Seeking/Winning Reelection given Partisan Donor Changes 137

Table 3.13A: OLS Results of Seeking/Winning Reelection and Changes to in Partisan Donors 137

Lists of Figures

Figure 1.1: Distribution of Competing Principals’ Ideology Over Time.....	31
Figure 1.2: Percent of Significant Differences Across Election Cycles Generated Form Tukey Honest Significant Differences	34
Figure 1.3: Geographic Origins of Campaign Contributions Among Winning House Members Across All Types of Donors	35
Figure 2.1: Random Forest and Kujala (2020) General Electorate Distribution	53
Figure 2.2: Random Forest and Kujala (2020) General Electorate Distribution	53
Figure 2.3: Out of Sample Predictions for the General Electorate	55
Figure 2.4: Out of Sample Predictions for the Primary Electorate	56
Figure 2.5: Distribution of Competing Principals’ Ideology Over Time.....	59
Figure 2.6: General Electorate Measurement Validity	63
Figure 2.7: Proximity Model.....	66
Figure 3.1: Utah’s Congressional Districts Between 1992-2012.....	89
Figure 3.2: Distribution of The Partisan Donors Lost Score	92
Figure 3.3: Responsiveness Analysis.....	103
Figure 1.1A: Geographic Origins of Campaign Contributions Among Winning House Members Across Each Donor Type	111
Figure 1.2A: Percentage of Members with Statistically Distinct In-District and Out-of-District Donors’ Ideologies.....	112
Figure 1.3A: Pooled CFscore for In-District and Out-District House Contributors across Congressional Districts	113
Figure 2.1A: Correlation Table of General Constituency Measures	115
Figure 2.2A: The Relationship Between House and Presidential Vote Share Over Time	115
Figure 2.3A: Scatterplot of Responsiveness Across Competing Principals	117
Figure 2.4A: Responsiveness Analysis.....	118
Figure 3.1A: Scatterplot of the <i>Partisan Donors Lost Score</i> and Crespin’s (2005) Displacement	125
Figure 3.2A: Change in Responsiveness Model.....	131
Figure 3.3A: Responsiveness Analysis using Overall Partisan Donor Lost Score.....	135

Executive Summary

In the 2020 election, candidates for the US House raised more than 8.7 billion dollars. This eye-popping total, however, only underscores how significantly campaign spending has increased over time. Between 2008 and 2020, campaign spending increased by almost 200 percent, from 2.9 billion to 8.7 billion dollars (Open Secrets 2020). Driving the prodigious growth of money in politics are campaign contributions that members receive from non-constituents. Today, 80 percent of the money members raise originates outside their congressional districts.

Practitioners and ordinary citizens have raised concerns about the influence of money in politics. According to a 2018 Pew Poll, 77 percent of Americans suggested that the government should limit how much money individuals and groups spend on campaigns (Pew Research Center 2018). Furthermore, Senators aiming to reform campaign finance laws claim that there is “way too much money in our elections” (Klobuchar D-MN), “Billionaires and special interests are holding our democracy hostage” (Warren D-MA), and “Elections should be determined by voters, not by the highest bidder (Stabenow D-MI) (Whitehouse 2022). Nonetheless, despite concerns about the amount of money candidates raise and its origins, scholars have a limited understanding of whether and how the campaign finance system affects representation between members and their constituents.

This dissertation examines to what extent out-of-district contributions to US House members’ campaigns distort representation between members and their constituents. Normatively, we anticipate that members will represent the wills of their constituents first and foremost. And yet, faced with the need to raise even greater sums of money, they must also look beyond the boundaries of their congressional district to donors who may not share their

constituents' interests. The puzzle is this: members need votes to win elections, but they need money to win votes. As they operate in this contested context, do they primarily serve voters or donors?

Scholars debate over whether money influences representation. Some argue that contributions are only a form of political participation, while others argue that it is an investment yielding policy outcomes as a return. Further, scholars' ability to determine whether out-of-district donors receive representation is even more uncertain. While scholarship is unanimous that out-of-district donors are the main financiers of members' campaigns, their approach to determining their influence lacks a unified theory and a convincing causal design.

To better understand the competition between the voting and donating constituencies, Chapter 1 derives a novel theoretical framework—the competing principals theory. This theory generates predictions about how members of Congress will balance multiple principals with distinct interests seeking to influence high-stakes policy outcomes and receive representation. The competing principals theory I propose assumes that members face competing pressures from three principals: the median voter in the district, the median primary constituency voter, and donors (both inside and outside their district).

The competing principals framework I describe in this dissertation argues that these principals compete on an unequal playing field, with donors having several advantages over voters. I offer three key reasons for this phenomenon: (1) campaign finance laws, unregulated contributions, and the electoral system incentives members to prioritize donors' interests over voters. (2) donors are more consistently politically engaged than voters, and (3) money is necessary to win votes, as members cannot make their case to voters without it. These features of

the political system make it easier for donors to punish members for ideological deviations than voters.

The competing principal's theory assumes that scholars can measure these principals' interests – specifically their ideological interests – and that these interests are distinct enough to allow space for competition. To measure and compare the ideology of members, voters, and donors, I rely heavily on CFscores, which use campaign contributions to put donors and political elites on a common ideological scale (Bonica 2014). Unfortunately, CFscores are currently unavailable for general and primary election voters who do not contribute to campaigns. This omission limits how useful CFscores will be in advancing our understanding of how money distorts representation between members and their voting constituents.

To overcome this limitation, Chapter 2 develops a new set of procedures for estimating the general and primary electorate's ideology on the CFscore scale. Specifically, I extend the methodology Kujala (2020) describes, which combines survey data and regression models to place donors and voters (general and primary) on the same ideological scale. My key contribution is using a supervised machine learning algorithm to extend Kujala's measures to a much longer time period. While Kujala's (2020) methodology recovers ideological estimates for the 2002 and 2012 redistricting cycles, I use a machine learning algorithm to estimate the general and primary electorate's ideology for the 1972, 1982, and 1992 redistricting cycles. By recovering and validating these estimates, I can compare the ideology of members, candidates, donors, and the primary and general electorates over forty years on the same CFscore scale. Using these new estimates, I show that the principals competing for members' attention have distinct ideologies.

After establishing that donors and voters occupy distinct ideological spaces, Chapter 3 turns directly to the question of who receives representation? Specifically, do donors distort representation between members and their constituents? Addressing this question is complex because the relationship between donors' and House members' ideological positions is endogenous. Donors contribute to like-minded members, and members continue to solicit their contributions throughout their careers. This ongoing relationship makes it difficult to determine whether donors influence members' behavior or simply reward members who already agree with them.

To overcome this endogeneity problem, I leverage redistricting as an identification strategy by measuring the percentage of in-party donors removed from each member's congressional district after redistricting. I call this measure the partisan donors lost score. I also measure representation in two ways familiar to scholars: proximity and responsiveness. *Proximity* refers to how well the policy views of constituents and legislators align, and *responsiveness* assesses whether and how legislators' behavior changes when constituents' views on policy or political events change.

These analyses offer empirical evidence demonstrating that after redistricting, members are more ideologically proximate and responsive to out-of-district donors than their voters. These results provide strong evidence that money distorts representation between members and their constituency, showing that longstanding concerns over the influence of money in politics are well-founded.

This dissertation contributes to research on representation and campaign finance in at least three ways. First, I offer a novel theory of representation in American politics: the competing principals theory. While the idea of competing interests in politics has existed since at

least Madison, scholars often omit key donor constituencies (i.e., in and out-of-district donors), which also compete for members' attention. My theory derives predictions about which interests will receive the highest-quality representation and explains when distortion is most likely to occur.

Second, I produce CFscore estimates for each district's general and primary electorate's ideology during the 1972, 1982, 1992, 2002, and 2012 redistricting cycles. This data represents the first time anyone has estimated the general electorate's ideology on the CFscore scale during these periods and the first successful effort to seriously measure the primary electorates' ideology over the 1972-1992 period, regardless of the scale. Placing these principals on the CFscore scale is an important step forward, allowing scholars to directly compare the voting constituency's ideology with the ideology of donors, incumbents, and non-incumbent candidates.

Finally, I use a causal identification strategy that leverages redistricting and a novel measure of how a member's fundraising capacity changes after redistricting to empirically examine how out-of-district donors distort representation between members and their voting constituency. This analysis represents the first to leverage changes in fundraising capacity together with redistricting as a causal identification strategy, incorporate general and primary donors on the CFscore scale over four redistricting cycles to measure distortion, and empirically examine out-of-district donors using both proximity and responsiveness.

Together, the results raise questions about representation in American politics. Fundamentally, donors appear to receive higher-quality representation than voters. My results suggest that contributions may bias outcomes toward contributors at the average American voter's expense. They also suggest that campaign contributions may be culpable for increasing

polarization among members, incentivizing members to leapfrog constituents, and catering to contributors who are more ideologically extreme than the median voter.

This research implies that citizens need to address the issue of money in politics; however, it is a formidable challenge to redress, and solutions are limited. The last significant effort by Congress to revamp campaign finance was 20 years ago. Since then, the Supreme Court has rolled back regulations, making it easier to inject money into the political system, especially out-of-district contributions. State legislatures and citizens in Alaska, Vermont, and Oregon have passed reforms limiting contributions from non-residents. However, these laws and others (including matching funds) face an uphill legal battle as the Supreme Court continues to affirm that contributions are protected speech.

Chapter 1

The Completing Principals Theory: Understanding the Influence of Out-of-District Donors and Competition for Congressional Representation

Sharif Amlani

Abstract

This chapter introduces the completing principals theory, which postulates that politics is a competition between multiple constituencies and how members balance these groups' competing interests determines which group receives representation. Three principals vie for policy outcomes: the median voter in the district, the median primary constituency voter, and donors (both inside and outside their district). The competing principal's framework predicts donors, especially those outside the district, have a significant advantage in securing members' attention, giving them a representational premium over other constituencies. This chapter also tests three fundamental assumptions of the completing principals theory: (1) the ability to measure principals' ideologies, (2) verifying that donors' and voters' ideologies are distinct, and (3) showing that members rely more on out-of-district donations than in-district donations to finance their campaigns. This chapter also reviews two common measures of representation: proximity and responsiveness. The competing principals theory illustrate how difficult it is to overcome the influence of money in the American political system.

Keywords: Completing Principals Theory, Money in Politics, Out-of-District Donors

Introduction

Politics is a form of organized combat among rival groups, be they parties, interest groups, or different collections of voters (Hacker and Pierson 2018). Members of Congress (MCs) feel the effects of this political rivalry most keenly since they must balance these groups' competing interests. These interests are often zero-sum: If one group gains, another loses. Since the success or failure of their efforts to achieve policy gains depends on members' activity or non-activity, groups compete vigorously for their attention and support. Groups that secure members' support are more likely to have their interests represented.

Like E.E. Schattschneider (1960), I argue that not all combatants are equally equipped to compete for MCs' attention and support. Americans who contribute to political campaigns have an advantage over those who only vote when it comes to influencing policy outcomes. This chapter introduces the *competing principals problem*, which contends that MCs face competing pressures from the general election constituency, primary voters, in-district donors, and out-of-district donors. I argue that donors, especially outside the district, have a substantial advantage in securing members' attention. Biases in the American political system, MCs' reelection incentives, and their greater political engagement relative to voters give donors an advantage when influencing members. This chapter outlines the theoretical foundations of the competing principals problem and derives my central claim about the modern campaign finance system and congressional representation: Out-of-district donors undermine representation between members of Congress and their constituents. I support this claim empirically in subsequent chapters using a variety of measures and statistical analyses.

After outlining the theoretical foundations for the competing principles problem, I review two standard measures of representation found in previous research: proximity and

responsiveness. Proximity refers to how well members' and constituents' ideological positions align, and responsiveness refers to how well members' and constituents' ideologies move in the same direction. Both measures provide an essential lens for understanding the legislator-constituency relationship. I review these measures that foreshadow subsequent chapters, which empirically evaluate the relationship between MCs and their competing principals.

This chapter then tests three fundamental assumptions of the competing principals argument. First, empirically evaluating the competing principals argument requires measuring donors' and voters' ideologies on the same unidimensional scale. I create these measures and validate them in Chapter 2. Second, the competing principals argument assumes that principals frequently have distinct ideological preferences and exert competing claims on MCs. Below, I confirm this assumption using ANOVA and other statistical procedures. Finally, my argument hinges on members depending more on out-of-district donors than individuals in their own district when financing their campaigns. I show that 80 percent of the contribution members receive originate outside their congressional district.

This chapter and my dissertation generally seek to build upon and improve current studies of campaign finance in several ways. First, I design and implement a causal framework with strong internal validity to explore how out-of-district contributions distort representation between members and their constituents. Previous studies of out-of-district contributions, such as Gimpel, Lee, and Pearson-Merkowitz (2008) and Grenzke (1988), summarize the landscape of out-of-district donations, but their empirical contributions are primarily descriptive. Other studies, including Canes-Wrone and Gibson (2019) and Canes-Wrone and Miller (2022), make causal claims about the influence of money, but their research designs lack the strong internal validity that I describe in Chapter 3.

Second, I develop a novel theory to explain how competing interests earn members' attention and how these interests affect the quality of representation important political actors receive. Existing scholarship places multiple groups' ideologies onto the same scale and examines the ideological alignment between groups and members. However, previous studies often omit key donor constituencies, such as in and out-of-district donors, which also compete for members' attention. From the competing principals problem theory, I derive testable predictions about which interests will receive the highest-quality representation. In doing so, I extend the focus and reach of existing scholarship by including these constituencies and offering a theoretical framework that identifies where and when distortion is most likely to occur.

Finally, I discuss how money threatens the political system more broadly, especially money from outside the district. Existing research is still uncertain about the effects money has on congressional behavior, particularly on roll call votes or on members' time or attention. I offer reasons to believe that money increases donors' influence on members' position-taking and distorts representation. The competing principals theoretical framework and rigorous tests of it that I provide in this chapter and subsequent ones illustrate just how difficult overcoming the influence of money is likely to be.

Campaign Contributions

It costs a lot of money to win a congressional election (see Jacobson 1980, 1989, 1990; Jacobson and Carson 2019), and this money is not raised at bake sales (Kalla and Broockman 2016; Lewis 1998). Between 2008 and 2020, campaign spending increased by almost 200 percent: from 2.9 billion dollars in 2008 to 8.7 billion dollars in 2020 (Open Secrets 2020). In 2020 alone, the average cost of a winning House and Senate campaign was 5.1 million and 37.7 million dollars, respectively (Open Secrets 2021). To be electorally competitive, candidates need

to raise more money today than at any other time in American history. Given the importance of raising money to support political campaigns (Gimpel, Lee, and Pearson-Merkowitz 2008; Grenzke 1988; Jacobson 1980, 1990), it follows that members will spend significant time and effort cultivating and representing those who can finance these campaigns (Jacobson 1990; Mayhew 1974; Schattschneider 1960; Tullock 1972). This feature of American politics raises alarms over how money affects who members represent. Yet, even with an abundance of money in the political system, the debate is lively over whether and how contributions influence MCs' behavior.

Some scholars argue that contributions are less about altering members' behavior and more about participating in the electoral process. Proponents of this *consumption theory* show that political action committees' (PAC) contributions have little effect on roll call votes (Ansolabehere, de Figueiredo, and Snyder 2003). Similarly, multiple studies find that corporate contributions do not influence stock performance (Ansolabehere, de Figueiredo, and Snyder 2003; Ansolabehere, Snyder, and Ueda 2004). These scholars reason that if campaign contributions help achieve policy objectives, then donors would contribute much more than what we currently observe (Ansolabehere, de Figueiredo, and Snyder 2003).¹

Other scholars contend that political contributions are not just a form of participation but create a political marketplace where donors can influence behavior and achieve policy objectives (Baron 1989; Grier and Munger 1991; Peoples 2010, 2013; Snyder, 1990). These scholars also debate what donors receive from their contributions. Some studies suggest that money can buy votes and specific action (or non-action), time (Hall and Wayman 1990), access to legislative

¹ The reason: policy success is worth more than sum of all a donor's contribution.

staff (Kalla and Broockman 2016), representatives themselves (Tullock 1972), and the opportunity to supply MCs with political and legislative information (Hall and Deardorff 2006). For investment theory scholars, the question is not only whether contributions buy policies but how deeply donors can influence the work and output of MCs.

Citizens do not appear to receive equal attention or representation. Scholars show that wealthy contributors receive better representation than non-wealthy voters (Bartels 2012; Bonica 2013a; Gilens 2012). Gilens (2012) finds that the wealthy are more likely to give campaign donations than the poor and that policy outcomes better align with the wealthy when they have different preferences than the poor. Bonica et al. (2013) find that contributions from the top .01 percent of earners have risen dramatically over time. The 30 richest Americans typically donate to both Democrats and Republicans, but with a slight tilt toward Republican candidates. Collectively, the literature on campaign finance contains plenty of circumstantial evidence that the rich have been able to use their resources to influence electoral, legislative, and regulatory processes through campaign contributions, lobbying, and revolving door employment of politicians and bureaucrats (Bartels 2012; Bonica 2013a; Gilens 2012) Many scholars conclude that these resources create a democracy where policy outcomes favor the wealthy over the poor (Bartels 2012; Gilens 2012).

An often overlooked fact is that the vast majority of House members' campaign contributions originate outside members' geographic districts (Bramlett, Gimpel, and Lee 2011; Gimpel, Lee, and Pearson-Merkowitz 2008; Grenzke 1988). Mansbridge (2003) argues that linkages between out-of-district donors and members of Congress create "monetary surrogacy," where members exchange representation for money. This feature of American politics adds out-of-district donors to the list of competing principals' members must consider when allocating

attention and taking positions. As such, the comparisons scholars should worry about include not only donors and voters, rich and poor, interest groups and voters, but contributors outside the district and the voting constituency. This geographic heterogeneity complicates the story about the influence of money in politics and raises questions about fairness and representation.

Competing Principals Problem

The competing principals problem refers to the challenges MCs face balancing multiple principals with distinct interests. Principals compete for MCs' attention and high-stakes policy outcomes. How MCs address this competition shapes representation outcomes. A competing principals problem must meet the following criteria to exist. First, scholars must define the groups engaging in conflict. Second, these groups must have distinct policy interests. If these principals' interests were the same, there would be no reason for them to compete. Finally, principals cannot be successful simultaneously – there are winners and losers. The competing principals problem I propose posits that members face competing pressures from three principals: the median voter in the district, the median primary constituency voter, and donors (residing both inside and outside their district).

Previous literature acknowledges a competing principals problem inherent in congressional representation. Madison introduces the concept of “factions” that compete in politics in *Federalist* No. 10. Fenno (1978) argues that members see their constituency as four concentric circles: the geographic, reelection, primary, and personal constituencies, each having their own needs and purposes. Gilens and Page (2014) test four theories of American politics and find that economic elites and organized groups representing business interests have the strongest influence on what positions members adopt. Barber (2016) similarly examines whether US senators represent the views of the median voter, primary constituency, or donors and finds that

Senators' ideologies align most closely with their donors. Similarly, Kujala (2020) finds that campaign donors polarize candidates' ideological positions, particularly in primary elections.

The argument I make in this dissertation is related, but different. Specifically, I argue that out-of-district donors receive better representation than other principals in this competing principals framework. I show that out-of-district donors are critical financiers of members' campaigns, giving them a systematic advantage over other principals in attracting members' attention and allowing them to distort representation between members and their voting constituencies. Bottom line: when MCs face a competing principals problem, they tend to offer donors better representation than voters.

Principle 1: The General Election Median Voter

The first principal competing for MCs' attention is the median voter. The median voter resides at the ideological center of the electorate. Candidates need their vote to win elections, and scholars consider representing the central ideological preference in their district as normatively ideal and practically necessary.

The notion of majoritarian democracy implies that the general will of the people should receive the highest-quality representation. Scholarship traces this principle back to Aristotle, Locke, Rousseau, Jefferson, and Lincoln.² Contemporary scholarship also argues that representatives achieve the democratic ideal when they align with the median voter in their district (Downs 1957; Hotelling 1929). Scholars thereafter consider this center the most

² Under majoritarian democracy, the "will of the majority" should be a guiding principle. Dahl (1956) terms this type of democracy "populistic democracy" and traces its theoretical lineage through Aristotle, Locke's "will and determination of the majority," Rousseau's "general will resid[ing] in the majority," Jefferson's "rightful" and "reasonable" "majority [will to] prevail" and Lincoln who cautions that "rejecting the majority principle [leaves only] anarchy or despotism" (see page 34).

democratic policy (Bafumi and Herron 2010; Gilens and Page 2014a).³ Normatively, theorists and scholars agree that representatives serve democracy best when they represent the median voter.

For candidates to win, a large store of congressional scholarship argues that they need to serve the median voter (Fenno 1978; Mayhew 1974). Downs (1957) and Hotelling (1929) predict that political actors converge on the median voter in a two-party system. Fenno (1978) conceptualizes this group as the reelection constituency and calls special attention to building bonds of trust with these voters. Mayhew (1974) articulates the importance of advertising, credit claiming, and position taking to effectively campaign for this group's votes. Scholarship anticipates that candidates cannot win election and MCs cannot win reelection without the median voter's support.

Principal 2: The Primary Constituency

The second principal competing for members' attention is the primary constituency. Voters who cast ballots in a candidate's primary election compose this constituency. Each state has formal rules over who can cast ballots in a primary election.⁴ Typically, members and their primary voters share the same party affiliation (whether primary rules require this or not). As a result, Fenno (1978, 19) defines this groups as members' strongest "supporters," "loyalists" and "true believers." He also characterizes them as the "last line of electoral defense in a primary contest."

³ Gilens and Page (2014, 565) write that when public policy converges on the median voter, "it also has the normative property of being the 'most democratic' policy, in the sense that it would be preferred to any alternative policy in head-to-head majority-rule voting by all citizens."

⁴ States hold primary elections that can be closed, open, top-two primary elections or some variation in between. There rules create a different primary electorate. I am agnostic to the type of primary election and my definition of the primary constituency exclusively focuses on the group of individuals members' target and who they can reliably count on to vote in a primary election.

Members have a strong incentive to represent their primary electorate. Today, voters tend to support candidates of one political party exclusively, such that incident rates of straight-ticket voting are higher today than in the past (Atske 2020; Jacobson and Carson 2019). Strong ideologues and partisans are ideologically (Abramowitz and Saunders 2008; Hare 2022) and affectively (Iyengar et al. 2019) polarized. Incumbents are also more likely to face their most difficult challengers in primary elections since the incumbency advantage today does little to scare off potential primary challengers (Hall and Snyder 2015; Jacobson 2015). The level of competition in a primary election now affects how closely members align with their party on roll call votes (Jewitt and Treul 2019).

Overall, MCs need to represent their primary constituency because they can face a stiff primary challenge each cycle if they do not. Notable party leaders, such as Speaker of the House Tom Foley, Majority Leader Eric Cantor, and Chair of the House Democratic Caucus Joe Crowley, all lost their seats to a primary challenger. Indeed, it is increasingly common for incumbents to lose primary elections to challengers who are inexperienced (Rauch 2020). Moreover, Porter and Treul (2019) find that infusions of cash to campaigns early in the primary season help inexperienced challengers. Given the electoral reality incumbents today face, it is not surprising that MCs tend to position themselves closer to their primary electorate than the general election constituency (Brady, Han, and Pope 2007).

Principal 3: The Donor Constituency

The third essential principal competing for members' attention are campaign contributors. Using Fenno's (1978) concentric circle metaphor, I propose that contributors comprise an equally important *donor constituency*. Current campaign finance regulations allow contributors to reside inside or outside members' congressional districts. Therefore, the

concentric circle that defines the donor constituency extends beyond the district's geographic boundary.

Two distinct groups compose the donor constituency: donors inside and outside members' districts. Members can have a meaningful relationship with each donor group for different reasons. Donors inside the district comfortably reside in Fenno's model. They overlap with all four circles and provide useful information about the preferences of the general election, primary and personal constituencies. They can also signal the intensity of territorial constituents' preferences. However, out-of-district donors extend Fenno's model beyond the geographic constituency. Members must maintain relationships with out-of-district donors since they provide most campaign funding and their contributions are essential to running a campaign.

The distinction between in-district and out-of-district contributions is important if scholars believe that members should be responsive to their *territorial* constituents. In-district donors *vote* for the members who receive their contributions, while out-of-district donors cannot. If individuals without voting power receive representation because they contribute money, the ideal of majoritarian democracy might suffer. This outcome is possible if contributors' policy interests diverge from voters and members pay more attention to the former than the latter. The next sections detail to what extent in-district and out-of-district donors might receive representation.

In-District Donors

Previous scholarship on in-district contributors is limited. Some studies superficially acknowledge a distinction between in-district and out-of-district donors (Barber 2016; Barber, Canes-Wrone, and Thrower 2017). Most empirical studies, however, put in-district and out-of-district donors into a single category, often juxtaposed with non-contributor constituents (Canes-

Wrone and Miller 2022). However, meaningful distinctions exist between groups of donors in their policy preferences, composition, and goals.

First, Francia et al. (2005, 762) find that donors in the same party have different policy preferences. Specifically, “Democratic donors are most likely to belong to liberal social and cultural groups, [with] moderate Democratic donors with backgrounds in business.”

Analogously, “Republican donors are most likely to work in the business sector, [with] divisions among Republicans on social issues. One faction is conservative on cultural issues, whereas the other faction is more moderate.”

Second, different groups contribute from inside and outside a district. Most in-district contributions originate from individuals, while PACs and corporations account for the largest share of out-of-district contributions. The interests of individual donors ought to be distinct from the interests of PACs and corporations. For example, individuals might have interests that relate to their personal lives or communities, while PACs and corporations have interests that align with their business or organizational goals.

Third, in-district donors and out-of-district donors have distinct goals. In-district donations comprise a small percentage of members’ total contributions. Members see them as part of their homestyle, engaging with them regularly at events and fundraisers. Francia et al. (2003) explain that these donors are considered inmates – contributors who are either the member’s friends or individuals are asked to contribute.

In contrast, out-of-district donors compose 80 percent of members’ total contributions, making them essential to their reelection prospects. They consist of PACs, corporations, and individuals who are either *ideologues* – supporting individual members to achieve an ideological

end – or *investors* – interested in building relationships with members to achieve a policy outcome (Francia et al. 2003). Out-of-district donors are detached from the district and want the member to win for ideological or policy reasons.

There are ample reasons to believe that differences between in-district and out-of-district donors matters for how members view, interact with, and represent each group. The differences are numerous and important enough to suspect that these groups have distinct ideological preferences, underscoring the competing principals problem. This distinction means that treating in-district donors as a distinct entity can further illuminate which principal members represent.⁵

Out-of-District Donors

Studies of contemporary congressional elections demonstrate that two-thirds of campaign contributions originate outside House members' districts (Francia et al. 2003; Gimpel, Lee, and Pearson-Merkowitz 2008; Grenzke 1988). This finding illustrates the increasing nationalization of campaigns, which has contributed to rising campaign costs. Given this basic reality, members have an incentive to represent out-of-district donors to secure financial resources. Without out-of-district donors, members would not have the financial resources to begin campaigning, let alone survive long enough to make it to Election Day. As the share of campaign contributions originating outside the district continue to increase, the incentive for representatives to offer out-of-district donors representation only gets stronger.

Mansbridge (2003) argues that the relationship between members and out-of-district donors leads to surrogate representation. She defines surrogate representation as “representation by a representative with whom one has no electoral relationship – that is, a representative in

⁵ In the Appendix, I show that in-district and out-of-district donors have statistically distinct ideologies.

another district” (522). Collectively, she characterizes monetary surrogacy as “the financial ties between candidates running for Congress and individual donors who reside outside those candidates’ districts”⁶ (Gimpel, Lee, and Pearson-Merkowitz 2008, 374).

Monetary surrogacy is dangerous because it can undermine the link between representatives and their voting constituency, such that the latter will experience agency loss as outside donors’ interests override constituents’ interests. Paradoxically, each citizen within a district gets *one vote for one member*; yet any citizen or organization can contribute toward a candidate’s election. The tension between representing voters inside the district and donors outside the district can cross-pressure members between their constituency and monetary interests. On the one hand, members serve the constituents who live inside their district as they depend on their votes to win reelection. On the other hand, members serve the donors who live outside their district because without their contributions, a member will not have funds to operate until Election Day.

Previous congressional scholarship (Fenno 1978; Mayhew 1974) describes how members achieve reelection by building an independent base of support *inside* their district. I argue that the growing importance of the donor constituency in funding members’ political campaigns means they must also build a base of support *outside* their congressional district. This argument implies that reelection strategies once thought to be exclusively focused on winning votes inside their congressional district must now be deployed to win contributors outside congressional

⁶Mansbridge (2003, 523) describes monetary surrogacy in the following way: “For the affluent (or the organized, e.g., through labor unions), surrogate representation is greatly enhanced by the possibility of contributing to the campaigns of representatives from other districts. Individual candidates, political parties, and many other political organizations as a matter of course solicit funds from outside their districts. Citizens with ample discretionary income find many of their most meaningful instances of legislative representation through what one might call ‘monetary surrogacy.’”

districts. Position taking, credit claiming, advertising, and building bonds of trust once previously reserved for constituents are also focused on out-of-district donors. In Chapter 2, I explain how scholars can detect this phenomenon when members' relationships with donors and voters experience a shock after redistricting. The following sections detail why out-of-district donors receive representation and why this may be troubling for representing voting constituencies.

Unfair Competition in the Competing Principals Problem

I argue that donors have an advantage over voters when competing for members' attention. Ideally, voters should receive representation,⁷ but scholarship suggests that outcomes do not favor the majority of Americans (Bafumi and Herron 2010; Gilens and Page 2014b; Hacker and Pierson 2018; Kalla and Broockman 2016); instead, they favor contributors (Bartels 2018; Gilens 2012; Schattschneider 1960). In this section, I propose three avenues for their advantage: the system, differences in donors' and voters' political engagement, and members' reelection incentives.

Systemic Bias Favors Donors

The American political system favors donors, allowing them to attract members' attention more easily than voters can.

First, campaign finance laws make it easy to contribute money to campaigns. In fact, for most of our history, contributions were completely unlimited and unregulated. It was not until the Federal Election Campaign Act in 1974 that Congress imposed limits on contributions from

⁷ Madison writes in Federalist 10, “[The goal of representative government is] to refine and enlarge the public views, by passing them through the medium of a chosen body of citizens, whose wisdom may best discern the true interest of their country.”

individuals, parties, and political action committees (Federal Elections Commission 2022).

Today, all US citizens are eligible to contribute to a political campaign. Eligible entities include individuals, corporations, and political action committees. Depending on the type of entity and target of the contribution, donation limits vary from \$2,900 to \$109,500.⁸

The Supreme Court has made it easier to contribute to campaigns in recent landmark cases. In *Citizens United*, the Supreme Court ruled that corporations, nonprofits, and labor unions can spend unlimited sums to support or oppose political candidates through independent expenditures. While this means that these entities cannot coordinate directly with campaigns, evidence shows that coordination between campaigns and independent expenditure organizations occurs frequently and subtly (Goldmacher 2022). In *McCutcheon v. Federal Election Commission*, the Court removed aggregate caps on the total amount an individual or PAC can give to candidates and parties. Previously an entity could only contribute \$48,600 every two years for all federal candidates and \$74,600 to political parties and committees. After *McCutcheon*, individuals can contribute an unlimited amount if they have enough PACs supporting their contributions.⁹

Second, campaigns have become more expensive over time, making donors essential in keeping campaigns operational. A major cause for rising costs is increasingly expensive television and ad times, changes to campaign finance laws making it easier to contribute, and more donors entering the political marketplace.

⁸ Note these amounts are indexed for inflation in odd-numbered years. These amounts are current as for 2021-2022 election cycle. Readers can find federal contributions limits [here](#).

⁹ There are still limits for campaign contributions of 2,600 dollars to individual candidates, and 5,000 dollars for PACs.

Third, technology makes it easy for donors to contribute to campaigns. FEC regulations allow donors to contribute directly to candidates online, making contributing as simple as clicking a button from anywhere in the world (so long as the donor is an American citizen). This advancement enables members to raise money more effectively with less effort. To attract small donors, members only need to send an email blast, tweet, or appear on a cable news show. Funneling small donors to online contribution systems frees up time and resources for members to spend time courting large contributors at fundraisers. Page and Gilens (2020) attribute the success of wealthy donors in distorting outcomes in their favor to the modern campaign finance regulatory regime, which allows donors to capture the agendas of the political parties.

Additionally, email, mass media, social media, and the internet make it easy for donors to acquire information on a marketplace of candidates. Prospective donors can research candidates online, tune in to cable news programs, or see political information on their newsfeeds. Technology also makes it easier for candidates to send messages to donors. *The Washington Post* reported that during the 2020 Election, Senator Lindsey O. Graham “asked for campaign contributions during eight separate appearances over the past three weeks on Fox News” (Washington Post 2020). Alexandria Ocasio-Cortez leveraged her 8.7 million Instagram followers and 13.2 million Twitter followers to raise 20 million dollars in the 2020 election (OpenSecrets 2021). These examples illustrate that media-savvy candidates can leverage technology and drive contributions from across the nation.

Fourth, current laws give donors more ideological alternatives than voters. Under the law, citizens can contribute money to any number of candidates but can only submit one ballot for one candidate per race and election. Donors can choose from a marketplace of candidates and support those that align with their beliefs. If donors feel a candidate they are supporting is out-of-

step, an alternative candidate who more closely aligns with their ideological beliefs is always available.

In contrast, election law only allows voters to change their MC in a primary or general election. Both elections take place at a fixed time with a fixed list of candidates and include a limited number of alternative candidates. In a spatial voting scenario, voters must measure the ideological distance between themselves, the incumbent MC (if any), and any alternatives. Then, vote for the candidate closest to them. Such behavior requires politically sophisticated voters, who bear the costs of becoming informed, trekking to the polls, and making an accurate spatial calculation.¹⁰

Throwing out representatives via elections poses problems for voters who want to hold their MCs accountable. First, elections do not always present viable ideological alternatives. While there is always a “closer” option for voters, the alternative rarely aligns perfectly with their ideology. Therefore, voters may select the best of the worst options (the alternative in a primary election) or select a candidate with a different party identification (the alternative in a general election). Second, elections frequently have low turnout. So, citizens who are dissatisfied with their representatives might not take action to redress their dissatisfaction. Finally, voters will have difficulty holding representatives accountable if they must wait for an election to express approval or contempt. These time horizons between accountability checks mean, for example, that senators in the first year of their six-year term or representatives in the first six

¹⁰ This hypothetical assumes that a voter is eligible to cast a ballot in the primary election. The structure of the primary election across the United States actually makes it even harder for voters to hold members of Congress accountable in a primary election. The level of oversight voters have depend on the nature of the primary election (open, closed, or top-two) and whether members match voters’ partisanship. For example, voters cannot cast a ballot for members of the opposing party in states with closed primaries. Few voters will change their partisanship simply to vote in the primary, where more influence exists. While registration laws make it hard and costly for voters to change their partisanship if they were so inclined to participate.

months of their two years have more leeway with voters. It can be difficult to hold members accountable for actions taken 5 or 1.5 years before Election Day.

Donors and Voters Have Different Political Engagement Levels

Donors and voters engage in politics differently. This difference in behavior makes it more likely that donors will punish members for ideological deviations than constituents will. First, donors are financially invested in the political system. Candidates who fail to win or follow through on policy promises deals a financial blow to donors' pocketbook. Voters may invest time or energy in going to the polls but do not incur the same financial risk. Second, donors pay greater attention to politics than voters. Donors are more likely to research candidates, compare policy positions, and stay up to date on current events than the average voter. Significant events and scandals attract constituents' attention. Aside from these events, however, constituents remain aloof (Obama 2020). As a result, some evidence suggests that constituents might not hold candidates accountable for their policy positions (Tausanovitch and Warshaw 2017). Third, donors have greater access to members than voters (Kalla and Broockman 2016). This access implies that donors can communicate more frequently with members than voters. If members fear alienating out-of-district donors more than their territorial constituents, they will be more responsive to the former than the latter.

Reelection Incentives Favor Donors

Top of mind for candidates is winning their election. Scholars find that money helps members win. (Bonica 2017) shows that fundraising is the most reliable indicator of a candidate's success in the primary election. Jacobson (1990) similarly finds that money is a key indicator of challengers' success in the general election.

To win, candidates must solicit campaign contributions. A campaign must have enough money to pay for staff salaries, campaign materials, travel, advertising, events, voter information, polls, office space, and supplies. Without enough money, a candidate cannot run a successful campaign. To raise funds, candidates hold fundraisers, events, and call donors to browbeat them into contributing. Cultivating votes begins with cultivating dollars.

The more money a candidate raises, the more influential they are likely to be among fellow partisans. Members often raise and contribute money to colleagues' campaigns to increase their standing in the party and influence inside the chamber. For example, former Speaker of the House John Boehner would spend summers on a tour bus attending campaign fundraisers and events, raising money for members of his party (Boehner 2021).

Overall, money is a fixture in the modern American electoral system and necessary to propel candidates forward. As (Jacobson (1980) notes, money is not a sufficient condition, but it is a necessary one for winning elections. It does not guarantee a win, but its absence can guarantee a loss. Members are aware of this fact, and I expect them to interact with donors in a fashion that keeps them content and the money flowing in their direction.

Competing Principals Advantage and Representing Out-of-District Donors

Together, systemic biases favoring donors, variations in participation levels, and reelection incentives give donors an unfair advantage over voters. As members require more money to keep pace with increasing campaign costs, they depend heavily on a donor network to raise capital for their political campaigns. These donor networks extend to contributors living inside and *outside* members' districts. Thus, I argue that donors' structural advantage and the increasing need for money to run successful campaigns raise the threat that *out-of-district donors* will distort representation between members and their constituencies.

Members seek out-of-district donations to meet these rising costs because they can raise more money this way than relying on in-district donations alone. Since economic, demographic, and partisan characteristics affect what financial resources are available, each district has a limit on the amount a candidate can feasibly raise inside it during a two-year election cycle. Favorable home styles (Fenno 1978) and valence characteristics (Stone 2017) can help individual members and candidates reach this limit. However, these resources are unlikely to sustain a campaign over an entire election cycle. Alternatively, candidates can cultivate the large and diverse network of individuals, PACs, corporations, and unions that comprise the out-of-district donor pool. This pool has more resources than donors inside any single congressional district. Given the resource disparity, relying exclusively on in-district donors to fundraise is inefficient. In-district contributions are valuable in demonstrating strong support among territorial constituents, but out-of-district donors are more numerous and have more money to contribute. Therefore, I expect members to be particularly responsive to out-of-district contributors.

Evidence suggests that out-of-district donors are distinct from constituents. First, in their demographic composition. Research finds that out-of-district donors are typically wealthy elites (Page, Bartels, and Seawright 2013), living close to each other, and sharing similar worldviews (Bramlett, Gimpel, and Lee 2011). Second, in their policy positions. Research suggests that donors' ideological positions often diverge from the positions of non-donor co-partisans. Republican contributors are more conservative on economic issues than Republican citizens, while, Democratic contributors are more liberal on social issues than Democratic citizens (Broockman and Malhotra 2018). Finally, in their connection to the district. Partisan and strategic concerns motivate out-of-district donors (Gimpel, Lee, and Kaminski 2006). They are

loyal partisans who want to elect like-minded members; they have little knowledge of the people, problems, and issues facing members' territorial districts.

Out-of-district donors pose a real threat to representation between MCs and constituents. First, they have a systematic advantage in capturing members' attention. Second, they are critical financiers of members' campaigns and harbor a large supply of contributions that members need to run for reelection. Finally, they are not representative of constituents. These reasons suggest that out-of-district contributions may distort representation between representatives and constituents. Distortion can occur along two dimensions (1) how well candidates' and donors' ideological positions *align* and (2) how *responsive* candidates are to their out-of-district donors.

Measuring the Quality of Representation

How do scholars assess the quality of representation between members and their constituents? Miller and Stokes (1963) were among the first to measure the quality of representation between members and constituents. They compare the correlation coefficient between MCs' roll call votes to a random sample of constituents' responses. They find that the quality of representation between members and their constituents varied across issues. Members provided better representation on civil rights than on foreign policy and social welfare issues. Subsequent scholars, including Achen (1977) and Erikson (1978), criticized their approach, suggesting that a correlation coefficient insufficiently measures the quality of representation constituents receive.

Namely, Achen (1978) advises using one of three theoretically justifiable measures of association: "proximity (the distance between representatives and constituents), centrism (how well a representative minimizes this distance holding constant constituency opinion), and responsiveness (how well a constituency's ideological leanings predict a representative's views)"

(Bafumi and Herron 2010, 521). After applying these alternative measures to Miller and Stokes' (1963) analysis, he finds that MCs do not represent constituents' civil rights preferences as well as previously thought. Other studies focusing on proximity/centrism (Stone 2017; Stone and Simas 2010) and responsiveness (Ansolabehere, Snyder, and Stewart 2001a; Ansolabehere, Snyder, and Ueda 2004; Stimson, Mackuen, and Erikson 1995) reach similar conclusions about the quality of representation. In subsequent chapters, I use Achen's proximity and responsiveness to measure the quality of representation between members and their competing principals.

Proximity

The first measure scholars use to examine the quality of representation is *proximity*, which refers to how well the policy views of constituents and legislators *align* (Bafumi and Herron 2010; Downs 1957; Jessee 2009; Kujala 2020b; Stone 2017).¹¹ Scholars measure proximity by generating legislators' and constituents' ideological positions as point estimates on the same scale and then calculating the distance between them. The closer constituents are to legislators, the higher the quality of representation they receive. Normatively, proximity measures view ideal representation as minimizing the spatial distance between members and constituents.

Proximity requires that researchers measure representatives' and constituents' ideologies on the same scale. Researchers can subtract their positions on this scale from each other to determine how close on the scale a member resides to their constituents. As Achen (1978) proposes, researchers can calculate proximity using this formula:

¹¹ This measure works within the theoretical framework Downs (1957) and Hotelling (1929) propose that political parties will converge to the ideological location of the median voter in single-member electoral districts.

$$\widehat{P}_j = \frac{1}{n_j} \sum_{i=1}^{n_j} (c_{ij} - r_j)^2$$

\widehat{P}_j represents the proximity values, while, “ C_{ij} is the position on the opinion scale of the i^{th} constituent in the j^{th} constituency, r_j is the representative’s position, and n_j is the constituency sample size” (Achen 1978, 484).

Stone (2017) extends this idea of proximity by creating a *proximity rule*, measuring which candidate, liberal or conservative, voters are closest to when they face competing choices. I modify his measure to determine which *constituency a member* is closest to when they face competing *principals*. I look at representatives’ positions in district j , r_j , relative to two distinct constituencies, c_{ijx_1} and c_{ijx_2} :

$$\widehat{P}_j = |r_j - c_{ijx_1}| - |r_j - c_{ijx_2}|$$

Once again, \widehat{P}_j represents the relative proximity of member j . Negative values mean that the representative’s position is closer to constituency 1, c_{ijx_1} and positive values means that the representative’s position is closer to constituency 2, c_{ijx_2} .

The proximity model faces important limitations. If ideological measures are not on the same scale, then the proximity model is inoperable. Ideological measures such as CFscores (Bonica 2013a) and DW-Nominate (Poole and Rosenthal 2011) experience this issue. They provide ideological estimates for candidates’ locations but not voters. Jessee (2009), Bafumi and Herron 2010, Stone (2017), and Kujala (2020) employ large-scale surveys to place candidates and voters on the same scale. However, these studies suffer from temporal limitations – it is impossible to scale responses where comparable survey data do not exist. I overcome both

scaling and temporal limitations in subsequent chapters by putting candidates', voters', and donors' ideologies on the same scale from 1980 to 2016.

Responsiveness

The second measure scholars use is responsiveness, which measures how legislators' behavior changes when constituents' views on policy or political events change (i.e., roll call voting, bill sponsorship, or rhetoric). To assess members' responsiveness to constituents, scholars use a linear model and see how well constituents' ideology predicts members' ideology. This model examines whether members' positions move in the same direction as constituents when constituents' ideology changes (Ansolabehere, Snyder, and Stewart 2001a). The better constituents' ideology predicts members' ideology, the more responsive members are to their constituents.

I adopt Achen's (1978) model and measure responsiveness as:

$$R_j = \alpha + \beta_1(\bar{C}_j) + \beta_i X_i + \varepsilon$$

R_j represents the representative's ideology in district j , while the intercept, α , denotes the representative's ideology when constituent's ideology (and all control variables) is zero, " β_1 is the expected change in the representative's opinion as constituency opinion changes by one unit" (Achen 1978, 490), \bar{C}_j is the mean constituent's ideology in district j , and $\beta_i X_i$ represents any control variables that might confound representation between members and their constituents. A representative is fully responsive to their constituents when representatives' and constituents' ideologies are normalized to a 0 to 1 scale and β_1 equals 1 (Achen 1978).

Studies using this approach vary in a couple of ways, including how they measure representatives' and constituents' ideology. Scholars frequently measure a district's preferences

by using district-level presidential vote share (Ansolabehere, Snyder, and Stewart 2001a, 2001b; Bartels, Clinton, and Geer 2014; Canes-Wrone, Brady, and Cogan 2002; Erikson and Wright 1980; Masket 2007) or responses from large-scale public opinion surveys (Bafumi and Herron 2010; Canes-Wrone and Gibson 2019; Erikson et al. 1993; Jessee 2009; Miller and Stokes 1963; Wright, Erikson, and McIver 1985). There are different methods to measure candidates' preferences as well. Scholars typically draw on members' roll call votes as DW-NOMINATE/NOMINATE scores (Bafumi and Herron 2010; Bartels, Clinton, and Geer 2014; Poole and Rosenthal 2011), ideal point estimates from samplings of roll call votes (Ansolabehere, Snyder, and Stewart 2001a; Erickson 1971; Jessee 2009), expert evaluations of candidates' ideological positions (Stone 2017; Stone and Simas 2010), and the adoption of particular policies (Gilens 2012; Gilens and Page 2014a).

Scholars debate about whether members are responsive to their constituents or serve a different constituency instead (Ansolabehere, Snyder, and Stewart 2001a), such as the wealthy (Bartels 2012; Gilens 2012; Gilens and Page 2014a) and/or donors (Canes-Wrone and Gibson 2019; Canes-Wrone and Miller 2019). I extend previous research by comparing members' responsiveness to voters and donors after an exogenous shock, deriving causal estimates of responsiveness.

Measuring Proximity and Responsiveness using CFscores

Bonica's CFscores use campaign contributions to place candidates and contributors on the same ideological dimension. Short of expert and respondent surveys, CFscores offer the rare exception of placing both candidates and donors in the same space. Unlike expert and respondent surveys, CFscores are available from 1980 to 2018, which allows scholars to compare donors'

and candidates' ideologies over time and on the same scale. Scholars use CFscores to infer the ideological locations of politicians and a wide variety of donors (Bonica 2014).¹²

Scholars should be able to use CFscores to measure proximity and responsiveness. Unfortunately, CFscores do not include ideal points for the general election constituency. This omission means scholars cannot ask and answer questions about members' relative proximity to donors and constituents. To date, Kujala (2020) is the only study that attempts to derive constituency measures from CFscores. He produces estimates for Democratic and Republican candidates' general election and primary constituencies.¹³ However, Kujala's (2020) scores have limitations. First, he only produces scores for the 2002-2010 cycles because the CCES was started in 2006. Second, he does not produce biennial scores for 2002-2010 cycles; he derives one score for each district over the eight-year period. As a result, scholars interested in within-decade variation in constituency scores are left wanting.

After multiple decades, scholars' understanding of proximity and responsiveness continues to evolve. Today, researchers can use a variety of datasets to assess proximity and responsiveness, whether large-scale surveys or ideal point data. Nonetheless, much work remains. First, some scholars focus on the proximity and responsiveness of members to their *constituents* in a single model (Achen 1978; Ansolabehere, Snyder, and Stewart 2001a; Miller and Stokes 1963). This strategy omits potential confounders, including MCs' proximity and responsiveness to their donors or primary constituency, which scholars have shown to be highly

¹² Including physicians (Bonica, Rosenthal, and Rothman 2014), politically appointed bureaucrats (Bonica, Jowei, and Tim 2015), lawyers (Bonica, Chilton, and Sen 2016), law clerks (Bonica et al. 2016), state supreme court justices (Bonica and Woodruff 2015), Supreme Court law clerks (Bonica et al. 2017), Forbes 400 wealthiest individuals (Bonica and Rosenthal 2015), and corporate executives (Bonica 2016).

¹³ Kujala follows Zaller (2004) to put candidates and partisan donor constituencies on a 7-point scale (Kujala 2020, 5). His method scales CFscores to CCES's 7-point scale, but his method is symmetric and can be used to go the other way as well.

influential (Kujala 2020b). Second, existing measures for placing candidates, donors, and citizens in a unidimensional space are disjointed across data sources and over time. More inclusive data sources would enhance our understanding of the proximity between members and potential principals over time. Finally, better measures of proximity and responsiveness can contribute to our understanding of the quality of representation (who gets represented) (Ansolabehere, Snyder, and Stewart 2001a; Bartels, Clinton, and Geer 2014; Gilens 2012; Miller and Stokes 1963) and of elite polarization and extremism (Bafumi and Herron 2010; Kujala 2020b).

In Chapter 2, I address these limitations. Specifically, I use a supervised machine learning model to recover the general and primacy electorates' ideology for the years Kujala (2020) omits, 1980 – 2000 and 2012-2010. After recovering these estimates, I build a unified dataset of ideological estimates for donors, voters, and members between 1980 and 2018. This dataset and the analyses based on it represents a significant step forward since it provides ideological estimates for voting electorates across more years than in previous studies, allowing for more opportunities to examine proximity and responsiveness.

Testing the Assumptions of the Competing Principals Problem

In this section, I test three assumptions pivotal to the competing principals problem. Two of the assumptions relate to the empirical feasibility of the competing principals problem, while the third implicates the main claim about the supremacy of out-of-district donors. To test the competing principals theory, (1) researchers must be able to measure principals on the same scale, and (2) principals must have distinct ideological preferences – that is, the principals should exert competing claims on MCs. (3) Out-of-district donors can only distort representation if they

offer members more financial benefits than what is available inside their district. I explore each of these assumptions in turn.

Measuring Competing Principals Ideology

To test claims derived from the competing principals theory, the policy interests of all principals must exist and be measured on a common scale. As I explain above, there are several advantages to placing multiple principals' ideologies on the same scale, including the ability to make direct comparisons and measure distances between ideological positions.

However, it is challenging to place constituents, donors, and members' positions onto the same scale at present because the DIME database (Bonica 2014), which is the main data source I and other scholars use, does not have measures of constituents' ideology.¹⁴ Without constituents' ideology, it is hard to assess whether constituents experience agency loss due to the influence of donors. Constituents' ideology offers a normative baseline for comparison since, as I discuss above, both scholars and practitioners agree that members ought to be proximate and responsive to their constituents. Significant deviations from constituent preferences signal distortion while movements toward donor preferences might illustrate their influence on members' behavior.

To place constituents' ideology on the same scale as Bonica's CFscore, I use and expand Kujala's (2020) placements of the general and the primary constituency's median voter.¹⁵ Of course, these measures have limits. First, the estimates for constituents are available only from

¹⁴ Constituents are not included because the measure of ideology, CFscores, uses campaign contributions to political candidates to derive ideological estimates.

¹⁵ Kujala (2020) uses expert informant surveys to bridge ideological estimates from the DIME dataset to the CCES's 7-point scale. To do so, he regresses the experts measures on the DIME scores and then uses the coefficients from this model to impute ideological positions for candidates and constituents on the CCES 7-point scale. I adapt this methodology to recover equivalent CFscores for constituents. Specifically, I simply reverse the direction of the regression model, using the experts' measures to predict CFscores. This method places constituents' ideology onto the same scale as members and donors in the DIME dataset; thereby, making them comparable.

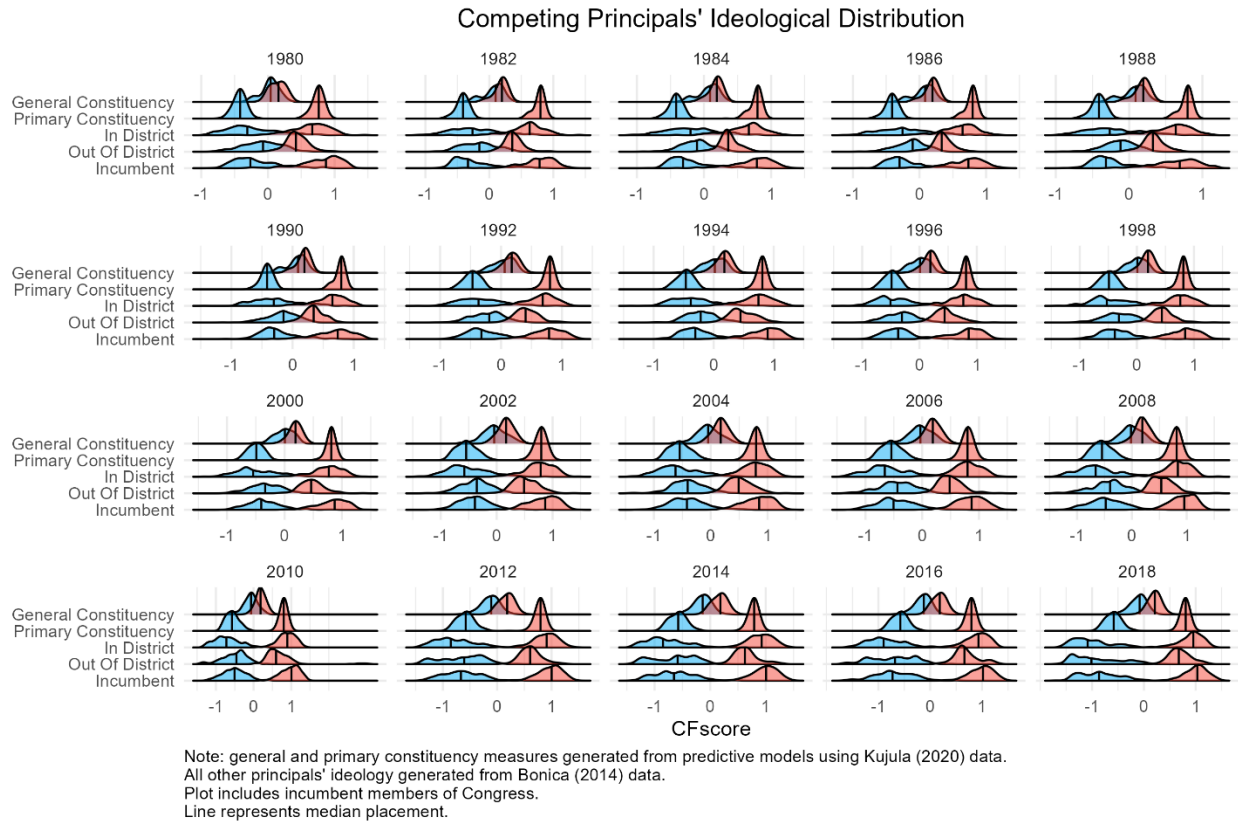
2002-2010. Second, the measures of constituent ideology are constant across this decade.¹⁶ Because the timeframe I seek to explore spans the period from 1980 to 2016, I must derive ideological estimates for years that Kujala (2020) does not include in his analysis.

In Chapter 2, I describe the exact procedures I use to derive these estimates and the robustness checks I perform to ensure their validity. To summarize here, I develop a supervised machine learning model to produce general election constituency and primary election constituency ideological measures on the DIME scale for each election year in my dataset. These constituency ideology measures are also constant across decade, but have the advantage of making my measures consistent with Kujala's (2020) and other measures of district ideology (e.g., Kernell 2009).

Having placed voters on the CFscore scale, I can examine the general election constituency, primary constituency, in-district and out-of-district donors' distribution alongside Democratic and Republican MCs' ideology. Figure 1.1 shows the ideological positions of each principal in each election cycle from 1980 to 2018.

¹⁶ Kujala (2020) notes that keeping the constituency measures constant within each decade improves their stability and reliability. This choice is not unusual; Kernell's (2009) measure of district partisanship is also constant within each decade.

Figure 1.1: Distribution of Competing Principals' Ideology Over Time



The distribution of these measures conforms to several expectations established by previous research. Specifically, the general election constituency is more moderate than the primary constituency in both parties (Downs 1957; Hotelling 1929). The general and primary election constituencies appear to polarize from 1980 to 2016 (Abramowitz and Saunders 2008). Incumbents have more extreme preferences than general election voters (Bafumi and Herron 2010), and incumbents are also moving away from the center and each other over time (McCarty, Poole, and Rosenthal 2006). In the aggregate, in-district donors appear to be more ideologically extreme than out-of-district donors, but, as I show in the Appendix, differences in the types of donors among in-district and out-of-district donors contribute to the variation in their ideological positions. Importantly, Figure 1 illustrates the methodological contribution of placing

competing principals onto the same ideological scale, thereby making it possible to examine systematically proximity and responsiveness.

Principals Have Distinct Ideological Positions

Having placed MCs, the general election constituency, primary constituency, in-district, and out-of-district donors on the same ideological scale, I can also evaluate whether and to what extent these principals have distinct ideological preferences – the second assumption.

Competing principals theory implies that principals must position themselves to compete for members' attention. That is, principals must have distinct ideological positions. The presence of distinct ideological positions is important because if principals have the same ideology, then (1) they are not *really* competing and (2) there is little need to worry about one group having more influence since any such influence would lead to better outcomes for each principal.¹⁷ This section examines the differences between principals' ideological positions to determine whether they occupy distinct ideological positions.

To examine whether principals have distinct ideological positions, I conduct a one-way ANOVA across each cycle that tests whether there are differences in the average ideological positions of each principal. After conducting the ANOVA, I use a post hoc test, Tukey Honest Significant Differences, to determine the magnitude and significance between pairs of principals' positions. Then, for each pair of principals, I calculate the percentage of election cycles within Democratic and Republican held districts where the principals' positions were significantly

¹⁷ For example, if in-district and out-of-district donors have the same ideological preferences, then the competing principal's problem is moot because, no matter whom members are responsive to, both groups will receive representation.

different ($p < 0.05$). Figure 2 reports the percentage of election cycles where differences between the principals' average ideological positions were statistically significant.¹⁸

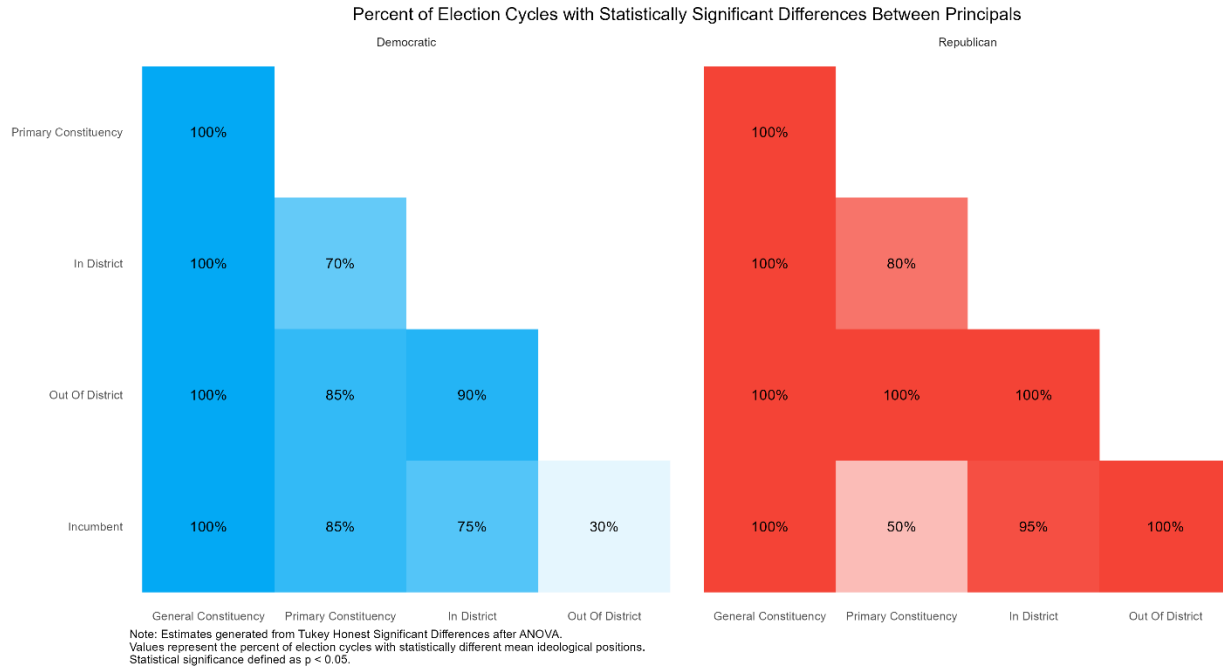
One important result from this analysis is that the differences between principals' average ideology are statistically significant more often than not. For example, differences between the general election constituency's mean ideological position and the positions for all other principals' ideologies are always significant. The primary constituency's mean ideological position tends to be more similar to in-district and out-of-district donors' ideology in the Democratic party (different in 70% and 85% of election cycles, respectively) than in the Republican party (different in 80% and 100% of election cycles). Finally, in-district and out-of-district donors in the Democratic and Republican parties tend to have distinct ideologies as well, with significantly different means in 90% and 100% of election cycles. Together, these results suggest that competing principals usually have distinct ideological positions, with the potential for distortion in representation.

One additional feature of Figure 1.2 provides fresh insight into incumbent positions among competing principals. In the Democratic party, incumbents' ideological positions are statistically different from the general election constituency in 100% of election cycles, the primary constituency in 85% of election cycles, in-district donors in 75% of election cycles, and out-of-district donors in 30% of election cycles. In the Republican Party, incumbents' ideological positions are statistically different from the general election constituency in 100% of election cycles, the primary constituency in 50% of election cycles, in-district donors in 95% of election cycles, and out-of-district donors in 100% of election cycles. These numbers suggest (1) that

¹⁸ It would be ideal to examine the statistical differences within each district, however, I only have with-in district level variation for, in-district donor and out-of-district donors, not members, primary or the general election constituency.

there is heterogeneity in the alignment of MCs' positions relative to their principals across parties and (2) incumbents in the Republican and Democratic parties are most proximate to their primary constituency and out-of-district donors, respectively.

Figure 1.2: Percent of Significant Differences Across Election Cycles Generated Form Tukey Honest Significant Differences

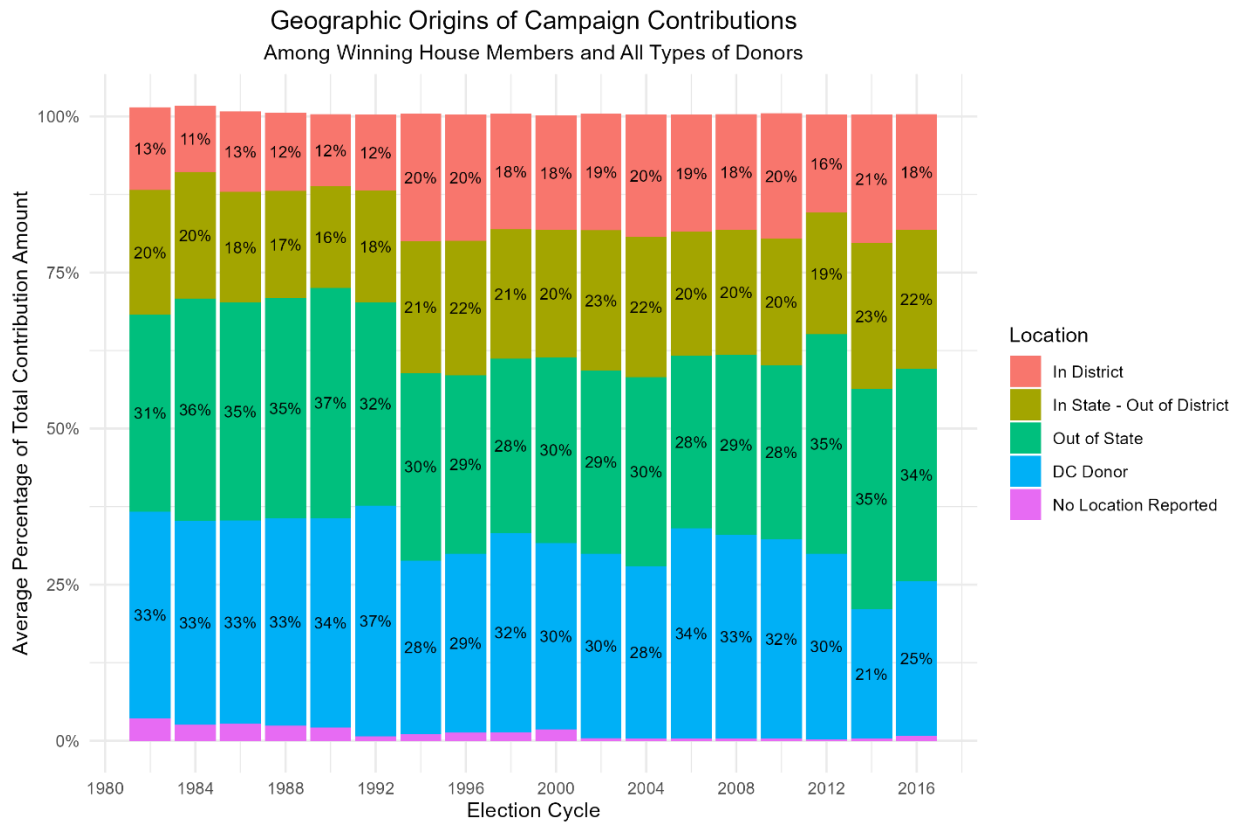


Prominence of Out-of-District Funding

Finally, I examine a key assumption that focuses on the influence of out-of-district contributors. This section offers evidence that members rely more on out-of-district donors for financial support than donors inside their district, thereby raising concerns over to what extent money distorts representation. Using Bonica's campaign finance data, I examine the geographic origins of members' campaign contributions.

House members raised more than 8 out of every 10 dollars outside their district between 1980 and 2016.¹⁹ Figure 1.3 displays the average proportion of members' total contributions from four geographic locations across each two-year cycle. In contrast, contributions from inside members' districts account for just 16.70 percent of total contributions, though this share has increased over time.²⁰ These results imply that members raise money from out-of-district donors at a ratio of about 4 to 1.²¹

Figure 1.3: Geographic Origins of Campaign Contributions Among Winning House Members Across All Types of Donors



¹⁹ The average member raises 82.40% of their contributions outside their district.

²⁰ Additionally, fifty percent of the money members raise each election cycle comes from donors in Washington D.C. or outside their district's state. On average, 30.68 percent of total contributions originate from Washington D.C., and another 31.70 percent originate from other out-of-state areas.

²¹ In the Appendix, I explore how the type of donor varies across the geographic origin of contribution.

Conclusion

This chapter accomplishes several aims. First, I briefly describe previous research about campaign finance. I suggest that existing scholarship is limited in its ability to establish causal claims about how donors influence members. Then I introduce the competing principals problem, describe its theoretical foundations, and introduce the key principals competing for members' attention. I define the competing principals theory as a problem of disparate interests from groups that members must balance. Specifically, members must satisfy the demands of their general election, primary, in-district, and out-of-district donor constituencies. Next, I offer multiple reasons why out-of-district donors have an advantage over territorial constituencies when they compete for representation. I review two well-known measures designed to capture the quality of representation: proximity (alignment between members and their principals) and responsiveness (members' ability to mirror changes in their constituency). Finally, I empirically examine the plausibility of three assumptions underpinning the competing principals theory: measurement invariance among principals, principals who occupy distinct ideological spaces, and out-of-district donors as critical financiers of MCs campaigns.

This chapter contributes to the literature on representation by introducing the competing principals theory, which posits that constituencies compete for representation, and validating the assumptions supporting it. This contribution is important because, as I state above, previous research has not fully considered the influence of the donor and voting constituencies simultaneously. This chapter also contributes to research on campaign finance by explaining exactly why out-of-district donors have an unfair advantage over territorial constituents in securing representation. This chapter also contributes to the literature on measuring ideology by

producing estimates of the general election constituency, primary constituency, in-district donors, out-of-district donors, and MCs on the same scale across forty years.

This chapter's central theoretical claim is that out-of-district donors are well-positioned to undermine representation between MCs and their constituents. They enjoy significant advantages within the American political system, exhibit greater political engagement, and have capacities and interests that better align with members' reelection incentives than voters, thereby earning them a representational advantage. The implications of this theoretical argument are mostly grave: more representation for donors and less for constituents.

This chapter makes the critical assumption that representing donors is less normatively desirable than representing voters, specifically the median voter. However, this assumption overlooks other forms of representation that citizens may view as legitimate. Scholars such as Mansbridge (2003) extend our conception of representation to accept other non-traditional forms of representation, such as trustee, anticipatory, descriptive, surrogate, and gyroscopic representation (Mansbridge 1999, 2003; Rehfeld 2009). Therefore, on some level, representing donors' interests may be a normatively desirable outcome depending on which standard of representation scholars and citizens adopt as optimal. While this dissertation acknowledges these alternative forms of representation, it adopts a narrower approach for theoretical and methodological simplicity. It focuses on the quality of representation that the voting constituency, especially the median voter, receives. Since most scholarship uses the median voter as the universal standard of high-quality representation (Ansolabehere, Snyder, and Stewart 2001a; Bafumi and Herron 2010; Downs 1957; Stone 2017), I argue that deviations from this standard should raise concerns over the quality of representation that voters receive.

The following two chapters in this dissertation build on the competing principals theory in two ways. In Chapter 2, I develop a supervised machine learning method to recover ideological estimates for each principal from 1980-2018, making it possible to test the competing principals theory. In Chapter 3, I use these measures in proximity and responsiveness models to ask to what extent out-of-district donors distort representation between members and their territorial constituents.

Chapter 2

Measuring Voters' Ideology on the CFscore Scale: A Supervised Machine Learning Approach

Sharif Amlani

Abstract

CFscores have broken new ground in their ability to measure political ideology. However, their current form omits ideological estimates for non-contributing voters, seriously limiting their usefulness. This paper leverages Kujala's (2020) estimates of non-contributing voters and a supervised machine learning model to recover ideological estimates of U.S. House members' general and primary constituencies. This process produces estimates that exist on the CFscore scale and are directly comparable to donors', candidates', and members' ideology in Bonica's DIME database. After recovering these estimates, I use ANES and House vote share to evaluate their internal validity and perform a proximity analysis to evaluate external validity. These analyses suggest that the recovered estimates are a valid measure of the primary and general constituency on the CFscore scale, representing a significant contribution to scholars aiming to evaluate how money affects who receives representation.

Keywords: Money in Politics, Ideology, CFscores, Representation, General Electorate, Primary Electorate.

Introduction

CFscores have proved to be a breakthrough development in the measurement of political ideology. CFscores use campaign contributions to put individual donors, interest groups, political elites, and non-incumbent candidates on a common ideological scale (Bonica 2014). This process allows scholars to measure the ideology of groups whose estimates were previously unknown and quantify the ideological distance between key donors and politicians (Bonica et al. 2016, 2019; Bonica, Chilton, and Sen 2016; Bonica and Rosenthal 2015; Bonica, Rosenthal, and Rothman 2014).

Despite these breakthrough contributions, CFscores do not provide ideological placements for voters who do not contribute money to campaigns – significantly limiting their usefulness. More specifically, scholars do not have ideological estimates for individuals in the general election and primary electorates who are not campaign contributors. Scholars, therefore, currently cannot use CFscores to compare the ideological locations of donors, members, the general election and primary electorates to each other. This limits how useful CFscores can be in advancing our understanding of how money distorts representation between members and their voting constituents, a central question in the study of democratic politics.

To date, one only study has aimed to fill this important gap. Kujala (2020) takes CFscores and maps them onto the Cooperative Congressional Election Study's (CCES) 7-point scale, allowing scholars to directly compare the ideologies of U.S. House members, donors, and voting constituencies on the same scale for the 2002 redistricting cycle. Kujala's measures provide an invaluable starting point for developing more comprehensive datasets comparing politicians, donors and voters on a common ideological scale.

This chapter estimates ideal points for the general election and primary constituency on the CFscore scale by leveraging Kujala’s measures and a supervised machine learning algorithm – thereby overcoming CFscores’ key limitation and extending Kujala’s measures. The ideological estimates I produce span the full range of election cycles in the DIME database, 1980 – 2016, and are directly comparable to Bonica’s original CFscores (Bonica 2014). Scholars can use these recovered estimates to compare CFscore measures of the general election and primary constituency with incumbents, non-incumbents, and campaign donors for the first time.²²

By recovering each district’s general election and primary constituencies’ CFscores, I build upon and contribute to studies of congressional representation and the influence of money in politics. These ideal points allow scholars to observe changes in members, candidates, donors, and the primary and general election electorates over forty years on the CFscore scale. Practically speaking, the supervised machine learning model I describe in this chapter generates a unified dataset that includes these estimates in one place, making it easier for researchers to study how these groups’ ideologies change over time and relate to one another.

I divide this chapter into several sections. I begin by reviewing current measures of the general election and primary constituencies’ ideology and highlighting their limitations. Next, I describe the supervised machine learning models that produce general election and primary constituencies’ ideology on the CFscore scale for the 1972, 1982, and 1992 redistricting cycles. To evaluate the accuracy and validity of these CFscore measures, I perform an out-of-sample evaluation²³ and compare the recovered estimates to similar measures in the ANES and observed

²² Note that Kujala (2020) is the first use CFscores to place voting constituencies, incumbents, and donors on the same scale. However, his paper maps CFscores onto the CCES 7-point scale, this chapter is the first to use put them on the CFscore scale.

²³ This process splits the data *randomly* into the training set and testing test. I train my model on the training set and use it to evaluate its predictive accuracy using the unseen test set.

vote shares. Finally, I explore the external validity of these CFscore measures by running a proximity analysis. I conclude with a summary and discussion of the contributions this study makes.

Measuring Ideology in the Constituency

Since Hotelling (1929), Black (1948), and Downs (1957) introduced the idea of spatial competition to political science, scholars have attempted to measure members and their constituents' ideology (Stokes 1963). To date, scholars have been far more successful measuring each group's ideology separately and less so in measuring them on a common scale.

The issue is straightforward: scholars measure members' and their constituent's ideologies differently, making them hard to compare. For example, members of Congress take roll call votes, but constituents do not; constituents respond to nationally representative surveys with ideological self-placement (see ANES and CCES), but members do not. As a result, the dimensions most commonly available for scholars to assess members' (e.g., DW-NOMINATE) and constituents' (self-placements or policy questions) ideology are not always available for the other group. As a result, it is difficult to compare politicians' and constituents' ideologies because scholars typically do not measure them on the same scale.

This disconnect forces scholars to creatively assess both groups if they want to compare them on the same ideological scale. Jessee (2009), Bonica (2014), and Kujala (2020) are noteworthy examples of scholars who bridge the methodological divide between members and constituents. Jessee (2009) asks respondents to "vote" yea or nay on the same policy proposals that came before the U.S. Senate. Bonica (2014) uses campaign contributions to create CFscores that place donors, candidates, and incumbent politicians at the local, state, and federal levels onto the same unidimensional scale. Kujala (2020) uses an informant survey to convert incumbents'

CFscores to the same scale as constituents' ideology (7-point CCES scale). In each study, scholars measure political elites and their constituents in the same ideological space (i.e., the liberal-conservative dimension underlying roll calls, donations, and survey responses); therefore, deriving comparable ideological estimates.

While the measures compiled by these and other studies constitute important progress, they still have limitations. They are limited, for example, in their time frame and/or focus on a specific unit or group. Jessee (2009) and Kujala (2020) made significant contributions by comparing the political beliefs of politicians and their constituents on the same scale. However, Jessee's (2009) study only includes data from the 2004 presidential election, while Kujala's (2020) study only covers the 2002 redistricting cycle. This means that their findings may not generalize to other election periods. Second, Bonica's (2014) measure modernizes our understanding of money in politics from 1980-2018, but it does not include the general election and primary electorates' ideology – key groups if scholars want to understand how money distorts representation linkages. This study aims to overcome time and unit limitations that plague existing measures by offering measures over forty years and across key groups.

This study contributes to a growing literature on measuring the general election and primary electorate's ideology on the same scale as members and candidates. I leverage Kujala's measures, place them on the CFscore scale, and then extend them to additional time periods. This novel methodology produces estimates for the general election and primary electorate's ideology in each district during the 1972, 1982, 1992, 2002, and 2012 redistricting cycles. This unified dataset represents the first-time scholars can estimate the general election electorate's ideology on the CFscore scale during these periods, and the first-time scholars can measure the primary electorate's ideology, regardless of scale, consistently across this time. Mapping them on the

CFscore scale represents an important step forward in allowing scholars to directly compare the voting constituency's ideology with the ideology of donors, incumbents, and non-incumbent candidates.

In the next section, I review how scholars measure general election and primary constituencies' ideology, highlight the limitations of these measures, and explain why placing them on the CFscore scale is a major contribution.

General Election Electorate

Scholars view the general election electorate as a critical actor if members hope to win reelection. Previous scholarship conceptualizes this group as members' reelection constituency (Fenno 1978) that includes the district's median voter (Downs 1957).

Scholars typically measure the general election electorate's ideology in two ways: using surveys or with vote shares. First, scholars ask people to characterize their ideological beliefs directly in surveys. Researchers use two approaches. One technique is to ask respondents to place themselves on a 5-point or 7-point ideological scale. The other technique is to ask respondents about their attitudes on a battery of public policy issues and then use those answers to estimate their ideology. Scholars commonly rely on survey questions from the American National Elections Survey (ANES), the Cooperative Election Study (CCES), or original surveys. Converse (1964) and Campbell et al. (1960) are notable examples of scholarship that uses these survey techniques to measure the ideology of the general public. Second, scholars also use presidential vote shares as a proxy for constituents' ideology. Ansolabehere, Snyder, and Stewart (2001) and Erikson and Wright (1980) are notable examples of scholarship that uses presidential voter share to measure the public's ideology.

These existing measures of the general election electorate are limited. Survey-based measures using the ANES have the advantage of extending to the 1950s. However, the number of respondents per congressional district is very low, increasing the error size when estimating the general election electorate's ideology. The CCES has more respondents per congressional district, decreasing error size in estimating the general election electorate's ideology, but only extends back to 2006. Further, while vote shares for districts are available across time, it remains unclear whether they provide a valid measure of ideological extremity, party sorting, or partisanship within a district. In sum, current measures of the general election electorate lack reliability, validity, and persistence over a long period.

In contrast, the measures of the general election electorate produced by this study offer longevity and validity. First, they span the 1972-2012 redistricting cycles. Second, they are based on the self-reported ideology measures in the CCES and improved by a supervised machine learning approach that incorporates robustness and accuracy checks. This strategy offers an alternative to the low sample size inherent in measures based on the ANES and increased confidence, relative to the vote share measure, that scholars are measuring the district's ideology.

Primary Electorate

The second key voting constituency that members must consider is the primary electorate. Scholars conceptualize the primary electorate as members' primary constituency, party loyalists who support the candidate during their primary election (Fenno 1978).

Measuring the primary electorate's ideology is challenging for several reasons. First, national surveys, such as the American National Election Survey (ANES) and the Cooperative Congressional Elections Survey (CCES), do not ask questions directly related to the preferences of the primary electorate. Additionally, when researchers examine the ideology of Democrats'

and Republicans' self-reported ideology, they must do so with a small number of partisans per congressional district. This makes the estimates unreliable, susceptible to bias, and limited in their generalizability. Without a large enough sample of respondents from each congressional district who identify with a particular party, it is difficult to accurately estimate the ideology of the primary electorate in that district from year to year.

Second, states conduct primary elections differently, making their primary electorates different. Conceptually, Fenno (1978) has a precise definition of the primary electorate. Primaries can be open, closed, mixed, or use some other method which may lead to different demography of primary election voters. For example, California has a top-two primary open to voters from all recognized parties and those declaring no party preference. Scholarship often uses partisans who vote in closed primary elections to represent the primary constituency, but this may not accurately reflect the people voting in each state's primary elections.

Despite these limitations, scholars have developed techniques to measure the primary electorate's ideology. First, McGhee et al. (2014) leverage variation in the nomination system to make inferences about the ideological extremity of the incumbent. They find that the extremity of the incumbent is the same in open and closed primaries. Second, Stone (2017) measures the primary electorate's ideology by asking party leaders and activists within the congressional district to estimate it. Third, Porter (2021) estimates the primary electorate's ideology using a multilevel regression and synthetic poststratification (MrsP) approach. Her method uses census data to adjust her predicted ideological estimates from a validated voter database to generate point estimates for each party's primary electorate in congressional districts. Essentially, she estimates each congressional district's primary electorates' ideologies and then adjusts those estimates based on specific characteristics and demographics of different districts.

Nevertheless, no reliable measure of the primary electorate exists before 2006 (the first year of the CCES). Not only does this study add to the available techniques scholars can use to estimate the ideology of primary constituents; it extends Kujala's (2020) measure to the 1972, 1982, and 1992 redistricting cycles – the first reliable estimates of the primary electorate for this period.

Methodology

In this section, I describe the supervised machine learning procedures I use to estimate CFscores for primary and general election voters in each congressional district for the 1972, 1982, and 1992 redistricting cycles. The underlying intuition of the supervised machine learning model is that we can take known data, which include CFscores for primary and general election voters from the 2002 and 2010 redistricting periods (i.e., from Kujala (2020)) and train a model to “learn” which features of the known data are highly predictive of CFscores for the subset of the period where they are available. We can then use this information to make inferences about CFscores where they are unknown during the 1972, 1982, and 1992 redistricting periods.

Measuring the Primary and General Election Electorate's Ideology

To begin, I construct a dataset that includes Kujala's measures of both the primary and general election electorate's ideology from the 2002 redistricting period on a 7-point scale. He derives his measures using the 2006, 2008, and 2010 CCES. He measures the *general election constituency's ideology* by taking the average self-reported ideology of all constituents in the district, using an average of 250 constituents per district (Kujala 2020a). He measures the *primary constituencies' ideology* by taking the average ideology of all Democratic and Republican identifiers in the district, using an average number of 110 Democratic and 100 Republican partisans per district, respectively (Kujala 2020a). I also acquire additional estimates

from 2012 redistricting period from the 2012, 2014, 2016, 2018, and 2020 CCES, not included in Kujala's original article.

The method that Kujala (2020) uses to derive his measures informs how I derive mine. Kujala rescales Bonica's CFscore on to the CCES scale. To bridge CFscores and the CCES, he uses an informant survey (Stone 2017) that asks more than 30 experts in each of 155 congressional districts to estimate House candidates' ideology on a 7-point scale. Then, Kujala regresses these experts' estimates on candidates' CFscores and uses the coefficients to place congressional candidates and donors on the same 7-point scale. The major benefit of using Kujala's measures is that he includes general election, primary, donors, and House members' ideologies on the same 7-point scale.²⁴

I reverse Kujala's approach and, instead, project voters' ideology from CCES's 7-point scale onto the CFscore scale. To rescale ideology from the 7-point scale to the CFscore scale, I simply regress candidates' and donors' CFscores onto the experts' placements of candidates and donors. This regression produces coefficients that allow me to translate general election and primary constituency ideology on the CCES's 7-point scale to the CFscore scale.²⁵ This procedure creates a dataset of the primary and general election electorate's ideology for the 2002 and 2012 redistricting cycles on the CFscore scale, which are comparable to CFscores for donors, candidates, and members.

Kujala's (2020) method for deriving general election and primary constituency placements does have limits. First, his measures are constant across each redistricting cycle. He

²⁴ Making them particularly useful for scholars aiming to conduct proximity analyses and compare each stimuli's ideology directly, which he does in his AJPS article.

²⁵ More specifically, swapping the left and right side of the equation.

argues that keeping the constituency measures constant across redistricting cycles is a more stable and reliable measure of constituency opinion than varying them within each cycle. This choice is not unusual either; Kernell's (2009) measure of district partisanship is also constant within each redistricting cycle. Second, scholars may have reservations over how appropriate it is to map a 7-point CCES measure onto the CFscore scale using linear regression and expert surveys. However, previous scholars (Zaller 2004) have performed projections like this one, and expert surveys offer reliable measures of candidates' and voters' ideologies (Stone 2017). Finally, Kujala (2020) can only estimate the general election and primary constituencies' ideology for the years contained in the CCES. This truncation means that ideological locations for the general and primary constituency are only available for the 2002 and 2012 redistricting cycles, leaving missing estimates for the 1972, 1982, and 1992 redistricting cycles. This study aims to redress this truncation by recovering estimates for these missing cycles. The next sections explain how I use a supervised machine learning algorithm to build a model using existing data to recover estimates for the 1972, 1982, and 1992 redistricting cycles.

Feature Selection and Model Fit

To generate estimates of primary and general election constituents' ideology for the 1972, 1982, and 1992 redistricting cycles, I build a supervised machine learning model. Specifically, I employ a *random forest algorithm* that uses decision trees from random samples of data to solve regression and classification problems. It applies a bagging-based model that uses different random samples of the training data in the same predictive model and aggregates the mean outcome of each model. Aggregating draws on the miracle of aggregation to derive estimates with low root mean squared error (RMSE). A random forest model is superior to an OLS/MLE estimation strategy because it is not limited to the functional form of the underlying

distribution. Additionally, it utilizes interactions in a more sophisticated fashion than does OLS/MLE, which mimics the real world more closely. Random forest models are useful because they work well with large datasets, resist overfitting, and include a variable importance function that can report which variables are most useful in the models' estimation (Breiman 2001). Researchers have used random forest algorithms to predict traffic congestion (Liu and Wu 2017), consumer behavior (Valecha et al. 2018), the onset of diabetes (VijiyaKumar et al. 2019), and loan defaults (Zhu et al. 2019). Bonica (2018) uses a random forest algorithm to recover DW-NOMINATE scores for non-incumbent congressional candidates using campaign contributions. His scores predict future voting behavior by winning candidates with high accuracy. Given the exceptional empirical track record of random forest algorithms, I use one to recover the general election and primary constituencies' ideological positions for 1972, 1982, and 1992 redistricting cycles.

I build three random forest models to predict ideological scores. One recovers ideological estimates for each district's general election electorate and two recover estimates for each district's Democratic and Republican candidates' primary constituency.

I represent the model predicting the general electorates' ideological positions with the following formula:

$$Kujala (2020) \textit{ General Election Constituency's Ideology}_i = \alpha + \beta_i(X_i) + \varepsilon$$

I use Kujala's measures from the 2002 and 2012 redistricting periods, the DIME dataset, and the US Census data in this model. I select features, X_i , that aim to achieve the highest R-squared and lowest root mean squared error (RMSE) to maximize its predictive power. These features include an interaction between Kernell's (2009) measure of district partisanship and *a redistricting cycle*

fixed effects variable. The interaction's purpose is to highlight that district partisanship varies over redistricting cycles. I also include the following variables from the US Census at the congressional district level: the *percentage of individuals making over \$200,000*, *percent African American*, *percent college graduates*, *median income*, and *state fixed effects*.

The other two models use the following formula to predict the ideological positions of the Democratic and Republican candidates' primary constituency:

$$Kujala (2020) \text{ Primary Constituency's Ideology}_{ip} = \alpha + \beta_{ip}(X_{ip}) + \varepsilon$$

The aim and protocol of the primary constituency models are the same as the general election electorate model: to maximize predictive performance by achieving a high R-squared and low RMSE. I also use the same features to estimate the primary constituency's ideology for both parties, X_{ip} , and add the *percentage of individuals making \$25,000* and *\$100,000*.²⁶

A key consideration when working with a machine learning model is minimizing the bias-variance trade-off. A model should fit the training data well (low bias) while remaining generalizable enough to make accurate predictions when adding new data (low variance). To minimize the bias-variance trade-off, I select covariates atheoretically. More specifically, I select these covariates because, together, they achieve the highest R2 (low bias) and offer the highest out-of-sample performance (low variance).

²⁶ As a note, the validity of my estimates from the 1972, 1982, and 1992 redistricting cycles are dependent on the various relationships between the predictors and outcome staying relatively the same over the 1972-2020 period. While this assumption might seem tenuous on its face, it is also not hard to imagine that variables like race and income have a similar effect on determining ideology during this period, especially after the increase of partisanship and political polarization (Abramowitz and Saunders 1998; Bartels 2000) that accelerated after the realignment of the South that started after the passage of the Civil Rights Act of 1964 and the Voting Rights Act of 1965 (Carmines and Stimson 1989).

Importantly, I do not use CFscores from the DIME dataset to estimate general election or primary constituencies' ideology. This intentional decision prevents endogeneity between voting constituencies' ideology and ideological estimates in the DIME dataset. The advantage of this approach is that scholars can treat the general election and primary constituencies' ideology and CFscores of actors in the DIME dataset as independent measures.

Model Evaluation

The first step in recovering the general election and primary constituencies estimates is to evaluate the model's performance on known data, the primary and general election constituencies for the 2002 and 2012 redistricting cycles. The model evaluation phase aims to determine the degree of over- or under-fitting and assess the model's overall accuracy. I assess fit and accuracy by comparing the predicted values from the supervised machine learning model for the 2002 and 2012 redistricting cycles with Kujala's estimates for the same redistricting cycles. The better the model recovers the original measures, the better fit the model is to the original data.

Figure 2.1 reports the results for the general election constituencies' ideology, and Figure 2.2 reports the results for the primary constituencies' ideology. These figures suggest that the recovered estimates' distribution in both cases mirrors Kujala's original estimates. Furthermore, the median value of the two distributions matches as well. For the general election constituency, the correlation between the predicted values and Kujala's original measures is 0.99. For the primary constituency, the correlation is 0.68 and 0.74 for the Democratic and Republican parties, respectively.

Figure 2.1: Random Forest and Kujala (2020) General Electorate Distribution

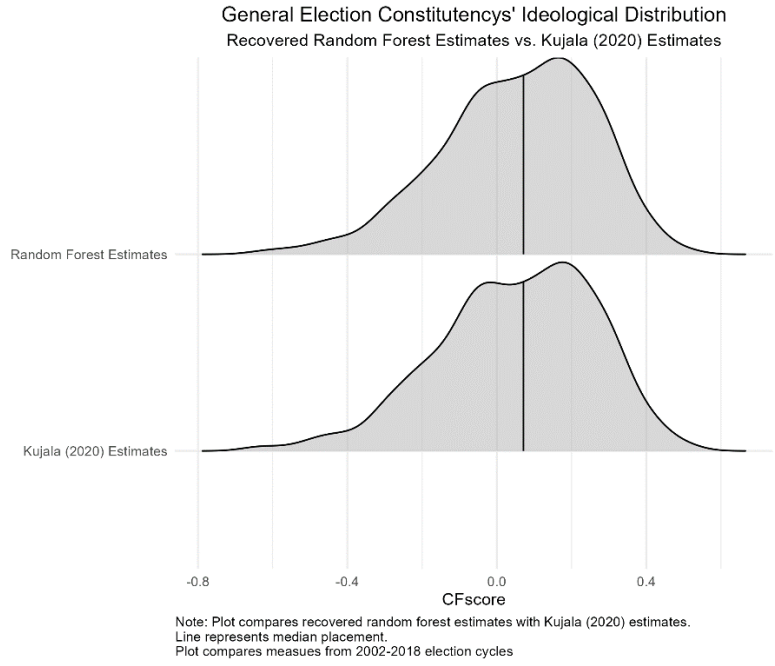
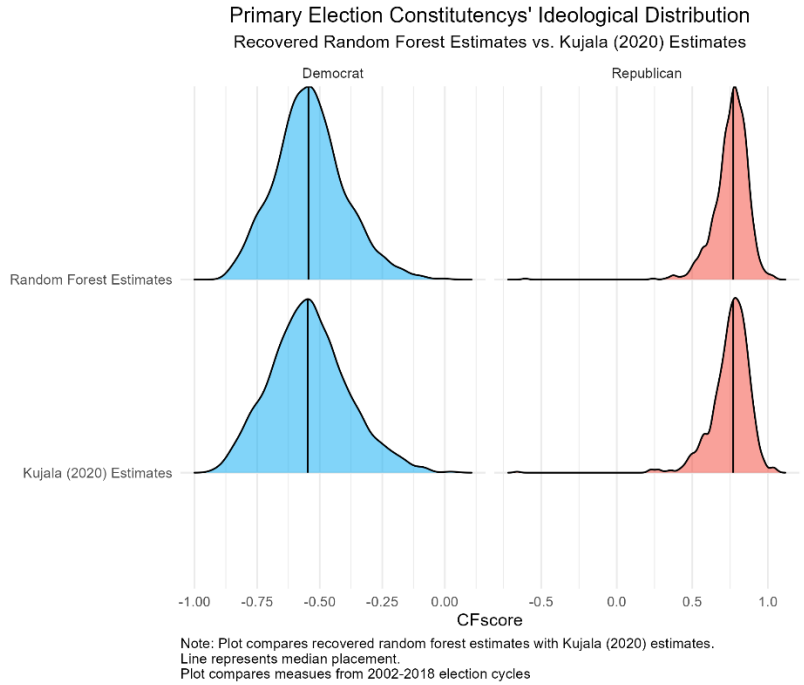


Figure 2.2: Random Forest and Kujala (2020) General Electorate Distribution



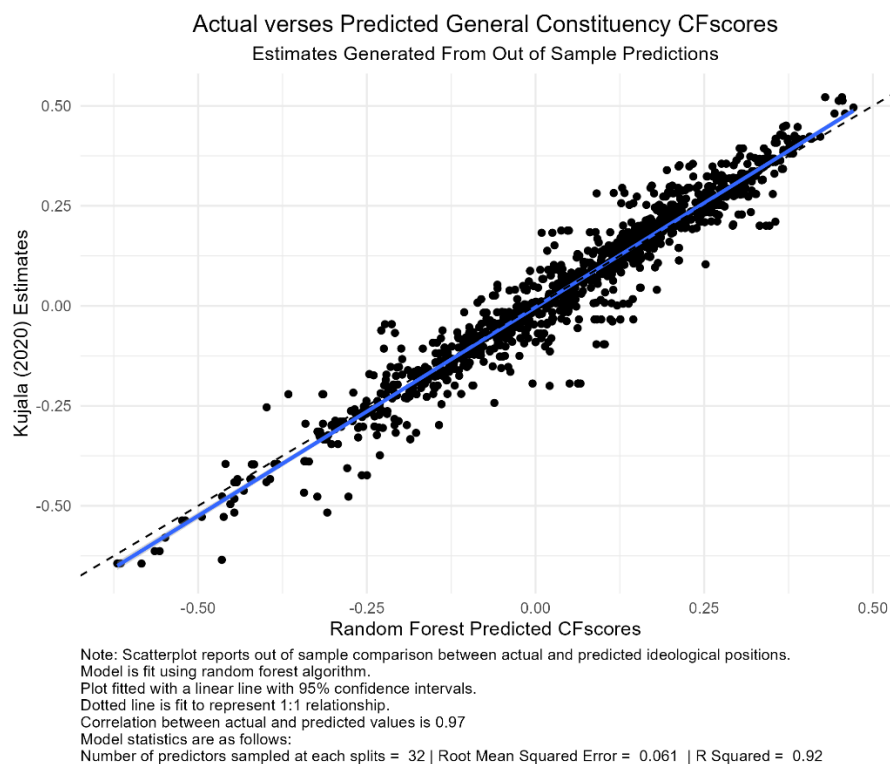
When I compare the predicted estimates for the 2002 and 2012 redistricting cycles with Kujala's (2020) actual data, the results suggest that my model accurately recovers the true values, signaling low bias. While this outcome is a good start, low bias does not report how accurately our model generalizes to new data it has yet to see. The next section examines how well the supervised machine learning model performs when recovering values for data I omit from the training model. This out-of-sample estimation test will determine how much we can trust its estimates for the 1972, 1982, and 1992 redistricting cycles.

Out-of-Sample Predictions

To evaluate the accuracy of the random forest algorithm, I perform an out-of-sample estimation. I *randomly* split known data from the 2002 and 2012 redistricting cycles into two groups: a *training* and *testing* set. In the training phase, the researcher feeds the model data from the training dataset that it uses to "learn" patterns and relationships that impact the target variable. I perform this protocol separately for the ideology of the general and primary election constituencies. After the model has learned the patterns and relationships, I ask it to predict values of the target variable using the testing set. In the testing phase, the researcher passes *unseen* data from the testing set to the model and evaluates the model's ability to make accurate predictions of the target variable for these data. I determine the accuracy of a model by (1) assessing the R-Squared values along with the RMSE at the training stage and (2) assessing accuracy in predicting out-of-sample data. The more accurately the model predicts the general election and primary constituencies' ideology in the testing set, the more confident we can be that it will also accurately predict ideology for years that Kujala's (2020) study does not include. The following section reviews the key indicators of high out-of-sample performance for the general election and primary constituencies' models.

First, the random forest algorithm is exceptional at estimating the ideological position of the general election constituency. The training model has an R-squared value equal to 0.92. After training the model, I feed it the testing set and ask it to predict ideology using the covariates in the training set model (out-of-sample predictions). Figure 2.3 examines the relationship between the out-of-sample predictions and the testing set's actual values. It shows a strikingly close linear relationship between the out-of-sample predictions and the actual values in the testing set. It reports that the correlation between the actual and predicted values is 0.97, with an RMSE equal to 0.061.

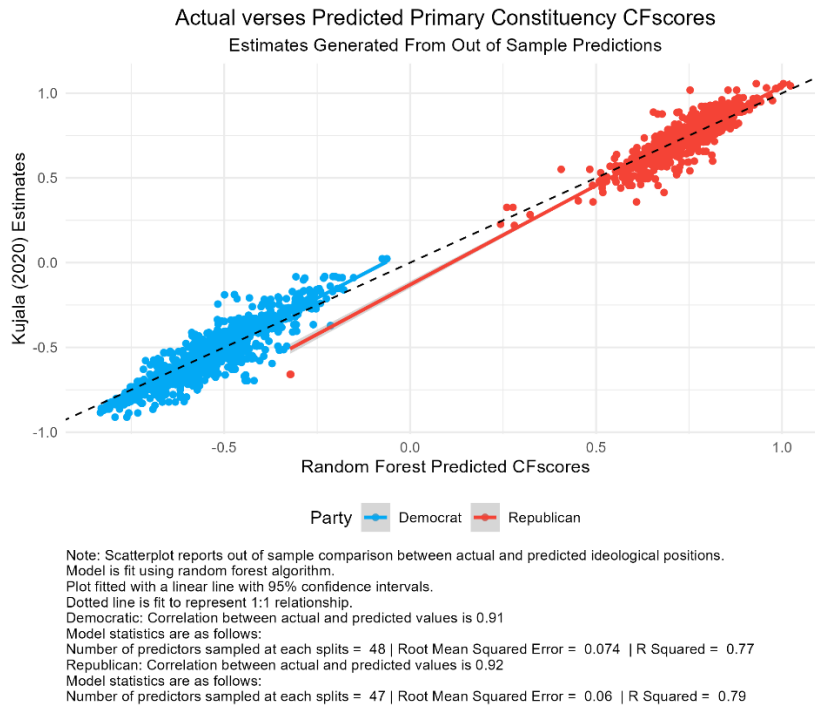
Figure 2.3: Out of Sample Predictions for the General Electorate



My second and third supervised machine learning models do a similarly excellent job estimating the ideological position of primary election constituencies. The Democratic and Republican training set models have R-squared values equal to 0.77 and 0.79, respectively.

Figure 2.4 examines the relationship between the testing set’s predictions (out-of-sample predictions) and the actual values, and then plots the results. Like the general election model, it shows a tight linear relationship between the out-of-sample predictions and actual values. It reports that the correlation between the actual and predicted values is 0.91 and 0.92, with an RMSE equal to 0.074 and 0.06 for the Democratic and Republican models, respectively. These out-of-sample statistics suggest that the random forest models I use to estimate general and primary election constituencies’ ideology are highly accurate.

Figure 2.4: Out of Sample Predictions for the Primary Electorate



Together, these results show that the model meets the proper specifications to minimize the bias–variance tradeoff and produce reliable estimates. It is complex enough to produce a high R-squared in each model but not overly complex that it cannot accurately adapt to recovering actual estimates on unseen data. This analysis should increase confidence that the estimates these

models recover for the 1972, 1982, and 1992 redistricting cycles are close to what they would be if they were included in the CCES and Kujala's original measure.

While the supervised machine learning model just described is a rigorous attempt to build a sophisticated model to estimate the general election and primary constituencies' ideology, the estimates I produce for the 1972, 1982, and 1992 redistricting cycles have limits. Mainly, I use two decades of data to make inferences about the remaining decades. Ideally, I would use a random sample of data from each decade and recover the remaining data. Since this data does not exist, these estimates do not explicitly account for changes that time might impose on voters' ideology. Some might argue, for example, that ideology in the 1980s and 2000s is different, and it is improper to estimate ideology from data that does not come from the same era. These concerns are warranted. Nonetheless, the predictor variables I use, including Kernell's measures of district partisanship, vary over time and may be a useful proxy for capturing any time-specific features latent in ideological dimensions across time. Another limitation is that the supervised learning approach reveals little about the mapping process. Beyond a variable importance plot, I gain little insight into exactly how the model recovers these ideological estimates.

Nevertheless, even with these limitations, these estimates are our best prediction of the general election and primary constituency's CFscore across the period included in the DIME dataset to date. It is a significant contribution to place the median voter on the same scale as donors and candidates from a dataset that has revolutionized scholars' understanding of ideology and money in the American political system. Recovering general election and primary constituencies' ideological locations on this scale expands the type of empirical analyses scholars can conduct to measure the influence of money in politics.

Results

Using the supervised machine learning models described above, I predict the ideology of the general election and primary constituencies for US House districts in the 1972, 1982, and 1992 redistricting cycles (1972-2000). Mimicking Kujala's (2020) approach, these estimates assign each congressional district one CFscore per redistricting cycle. I combine these estimates with Kujala's (2020) estimates for the 2002 and 2012 redistricting cycles and Bonica's (2014) CFscores to create a unified dataset with ideology measures for candidates, donors, and constituents on the same scale.

This section illustrates the validity and usefulness of this unified dataset. In particular, I compare the distribution of the general election and primary constituencies' ideology with members' and donors' ideologies across each cycle between 1980 and 2018. Then, I validate my estimates by comparing constituents' CFscores to other known ideological measures. Finally, I examine how well members' ideology *aligns* with their constituents.

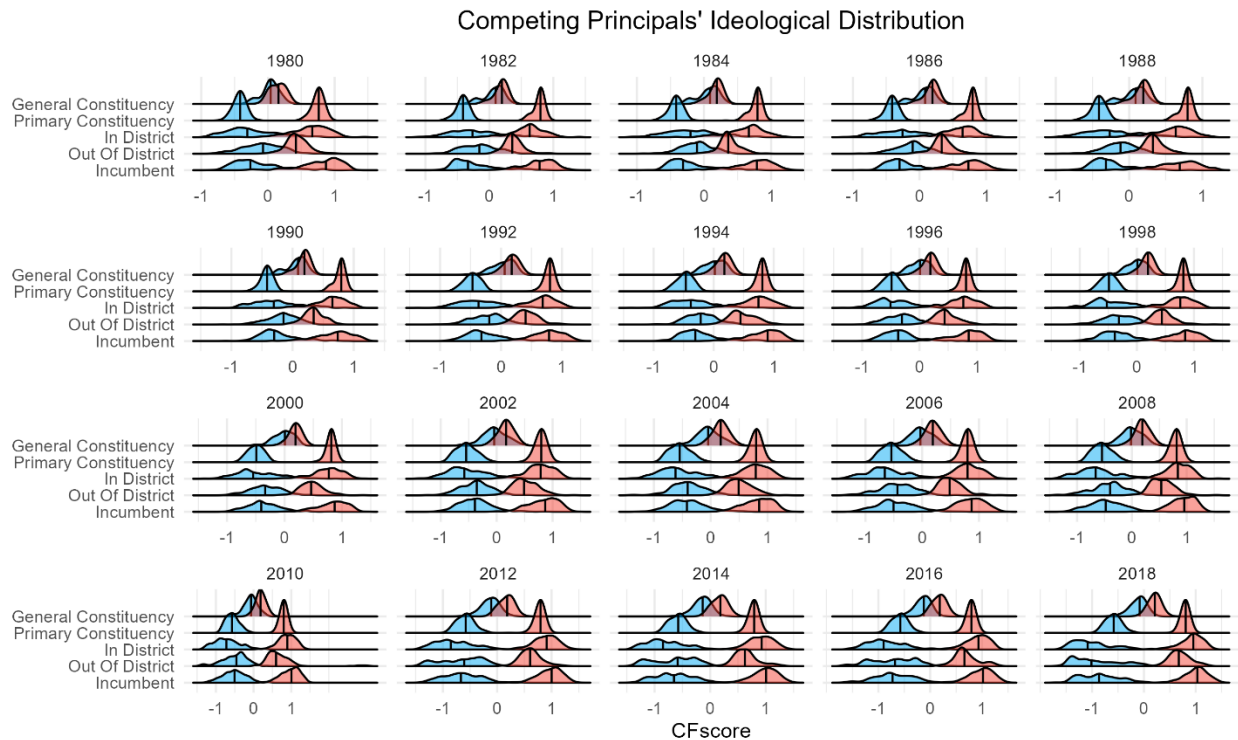
Examining the Distribution of Competing Principals' Ideology

I begin by comparing CFscores for the general election and primary constituencies with in-district donors', out-of-district donors', and incumbents' scores. Several interesting patterns are apparent in the plots of these distributions in Figure 2.5. First, the general election constituency is more moderate than partisans in both parties (Downs 1957; Hotelling 1929), though both general election and primary constituencies are polarizing over time (Abramowitz and Saunders 2008). Second, Democratic and Republican incumbents are similarly moving toward the extremes of their party (McCarty, Poole, and Rosenthal 2006). Finally, in-district donors appear to be more ideologically extreme than out-of-district donors. Importantly, Figure 4

illustrates the methodological contribution in placing competing principals onto the same ideological scale: the ability to compare and measure distances and locations.

To my knowledge, these are the first estimates to include the primary and general election electorate on the same scale with donors covering the duration of the DIME dataset. Furthermore, these are the first measures to estimate the ideological positions of the primary electorate for the 1972, 1982, and 1992 redistricting cycles that do not suffer from small N bias inherent in survey-based estimates during this time. These measures constitute a significant step forward in placing the voting constituency on the same scale as incumbents and donors over a significant time period.

Figure 2.5: Distribution of Competing Principals' Ideology Over Time



Note: general and primary constituency measures generated from predictive models using Kujula (2020) data. All other principals' ideology generated from Bonica (2014) data. Plot includes incumbent members of Congress. Line represents median placement.

Comparison With Existing Measures

Next, I compare my measure of the general election constituency with four other well-established measures: U.S. House members' vote share, Presidential vote share, ANES self-placements, and ANES policy scores. I show that my recovered measure is comparable to existing measures and perform similarly in validation tests to Kujala's scores, the only other established measure of the general election and primary constituency on the CFscore scale.

I chose these measures to validate my imputations for several reasons. First, scholars have used them in the past to measure the general election electorate's ideology (Ansolabehere, Snyder, and Stewart 2001a; Clinton 2006; Converse 1964; Erikson et al. 1993; Masket 2007). Second, I can compare my recovered measure to different ideological aspects of the general election electorate, one representing their underlying attitudes and the other outcomes on Election Day.²⁷ Finally, ideological self-placement and policy scores using the ANES are the best survey-based measures available to validate my imputation. Until 2006, the ANES was the only national survey to ask policy questions and self-placements consistently.

To begin, vote share (House and Presidential) is a common measure that previous research has used to measure the general election electorate's ideology (Ansolabehere, Snyder, and Stewart 2000, 2001a; Erikson et al. 1993; Erikson and Wright 1980). Scholars use this measure because constituents perceive issue positions from presidential candidates along a left-right unidimensional spatial model and assume that voters engage in spatial voting (Ansolabehere, Snyder, and Stewart 2001a).

²⁷ Like DW-NOMINATE captures ideology based on roll votes and CFscore captures ideology based on donations, they touch different parts of the ideological elephant. The same is true here. Surveys and vote shares capture distinct parts of ideology. Surveys capture ideology from the individual's perspective, and vote share captures ideology from the voting booth. My imputations are the survey's projections onto the CFscore scale. I can take my estimates and compare them to different ideological characteristics of the same stimuli.

Scholars have also used nationally representative, cost-effective, and easily accessible surveys to measure the ideology of the general election electorate in several ways. First, some surveys ask respondents to self-report their ideology along a seven-point scale from very conservative to very liberal. This method is straightforward; however, respondents' self-reported ideology measures are plagued by differential item functioning, where groups of respondents interpret values of a scale differently, or measurement error (Achen 1975; Ansolabehere, Rodden, and Snyder 2008; Erikson 1979; Hare et al. 2015). Second, scholars can scale respondents' answers to a battery of policy questions, reducing measurement error that may occur when using only one question (Ansolabehere, Rodden, and Snyder 2008). Finally, scholars also ask respondents to take a series of roll call votes and scale their responses (Bafumi and Herron 2010; Jessee 2009). This method allows them to bridge voters' preferences with those of members.

The CCES is a popular national survey that scholars use to measure the general election electorate's ideology. The CCES has a large sample size with tens of thousands of respondents but has only been in operation since 2006. Therefore, if scholars want to measure the general election electorate's ideology using the same questions over time, then the ANES is the only dataset available. Therefore, I rely on self-placement and policy questions in the ANES to validate my recovered estimates. Unfortunately, the ANES has a small sample size per congressional district, making it difficult to create reliable estimates of district ideology; however, it is the best option to validate my recovered estimates.

To create survey-based measures of ideology, I use self-reported ideology on the 7-point scale and create a policy scale from four questions in the cumulative ANES. These questions ask respondents to report their attitudes on government spending, aid to African Americans,

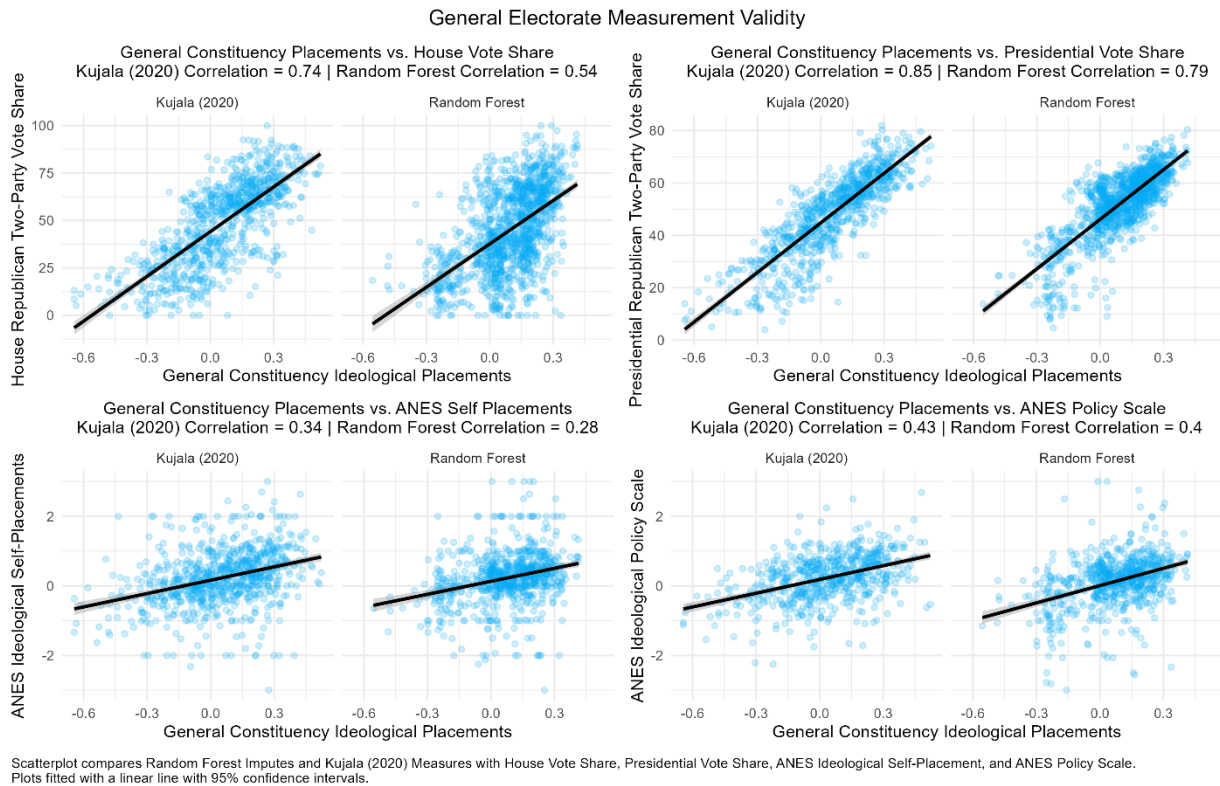
universal health insurance, and the government's role in the economy. My policy scale has a Cronbach alpha of .76 (in the acceptable range), loads onto a single factor dimension with a Tucker Lewis Index of factoring reliability score equal to 0.937, and a root mean square of the residuals (RMSR) equal to 0.03.

I compare my recovered measures from the supervised machine learning models against two useful benchmarks: 1) how they compare with Kujala's measure and 2) how they compare with other existing measures of the general electorate's ideology. To faithfully compare both measures, I compare Kujala's measure and the recovered estimates to measures within each redistricting cycle in my dataset. Figure 2.6 reports the results of the validation analysis, showing that the recovered measure performs similarly to Kujala's measure when I compare them both to existing measures. In particular, Kujala's (2020) and my recovered measures similarly correlate with presidential vote share, with a Pearson's r of 0.85 and 0.79, respectively. Further, this same finding holds when I examine their correlation with the ANES policy scale, 0.43 and 0.40, respectively. The largest deviation between my recovered measures and Kujala's measures exists when we compare them to House vote share, where the correlation is 0.54 and 0.74, respectively. Unsurprisingly, the recovered measures exhibit the strongest correlation with presidential vote share, which I expect since Kernell's (2009) measure of district partisanship relies on presidential vote share and is a key variable in the supervised machine learning model.

Kujala's (2020) stronger relationship with House members' vote shares actually enhances my recovered measure's validity. Since the relationship between House and presidential vote shares before 2006 is weaker than their relationship after 2006, Kujala's measure should be more highly correlated with House vote share than my estimation because

alignment between partisanship and ideology is closer in his measure's time period.²⁸ Since the recovered measure has a higher correlation with presidential vote share than House vote share, it captures the deviation between partisanship and ideology occurring between the 1970s and 1990s.

Figure 2.6: General Electorate Measurement Validity



After evaluating the recovered measure from my supervised machine learning models against existing measures and comparing their performance with Kujala's measure, I find that my recovered measure performed similarly to Kujala's measure. The difference between the correlations across each measure is minimal, reinforcing the recovered measure's validity. While the training data was limited to the time after 2006, the disjoint in the relationship between the

²⁸ Appendix Figure 2.2A reports that the relationship between House and presidential vote share increases over time as political polarization intensifies.

House and presidential vote shares remains true to the quantitative divergence between House and presidential vote shares in the pre-2000 period. Together, these results highlight the usefulness of the random forest algorithm in recovering estimates that mirror the performance and characteristics of the training data.

Competing Constituencies

As I argue above, the major advantage of the ideological measures I generate with the machine learning procedure is that they place the primary and general election constituencies on the same scale as House members and their donors over a longer period than any previous study. This novelty allows scholars to use general and primary election voters' ideology for the 1982 and 1992 redistricting cycles to conduct new analyses. To illustrate their usefulness, I ask which constituency members align themselves with most closely and how does alignment change over time?

In this section, I use a proximity analysis to compare the distances between House members and different constituencies. While I do not claim this analysis is causal, it can serve as a foundation for subsequent studies that employ a stronger identification strategy. Using measures on the same scale, I can directly compare the distance between members' ideology and their constituency while extending the proximity analysis to the 1982 and 1992 redistricting cycles, doubling the number of elections typically available for exploring this question. I aim to illustrate the benefits of my recovered measure and explore the ideological differences between members and their constituents.

To measure the distance between members' ideology and their constituencies, I first take the absolute difference between members' ideology and their constituencies' ideology using the following formula:

$$\textit{Absolute Proximity Difference} = |\textit{Member's CFscore} - \textit{Constitutency}_i \textit{ CFscore}|$$

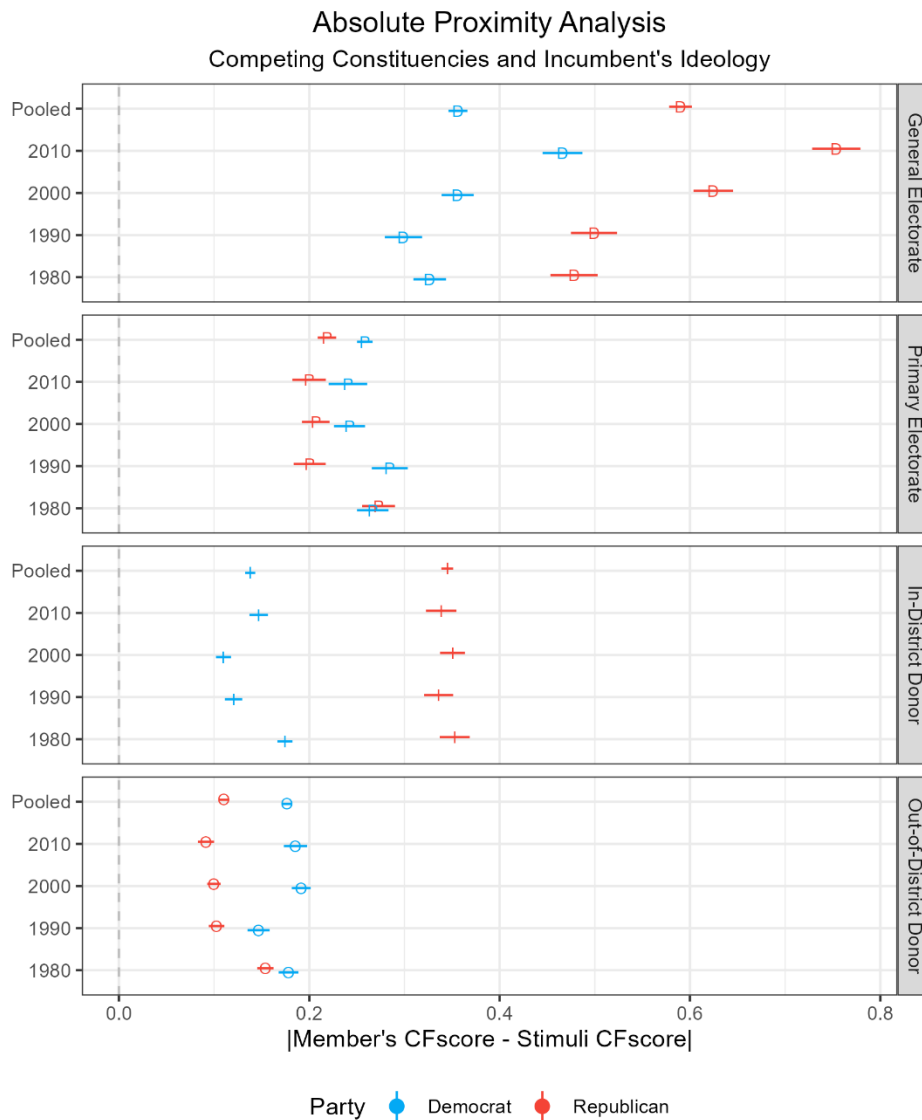
This formula calculates the distance between members' and constituents' ideologies on the CFscore scale. This formula only measures distance and is agnostic to the ideological direction (that is, more liberal or conservative than the member's position). The closer the member's and his/her principals' ideologies are to each other, the smaller the absolute proximity difference.

I calculate the average *Absolute Proximity Difference* for each constituency across each decade and display the results in Figure 2.7. The figure supports several key insights. First, members of Congress have become more distant from their general election electorate since the 1980s. This insight echoes studies that find members often fail to represent the median voter (Bafumi and Herron 2010; Gilens and Page 2014a). Second, the quality of representation across each constituency varies according to partisanship. Democrats tend to be closer to their general election electorate and their in-district donors than are Republicans, who favor their primary electorate and out-of-district donors. Finally, donors tend to receive higher quality representation than the voting constituency, but this is not always the case. Members also position themselves close to their primary constituency. These findings echo Kujala (2020), who shows that donors influence primary winners.

Together, these results are emblematic of the competing principals problem and the combative nature of politics because not all groups receive equal representation from members. The figure shows variation in the representation members provide to principals, which has real world consequences. The further a constituency is from a member, the poorer representation they receive and the more significant agency loss they incur. Members tend to be furthest from the general election constituency, which experiences the most significant agency loss (Bafumi and Herron 2010). In contrast, the figure shows that members offer higher quality representation to

more extreme ideological constituencies, including their primary electorate and, especially, their donors (Kujala 2020). The figure shows that members tend to represent constituencies that are more ideological, politically active, and financially invested in their campaigns, highlighting that principals need to offer more than votes to receive representation from members.

Figure 2.7: Proximity Model



Note: Figure reports the absolute mean deviation between members and their constituencies. Zero represents perfect proximity. Higher (Lower) values means the principal is further from (closer to) the member's ideology. Point estimates are dots with lines indicating 95 percent confidence intervals. Y-Axis reports the decade.

In summary, developing and expanding measures of the general and primary election constituencies on the CFscore scale opens up new possibilities, including more extensive proximity examinations.²⁹ Putting voting constituencies on the CFscore scale also paves the way for different *types* of proximity examinations researchers can conduct. In Chapter 3, I extend this proximity analysis and develop proximity differentials to address larger questions surrounding the influence of money in politics.

Discussion

Previous research focusing on congressional representation is rich in studies that measure members' and constituents' ideologies (Bafumi and Herron 2010; Bonica 2014; Jessee 2009; Kujala 2020a). However, until now this area of study has lacked a unified measure and a set of procedures for placing House members, their voting, and donor constituencies on the same scale across multiple periods.

Efforts to measure the primary and general election electorates' ideology before 2006 are rare to nonexistent. Using Kujala's measures generated from the 2000 and 2010 CCES, this chapter uses a supervised machine learning model to recover the general election and primary constituencies' ideology for the 1972, 1982, and 1992 redistricting cycles. The set of procedures described above extends efforts to estimate constituents' ideology to new time periods and overcomes an important limit of CFscores by placing voting constituencies on this scale.

I demonstrated the usefulness of the measures the supervised machine learning model generates by comparing voting constituencies on the CFscore scale with members' and donors' ideologies. I find that: 1) the general election electorate tends to be more moderate than other

²⁹ In the appendix, I include the results of a responsiveness analysis, where I derive a naive model exploring which constituencies' ideology is most predictive of members' CFscore.

constituencies, 2) members position themselves further from their general election electorate, and 3) members' constituencies are polarizing over time. This distribution replicates findings from recent studies of political polarization (McCarty, Poole, and Rosenthal 2006) and leapfrog representation (Bafumi and Herron 2010).

Further, I examine how the measures generated by the supervised machine learning model compare to more established measures of ideology and how similarly they perform to Kujala's measures. I find that my measures do about as well as Kujala's measures when I compare them to existing measures -- strong evidence of the validity of the imputation process and the measure's internal validity.

Finally, I explore the external validity of my voting constituency measures by examining how well members' ideology aligns with their voting and donor constituency. My findings affirm that while the primary constituency receives some representation, members tend to align most closely with the donor constituency (Bafumi and Herron 2010; Canes-Wrone and Miller 2022; Gilens and Page 2014a; Kujala 2020a).

While these recovered measures constitute significant progress over previous work, they do have limitations. First, because of how Kujala (2020) and other scholars construct their measures, my imputations only produce one estimate per redistricting cycle for the general election and primary constituency, eliminating intra- redistricting cycle variation in voting constituencies' ideology. While it is generally unknown how much electorates change their ideology within a redistricting period, previous research establishes that public opinion is dynamic. It would be erroneous to think that voting constituencies' ideologies are stagnant even within the same redistricting period. Of course, this same issue reoccurs in any study using Kernell (2009) or Kujala (2020) ideology measures. Yet, these studies demonstrate that their

measures have higher validity than measures that vary across election cycles (Kujala 2020a). Second, my measure of ideology is imperfect: raw weighted values of respondents' self-placements. In recent years, scholars have developed more advanced techniques for scaling respondents' ideology, including Bayesian Aldrich-McKelvey scaling (Hare et al. 2015) and multilevel models with (synthetic) post-stratification (Porter 2021). These methodologies are more dynamic and rigorous in estimating self-placement, but they are also difficult to implement, both technically and computationally. My methodology is more practical and still produces reasonable estimates. Finally, my imputation methodology makes a debatable assumption about the nature of ideology. I assume that covariates useful for predicting ideology in the 2002 and 2012 redistricting cycles capture the essence of ideology in the 1972, 1982, and 1992 redistricting cycles. While the empirical evidence and robustness checks suggest that they capture enough of the essence to produce reasonably valid measures, some might question whether using one redistricting cycle's ideology to infer the ideology of another is justifiable.

Nonetheless, I believe that estimating the ideology of the voting constituency on the CFscore scale is a significant contribution. CFscores have broken new ground in the study of money in politics, but omitting the voting constituency limits their usefulness in studying questions of representation. I hope that future research will use these scores to address questions about the quality of representation and to what degree campaign contributions distort representation between members and their voting constituencies.

Chapter 3

Competing Principals and Representation: Using Redistricting to Assess the Effects of Out-of-District Donors on Position Taking in the U.S. House of Representatives

Sharif Amlani

Abstract

Congressional scholarship theorizes that Congress members build support inside their district to win reelection. However, members rely on out-of-district contributors to fund their campaigns. I argue that members view out-of-district contributors as an extension of their constituency and provide them with substantive representation, leading to agency loss for constituents. Using itemized contributions, I show that House members raise 8 out of every 10 dollars outside their district, and out-of-district donors' ideology is distinct from in-district donors' ideology. Using redistricting as an exogenous shock to the ties binding members and their in-district donors, I find that losing in-district donors leads members to rely more on out-of-district contributions, position themselves closer in ideological *proximity* and be more *responsive* to their out-of-district donors than constituents. I show that when House members tailor positions to attract out-of-district donors, they do so at constituents' expense, raising concerns about how money in politics affects the quality of democratic representation.

Keywords: Money in Politics, Out-of-District Donors, CFscores, Redistricting

Introduction

Congressional campaigns raised \$8.7 billion during the 2020 election cycle – the most in American history (Open Secrets 2020). While classic studies of the U.S. Congress (e.g., Fenno 1978; Mayhew 1974) argue that members seek to build an independent base of support *inside* their district to win reelection, contemporary campaigns require members to build a financial base of support *outside* their district. Increasingly, reelection depends on out-of-district contributors, whose donations comprise approximately *two-thirds* of U.S. House members' total contributions (Gimpel, Lee, and Pearson-Merkowitz 2008; Grenzke 1988; The Center for Responsive Politics 2020). Such reliance on out-of-district fundraising and members' appeals to donors raise concerns about the efficacy of territorial representation. Candidates need to win votes *inside* their district, yet require donations from *outside* their district to fund their campaigns. As members make decisions about what positions to take on important issues and engage in other legislative activities, the question is which constituency do they serve?

Fenno (1978) surmised that members see their districts as four concentric circles, or constituencies – geographic, reelection, primary and personal – each serving a different role in their reelection calculus. Given the exigencies of modern campaigning, the donor constituency arguably has become a fifth circle of equal or greater importance. The donor constituency includes donors inside and, especially, outside members' districts. The monetary resources members receive from donors outside their congressional district are both more numerous and more stable than what they can acquire inside their district. Members' growing reliance on out-of-district contributions should prompt a rethinking of our understanding of congressional representation. No longer are members' reelection fortunes dictated solely (or even primarily) by their territorial constituency; instead, members need support from contributors outside their district.

Previous research asks whether the financial relationship between members and their out-of-district donor constituency leads to “monetary surrogacy” (Mansbridge 2003) and whether it undermines dyadic representation between members and their territorial constituents (Gimpel, Lee, and Pearson-Merkowitz 2008). However, disentangling whether and how contributors influence members of Congress is challenging. Do contributors reward likeminded members or influence members to be likeminded? The relationship is endogenous, making it difficult to establish the causal direction. Until recently, it was also difficult to measure the preferences of donors and constituents on a comparable scale. Consequently, whether House members’ position-taking (Mayhew 1974) and other legislative activity serves the interests of their territorial constituents or the donors who finance their campaigns remains unclear.

In this study, I argue that members’ need to win votes *inside* the district and raise money *outside* of it creates a *competing principals problem*, with members cross-pressured between their territorial constituents and out-of-district donors. To address endogeneity between members’ contributions and position-taking, I leverage redistricting as an identification strategy to establish temporal precedence. Redistricting is useful because members generally cannot assign donors to their new district, and (absent significant costs) donors cannot assign a member to represent them. Redistricting alleviates reverse causation concerns by creating an exogenous shock in member-donor relations. I create a novel measure of changes to House members’ in-district donor constituency and examine how this change increases their responsiveness to various types of donors.

This study contributes to research on campaign finance and legislative activity in at least three ways. First, previous research focuses on measuring the flow of money from out-of-district donors to members’ campaigns. I extend this work by comparing the ideological positions of

members, in-district and out-of-district donors. This extension allows me to assess how agency loss occurs between members and their territorial constituents.

Second, previous research omits the conditions under which members will be cross-pressured between donors and constituents. My analyses demonstrate that the competing principals problem varies across members and over time, and is occurring with greater frequency in contemporary congressional elections. Using the most extensive store of available data on campaign finance, I show that House members have mainly relied on out-of-district contributions for funding since at least the 1980s and I offer evidence that it is increasingly common for members' in-district and out-of-district donors to have distinct ideological positions.

Third, I leverage redistricting as an exogenous shock to members' fundraising ability. I find that the more redistricting displaces members' donors, the more they rely on out-of-district contributions, and the better their positions align with their out-of-district donors' ideology.

Together, these results establish a strong empirical basis for normative concerns many express about the role of money in politics and the quality of democratic representation (Gimpel, Lee, and Pearson-Merkowitz 2008; Mansbridge 2003).

The Influence of Outside Money in Politics

Previous studies of congressional elections demonstrate that most campaign contributions originate outside House members' districts. Grenzke (1988) uses data from 1973 to 1982 to show that more than 50 percent of individual donations over \$100, and almost 100 percent of PAC contributions originate outside a member's district. Similarly, Gimpel, Lee, and Pearson-Merkowitz (2008) examine donations from 1996 to 2004 and find that two-thirds of contributions originate from out-of-district donors, with 18 percent of districts receiving more than 90 percent of contributions from outside their district. These scholars also show that out-of-

district donors contribute most to: (1) candidates in competitive races, where opportunities to influence the partisan makeup of Congress are greatest, (2) congressional leaders, and (3) more ideologically extreme candidates. Mansbridge (2003) characterizes this relationship between members and out-of-district donors as “monetary surrogacy,” meaning donors exchange money for representation, irrespective of their geographic location.

Out-of-district contributors are concentrated geographically and ideologically distinct. Previous studies find that most out-of-district contributions originate from a small number of congressional districts and neighborhoods (Bramlett, Gimpel, and Lee 2011; Gimpel, Lee, and Kaminski 2006; Gimpel, Lee, and Pearson-Merkowitz 2008). Gimpel, Lee, and Kaminski (2006) observe that both parties’ out-of-district donors reside in similar geographic locations across the county, despite the heterogeneity in the locations of party constituencies across the county. Gimpel, Lee, and Pearson-Merkowitz (2008) show that out-of-district contributors reside in population centers filled with professionals and high-income earners. While Bramlett, Gimpel, and Lee (2011) find that most out-of-district donations originate from areas whose political opinions are distinct, self-reinforcing, and unrepresentative of national public opinion, especially on issue like “trade, immigration, gay marriage, school prayer, gun control, and abortion” (567). The outsized importance of out-of-district contributors that these studies document fuels concerns that they might have equally outsized influence on legislators’ behavior (Gilens 2012).

In addition to documenting the flow of money, scholars examine whether out-of-district donors affect representation by seeking to measure the ideological alignment between members and their out-of-district donors.³⁰ Baker (2016) uses the Cooperative Congressional Election

³⁰ Grenzke (1988) argues a problem arises if out-of-district donors’ interest is out of step with constituents’ interests.

Studies (2006, 2008, and 2010) as a proxy for constituents' preferences and finds that out-of-district contributions make members more ideologically extreme, moving them further from their constituents' ideology and distorting dyadic representation. Canes-Wrone and Miller (2019a, 2019b) bridge constituents' and national donors' roll call responses with members' roll call votes. They find that House and Senate members are more responsive to national donors' opinions than their constituents' opinions.

While previous studies offer solid evidence about the prominence and influence of out-of-district contributions, they are limited in several ways. First, existing studies are limited by the time periods they cover. For example, most published studies documenting out-of-district fundraising were completed before the U.S. Supreme Court's *Citizens United* decision. Second, these studies do not convincingly establish a causal relationship between donors' contributions and members' behavior. Canes-Wrone and Miller (2019a, 2019b), for example, rely on lagged national donor opinion as an instrumental variable. However, this approach assumes that members' future behavior (especially position tacking activity like roll call votes) cannot influence present donor preferences. This assumption is tenuous because some donors make contributions anticipating members' future behavior (Francia et al. 2003; Kalla and Broockman 2016). The opportunity to influence positions and policy outcomes in the next Congress encourages contributions in the preceding election. As Francia et al. (2003) explain, "investor" donors contribute with the expectation such activity will yield future dividends. Consequently, using lagged national donor opinion as an instrumental variable may not provide sufficient leverage to establish a causal connection. Third, past studies measure donors' ideology using surveys of the national donor base, rather than the ideology of individual members' contributors. Perhaps as a result, existing theories of donors' influence have an "all or nothing" quality, and

fail to identify the conditions under which donors will influence *some* members' behavior. Finally, no study measures both the prevalence of out-of-district donations and their ideological alignment in the same study over the same period.

This study seeks to overcome these limitations and contribute to research on money in politics and congressional representation in several ways. First, I examine the influence of out-of-district donors from 1980 to 2016, the largest number of election cycles examined by any study. The data spans events that altered the legal landscape of campaign finance, including the Bipartisan Campaign Reform Act (BCRA) of 2002, *Citizens United*, and *McCutcheon v. FEC*. Second, I offer a *competing principles theory* that defines the parameters under which out-of-district contributors will distort representation between members and their constituents. Third, to test this theory, I develop a novel measure of donor displacement, which captures the impact redistricting has on members' existing donor constituencies. This measure captures an exogenous shift in each member's donor constituency that I use to examine their subsequent reaction in office. While previous studies link changes in members' *constituency* to their out-of-district donations (Crespin and Edwards 2016), my measure allows me to assess how members respond to changes in the *donor constituency* itself, not their territorial constituency. Finally, I use CFscores (Bonica 2014) to estimate members', voters', and donors' ideology on the same scale. CFscores use contributions to estimate ideological locations for candidates and their actual donors. By leveraging redistricting and using CFscores, I show that members both financially depend on out-of-district donations and represent out-of-district donors at the expense of territorial constituents.

The Donor Constituency and Competing Principals Problem

Why have members of Congress become so reliant on donors living outside their district?

What implications does over-reliance on out-of-district contributions have for the quality of representation that territorial constituents receive? This section explains how members' reliance on territorial constituents for votes but out-of-district donors for contributions sets up a *competing principals problem*. On the one hand, members ought to be responsive to territorial constituents, whose support is necessary to win and retain their offices (Fenno 1978; Mayhew 1974). On the other hand, members also need to be responsive to out-of-district donors whose support is necessary to raise sufficient funds for their campaigns (Mansbridge 2003). To the extent that territorial constituents differ from out-of-district donors demographically or ideologically, it raises questions about which group members represent. I argue that when members depend on out-of-district contributions to run costly campaigns, they focus their position-taking behavior on donors rather than voters in their district.

Members of Congress must raise millions to effectively compete in congressional elections. In 2018, the average cost of a winning House and Senate campaign was \$2 million and \$15.7 million, respectively (Open Secrets 2020). The cost of financing congressional campaigns has risen steadily over time as well. Between 2008 and 2020, campaign spending increased by almost 200 percent. As Jacobson (1980) notes, money is not a sufficient condition but it is a necessary one for winning elections. It does not guarantee a win but, it can guarantee a loss without it.

Members seek out-of-district donations to meet these rising costs because they can raise more money this way than relying on in-district donations alone. Since economic, demographic, and partisan characteristics affect what financial resources are available, each district has a limit

on the amount a candidate can feasibly raise inside it during a two-year election cycle. Favorable home styles (Fenno 1978) and valence characteristics (Stone 2017) can help individual members and candidates reach this limit, but these resources are unlikely to sustain a campaign over an entire election cycle. Alternatively, candidates can cultivate the large and diverse network of individuals, PACs, corporations, and unions that comprise the out-of-district donor pool. This pool has more resources than donors inside any single congressional district. Given the resource disparity, relying exclusively on in-district donors to fundraise is inefficient. In-district contributions are valuable in demonstrating strong support among territorial constituents, but out-of-district donors are more numerous and have more money to contribute. Therefore, I expect members to draw more on out-of-district than in-district donors to finance their campaigns.

Members are experts at cultivating out-of-district contributions. As Republican operative Karl Rove notes, “The biggest and most important way [to raise money] is for the candidate to ask for it. And I hate to say it, but candidates are going to have to spend a lot of time asking people for money” (Budgeting and Fundraising 2020). And ask they do. In 2013, the Democratic Congressional Campaign Committee (DCCC) recommended that freshman members spend 4 hours a day calling contributors to ask for money (Klein 2013). Former Representative and head of the DCCC Steve Israel recommended that members spend more time raising money than working on constituents’ needs or spending time on the House floor (O’Donnell 2016). Beyond cold calling donors, members attend Washington fundraisers, and meet with well-heeled interest groups, political action committees, union leaders, and business executives. Technology, such as micro-targeting, electronic mail, partisan media and social media makes reaching donors in far corners of the country easier and allows members to build name recognition outside their district.

The internet makes contributing to a member outside donors' district as easy as clicking a few buttons. Appealing to donors living outside the district gets more attractive every year as nationalization reinforces parties' brands and link members' electoral fate to that of their party's, and as the need for money to win becomes more imperative (Jacobson 2015).

The U.S. campaign finance system incentivizes out-of-district contributions. Out-of-district contributions are legal and accessible. The mass media and internet provide donors with information on a marketplace of candidates. Because individual donors have finite resources, they seek to contribute to candidates they agree with over candidates with whom they disagree, regardless of geography. Without legal, informational, and geographic limits on out-of-district contributions, donors are free to contribute to candidates advancing their policy interests, regardless of where the candidate lives or which constituents they represent (Bonica 2013, 2014, 2018).

Relying on out-of-district contributions gives rise to a *donor constituency* that members must satisfy to achieve reelection. Out-of-district donors expect members to remain faithful to their policy concerns. Donors will continue supporting members until they believe them to be unfaithful, upon which they can immediately retract their financial support. Therefore, members have an incentive to continue satisfying out-of-district donors' ideological/strategic interests by tailoring their position-taking behavior between elections.³¹ The same logic does not hold for

³¹ *Prima facie*, a donor constituency may appear to run counter to Mayhew's (1974) *Electoral Connection*. However, Mayhew (1974) not only recognizes out-of-district donors but suggests that they *should* receive representation – no different than voters – if members want to win reelection. Mayhew argues that members must position take and credit claim on issues of interests to “relevant political actors” to achieve reelection. He defines “relevant political actors” as “anyone who has a resource that might be used in the election in question.” He continues, “By this definition a ‘relevant political actor’ need not be a constituent; one of the most important resources, money, flows all over the country in congressional campaign years” (Mayhew 1974: 39).

constituents, however. The choices available to territorial constituents are constrained. In a general election, switching allegiances means voting for an out-partisan that might cause even greater loss of ideological representation. Primaries offer an opportunity for territorial constituents to punish disloyal representatives but only if the alternative candidates (who face the same incentives to raise out-of-district contributions) align better with their ideology.

Evidence suggests that out-of-district donors are less representative of constituents' preferences than in-district donors. Previous research shows that out-of-district donors are composed of wealthy elites (Page, Bartels, and Seawright 2013), who often live close to each other, and share similar worldviews (Bramlett, Gimpel, and Lee 2011). In addition, donors' ideological positions often diverge from the positions of non-donor co-partisans. Republican contributors are more conservative on economic issues than Republican citizens; while, Democratic contributors are more liberal on social issues than Democratic citizens (Broockman and Malhotra 2018). Out-of-district donors are typically motivated by partisan and strategic concerns (Gimpel, Lee, and Kaminski 2006). They are committed partisans whose aim is to see like-minded members elected. Out-of-district contributors have little knowledge of the people, problems, and issues facing members' territorial districts.

I expect members will be responsive to out-of-district donors because they can punish members for ideological deviations more easily than constituents can. First, donors have greater access to members than voters do (Kalla and Broockman 2016). This access encourages greater lines of communication to occur between members and donors than members and voters. Second, out-of-district donors have many options in choosing where to contribute because they operate within a marketplace of candidates who compete for contributions. Donors can easily punish members whose issue positions deviate from their own by directing contributions to a

candidate whose positions align more closely or withholding contributions altogether. Conversely, constituents' ability to punish members is limited. Constituents can vote for a challenger with better aligned positions in the primary election, but there is no guarantee such a candidate will exist. Constituents can vote for a challenger in the general election but doing so will decrease their ideological alignment, since it requires voting for the out-party's candidate. Third, compared to donors, the average constituent is not paying close enough attention to members' behavior to censure positions favoring donors over constituents (Obama 2020, 34):³² Hence, the available evidence suggests that constituents do not hold candidates accountable for their policy positions (Tausanovitch and Warshaw 2018). Fourth, donors' punishment for ideological deviations is swift and certain. Members receive clear signals of trouble from donors immediately and tangibly (in the form of a drop in campaign contributions) leaving them some opportunity to course correct.³³ Voters, in contrast, must wait until a primary or general election to hold their members accountable. Members' disloyalty must be large and visible to warrant punishment from the constituency. If members fear alienating out-of-district donors more than their territorial constituents, they will be more responsiveness to the former than the latter.

H1: Members of Congress will provide out-of-district donors with better representation than their territorial constituents.

Using Redistricting to Measure the Competing Principles Problem

³² "What everyone in Springfield understood was that 90 percent of the time the voters back home weren't paying attention" (34).

³³ *The New York Times* reported that democratic donors were frustrated with the administrations and reported that "'D.N.C.' stands for 'Do Not Contribute' — at least until the party figures out how it will be more responsive to its contributors" (Goldmacher 2021).

Every 10 years (sometimes more frequently than this), state legislatures and redistricting commissions redraw House members' districts (Carson, Engstrom, and Roberts 2006; Engstrom 2013). Typically, House members have limited influence over whether and how redistricting authorities will reallocate existing constituencies and the composition of their new district. Some incumbents see their district stay relatively intact while others contend with an entirely new geographic constituency.

Irrespective of its composition, the new constituency expects representation from their member of Congress. Theoretical models focusing on members' desire for reelection predict that members will alter their positions to align with their new constituents; members who fail to do so are likely to face a tough reelection fight (Ansolabehere, Snyder, and Stewart 2000; Boatright 2004; Mayhew 1974). By realigning their positions, members can recoup any losses in votes that redistricting inflicts.

However, empirical research suggests it is hard to realign positions even as redistricting destabilizes members' representation and fundraising strategies (Crespin and Edwards 2016; Crespin 2005; Dunham 2018). McCarty, Poole, and Rosenthal (2006) and Rosenthal and Poole (2007) find that members rarely change their ideological positions during their career. Consequently, representational ties between members and their constituencies (Yoshinaka and Murphy 2011), the incumbency advantage (i.e., personal vote) (Ansolabehere, Snyder, and Stewart 2000), name recognition (Hayes and McKee 2009) and vote share declines after redistricting (Hood and McKee 2013). Together, these various effects leave incumbents more vulnerable to losing reelection (Ansolabehere and Snyder 2012; Friedman and Holden 2009). Rebuilding relationships and electoral support inside a new district takes time, energy, and

resources. Some members chose to retire rather than pursue this uphill fight (Fenno 1978). If members want to survive redistricting, they need to raise money quickly and efficiently.

Members could rely on in-district donors but fundraising inside the new district is both challenging and inefficient. Members have less experience fundraising in the new district and building relationships with unfamiliar donors is arduous (Fenno 1978). Alternatively, members could increase their reliance on out-of-district donors. Donors outside the district are reliable, accessible, and well financed. Members may have raised money from them in the past and already built trust with these donors. Knowing redistricting makes them electorally vulnerable (Ansolabehere and Snyder 2012), members lean on steadfast monetary relationships to win in their new districts. Since out-of-district donors are not bound by geography, they should be more likely to maintain their financial relationship with members, irrespective of redistricting, so long as members continue to faithfully represent their ideological interests.

H2: The more redistricting displaces members' existing in-district donors; the more contributions members will receive from outside their congressional district.

Relying on out-of-district donations after redistricting exacerbates the competing principals problem. More so than under normal circumstances, redistricting opens the flood gate to out-of-district contributions (Crespin and Edwards 2016), which can steer members' positions away from their territorial constituency and toward out-of-district donors. Money begets greater interaction, access, and facilitates the exchange of information between donors and members, which can skew representation in out-of-district donors' favor (R. L. Hall and Deardorff 2006; R. L. Hall and Wayman 1990; Kalla and Broockman 2016). This distortion should be greatest among members with the largest changes to their constituency after redistricting. The greater the change, the more vulnerable a member becomes, and the more out-of-district money they will

need to win. Of course, concerns about distortion are alleviated when constituents in the new district align better ideologically with members' out-of-district donors than did their previous constituents. In this case, movement towards out-of-district donors improves the quality of representation for members' new constituency. Thus, whether and by how much members' position-taking strays from the territorial constituency will depend on the difference between constituents' and donors' policy views – that is, the severity of the competing principals problem.

H3: The more redistricting displaces members' existing in-district donors; the closer members will align ideologically with their out-of-district contributors, leading to greater agency loss for constituents.

H4: The more redistricting displaces members' existing in-district donors; the more responsive members will be to their out-of-district contributors relative to their territorial constituency, leading to greater agency loss for constituents.

Methodology

To examine the landscape and consequences of contributions to congressional candidates, I use contribution data and ideological measures from the Database on Ideology, Money in Politics, and Elections (DIME) (Bonica 2014). The DIME dataset includes itemized contributions from donors to members of the U.S. House from 1980 to 2016. Using the itemized contributions, I group donors into four categories: individuals, unions, corporations, and political action committees. I also use donors' geo-locations to identify their location relative to the recipient's district: *in-district* versus *out-of-district*; and, separately, *in-district, in state-out of the district*, *out-of-state*, and *Washington D.C.* donors.

I aggregate 9.9 million itemized contributions across U.S. House members and election years to create two outcome variables: (1) the percent of total contributions from donors' various locations and (2) the mean CFscore for each group of donors. I use the percentage of total contributions from outside the district because this percentage represents how much of a members' total war chest is built on out-of-district donors and implicitly measures the share of in-district contributions.³⁴ I use CFscores to measure members' and donors' ideology (Bonica 2014). I also use the recovered CFscore estimates of the primary and general electorate from Chapter 2. CFscores have been used in numerous empirical studies.³⁵ They are useful to this analysis because they can estimate the ideological location of members, voters, and donors on the same scale.

My unit of analysis is U.S. House incumbents and their election year from 1980 to 2016. For example, in 2012 *Representative John Garamendi* (D-CA03) raised 94.63 percent of his total contributions from *out-of-district donors*; these donors have a mean CFscore of -0.7746. I merge this contribution data with descriptive information about each member (e.g., party affiliation, gender) and congressional district (e.g., U.S. Census information and vote share). I use this expansive dataset to test my hypotheses about how redistricting influences the sources of members' contributions and the relationship between donors' locations (in-district versus out-of-district) and members' ideological positions.

³⁴ I use the percentage of total contributions originating outside the district, instead of the raw number of contributions, because percentages provide meaningful relative comparisons, normalizes the contribution measure, and accounts for in-district contributions.

³⁵ Scholars use CFscores to infer the ideological locations of politicians and their donors (Bonica 2014), physicians (Bonica, Rosenthal, and Rothman 2014), politically appointed bureaucrats (Bonica, Jowei, and Tim 2015), lawyers (Bonica, Chilton, and Sen 2016), law clerks (Bonica et al. 2016), state supreme court justices (Bonica and Woodruff 2015), Supreme Court law clerks (Bonica et al. 2017), Forbes 400 wealthiest individuals (Bonica and Rosenthal 2015), and corporate executives (Bonica 2016).

Using Redistricting to Disentangle Contributions & Position Taking Relationships

Empirically, the relationship between donors' and House members' ideological positions is endogenous. Donors contribute to likeminded members and members continue to solicit their contributions over the course of their career. This ongoing relationship makes it difficult to determine whether donors are *influencing* members' behavior or donors are *rewarding* members who already agree with them. Any analysis measuring donors' influence on members' behavior must wrestle with this issue of temporal precedence.

To address this methodological challenge, I leverage redistricting as an identification strategy (Crespin and Edwards 2016; Crespin 2005). Redistricting is useful for identifying the causal effects of donors' contributions because it reshuffles House members, donors, and territorial constituents. This reshuffling breaks the electoral bonds, contacts, and relationships that members cultivated in their existing districts. Thus, redistricting is akin to an exogenous shock to members' representational and fundraising strategies. In addition, since state legislators and commissions redraw the lines, members have little ability to control which donors will reside in their new district and donors have no control over which representative's district they ultimately land in. Redistricting reduces reverse causation concerns and provides an opportunity to examine members' and donors' behaviors as they adjust their campaign finance strategy after redistricting events.

This exogenous shock is akin to a drug treatment regimen, where redistricting treats members at varying dosage levels: Redistricting causes an as-if random subtraction of x percent of donors from members' territorial district. Instead of a binary treatment variable indicating whether a member's district was redistricted (yes/no), my main explanatory variable provides a continuous measure of change in the donor constituency. This as-if random subtraction moves

the “target” of members’ fundraising and position-taking activities. For example, to adjust for the introduction of new constituents and the retention of out-of-district donors, members’ ideological positions need to respond to district changes, but an over or under response putting them out-of-step with either their territorial constituency or out-of-district donors jeopardizes their reelection.

I leverage redistricting as an identification strategy by measuring the percentage of in-party donors removed from each member’s congressional district after redistricting--the *partisan donors lost score*.³⁶ I use a similar procedure as Crespin (2005) to create my measure. However, while Crespin (2005) quantifies the extent to which the same *citizens* continue residing in a district after redistricting; my measure is distinct in its focus on *donors*. It improves upon Crespin's (2005) measure, which does not account for partisanship, donor status, or supporter status.

Calculating Partisan Donors Lost Score

I measure district change using the percentage of partisan donors members lose after redistricting. I begin by geocoding donors’ congressional district before and after redistricting. Next, I create a cross table of donor counts per district before and after redistricting. The output of interest is the value representing the number of donors residing in incumbents’ district both before and after redistricting, the *intersection*. I divide the intersection by the total population of donors in members’ old district; the output creating a *continuity score*.³⁷ Finally, I subtract the continuity score from 100 to create my independent variable, the *partisan donors lost score*. In essence, the *partisan donors lost score* measures the percentage of partisan donors from members’ old congressional district that are left out of or excluded from the new district.

³⁶ This score includes donors who give to one-party’s candidates. It excludes out-party donors and multi-party donors.

³⁷ This number represents the percentage of old donors members carry-over into their new district.

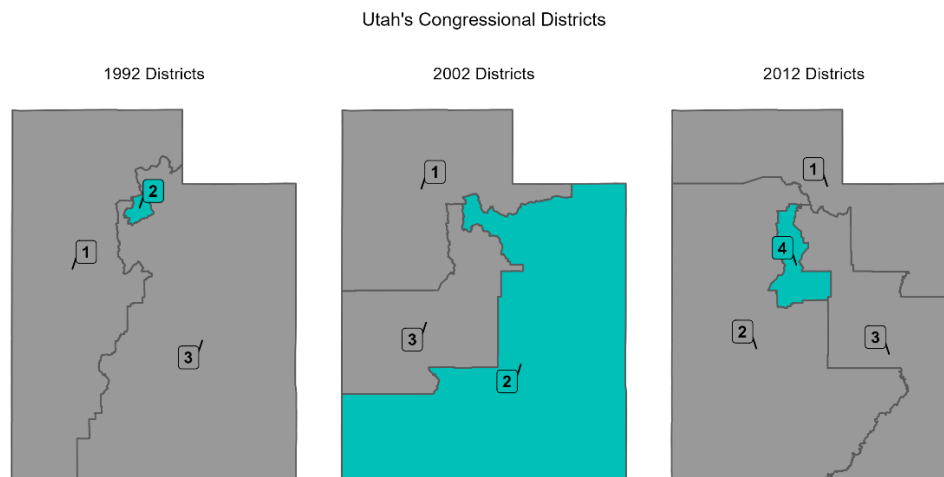
My measure is “partisan” because I exclude contributors to both political parties and to incumbents’ out-party challengers.³⁸ The donors I include in my measure contribute to either the member or a candidate with the same party affiliation as the member. I argue this method yields strong validity because partisan donors are the foundation of a member’s fundraising strategy. They are members’ most critical allies and the ardent supporters, without whom members’ campaigns can easily flounder. Indeed, the financial resources and enthusiasm members receive from this group helps explain why members are tempted to tailor their position-taking to their liking. Practically speaking, the *partisan donors lost score* measures the extent to which redistricting exiles members’ most ardent partisan contributors.³⁹

I illustrate the steps of creating the *partisan donors lost score* by using Utah’s congressional maps as an example. Figure shows Utah’s congressional districts across the 1990, 2000 and 2010 redistricting cycles. This example focuses on Representative Jim Matheson (D), who served in Utah’s 2nd (2001-2013) and 4th Congressional District (2013-2015). After his election in 2000, a Republican-controlled state legislature redistricted Representative Matheson’s 2nd Congressional District. The 2nd Congressional District, which was confined to the Salt Lake City metropolitan area in the 1990s (Figure 3.1, Panel 1), was expanded to include a larger segment of rural Utah (Figure 3.1, Panel 2), putting the Democrat’s chances for reelection at greater risk.

³⁸ Members should be less responsive out-party donors. Losing out-party donors after redistricting is a blessing for members, not a curse, since out-party donors’ support is not necessary for reelection.

³⁹ Appendix Table 3.9A, 3.10A and Figure 3.3A includes estimates using the *partisan donors lost score* accounting for all donors. It reports statistically significant results but a lower effect size relative to the main-text model. Implying that members mainly respond to losing in-party donors, not all donors.

Figure 3.1: Utah's Congressional Districts Between 1992-2012



Note: Representative Matheson's congressional districts are highlighted in blue.

To calculate Representative Matheson's *partisan donors lost score* for the 2002 redistricting cycle, I use donors from the 1992 to 2000 election cycles.⁴⁰ I geocode each donor's congressional district using the boundaries from the 1992 redistricting cycle and the 2002 redistricting cycle.⁴¹ Next, I examine the joint distribution of donors' locations across congressional districts in both redistricting cycles (Table 3.1). Table 3.1 shows fractures in donors' locations across congressional districts because congressional boundaries in the 1992 and 2002 redistricting cycles are different. It reports that 1,344 donors in 1992's 2nd Congressional District also reside in 2002's 2nd Congressional District boundary. I call these values the *intersection*.⁴²

⁴⁰ I count duplicate donors once per district and election cycle, I include all donor types (i.e., individual, corporate, committee, and unions), and I count only the donors matching the incumbents' in-party, irrespective of whether that donor contributed to the incumbent.

Table 3.1: Joint Distribution of Utah’s 1992 Congressional Districts into the 2002

		<i>2002 Congressional Districts</i>		
		1	2	3
1992 Congressional Districts	1	211	13	0
	2	192	1344	15
	3	98	30	117

Note: Numbers represent raw counts

I create my measure of *continuity* by taking the *intersection*, as given by 2002 congressional districts, dividing it by *the total population of donors* in the corresponding 1992-2000 districts (Table 3.2, Column 1), and multiplying it by 100 to make it a percentage.⁴³ *Continuity* measures the percentage of old donors members carry over into their new district (Crespin 2005). Table 3.3 reports Utah’s *partisan donors continuity scores* between the 1992 and 2002 redistricting cycles. Specifically, it reports Representative Matheson’s *partisan donors continuity score* for the 2002 redistricting cycle.

Table 3.2: Distribution of Donor Population Across Utah’s Congressional Districts between 1992 and 2002

Congressional District	<i>Distribution of Donor Population</i>	
	1992	2002
1	224	501
2	1551	1387
3	245	132
Total	2020	2020

Note: Numbers represent raw counts

⁴³ Specifically, I take the intersection, as given by 2002 districts, and divide it by the by total population of donors in incumbents’ 2002 districts and multiply by 100.

Table 3.3: Partisan Donor *Continuity* of Utah’s 1992 congressional districts into the 2002

		<i>2002 Congressional Districts</i>			
		1	2	3	Total
1992	1	94.20	5.80	0	100
Congressional	2	12.38	86.65	0.97	100
Districts	3	40.00	12.24	47.76	100

Note: Numbers represent percentages

Since Representative Matheson continued to represent Utah’s 2nd Congressional District after redistricting, the table reports a *partisan donors continuity score* of 86.65%. Meaning, 86.65% of in-party donors from Utah’s 2nd Congressional District in the 1992 redistricting cycle also reside in Utah’s 2nd Congressional District in the 2002 redistricting cycle.⁴⁴

Since the *partisan donors continuity score* is a percentage, I subtract it by 100 to interpret the variable as a *partisan donors lost score*, or *the percentage of donors exiled after redistricting*. When I subtract continuity by 100, I find that Representative Matheson loses (100 - 86.65) 13.35 percent of his in-party donors after the state legislature redistricted the 2nd Congressional District in 2002. Using the *partisan donors lost score* makes the interpretation of the analysis consistent with theoretical expectations: the more donors members lose, the more they rely on out-of-district contributions and ideologically position themselves closer to their out-of-district donors.⁴⁵

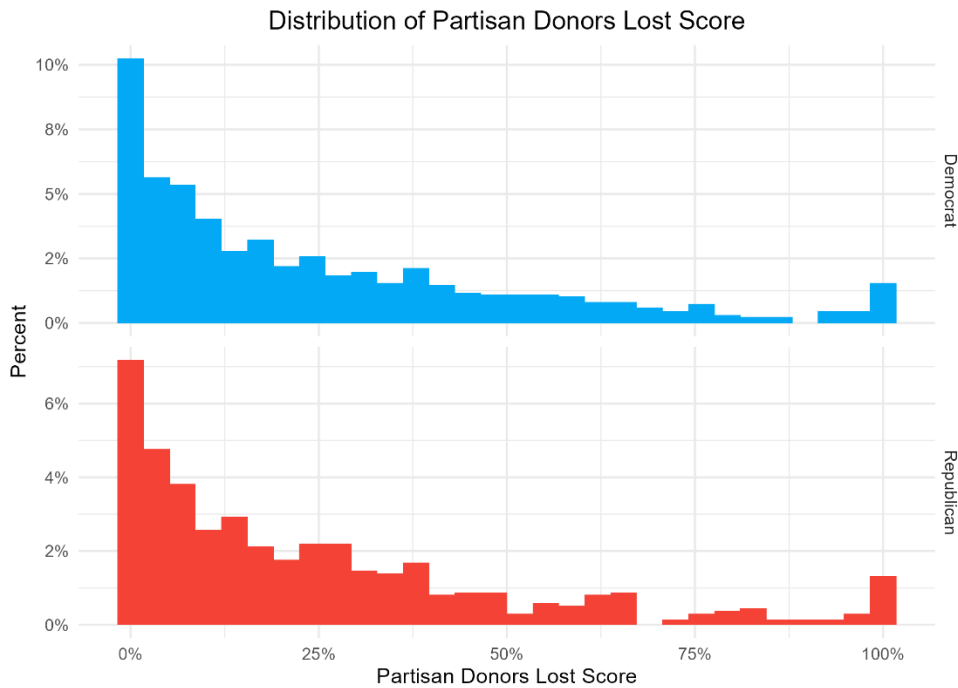
⁴⁴ Appendix Figure 3.1A validates the *partisan donors lost score* using Crespin’s (2005) measure. I find a strong relationship between the two measures.

⁴⁵ Representative Matheson’s decision to run for reelection in the 2012 redistricting cycle (RC), illustrates why I measure continuity across incumbents, not districts. In 2010, Utah was granted an additional seat. In 2011, Representative Matheson ran for Congress in Utah’s newly created 4th District, leaving the 2nd District vacant. If I calculate continuity across districts, then I would measure changes in donors between Utah’s 2nd District between the 2002 and 2012 RC. This approach is inappropriate. I want to hold the incumbent constant, not the district. Instead, my procedure follows Matheson by examining continuity from the 2nd District in 2002 RC and the 4th District in 2012 RC.

Distribution of The Percentage of Donors Members Lose After Redistricting

The empirical distribution of the *partisan donors lost score* suggests most members face modest, but meaningful upheaval. Figure 3.2 plots the distribution of the *partisan donors lost score* for both Democratic and Republican members of Congress. The figure reports a right skewed distribution for both Democrats and Republicans. 50 percent of incumbents experience a less than 16 percent loss to their in-district donor constituency; the other 50 percent experience a more than 16 percent loss. Among Democrats and Republicans, the mean *partisan donors lost score* is 25 percent (SD = 26) for both parties.⁴⁶ About 90 percent of the distribution is bounded between 0 and 64 (0 and 63) percent for Democratic (Republican) incumbents.⁴⁷

Figure 3.2: Distribution of The Partisan Donors Lost Score



⁴⁶ The median is 0.16 for Democrats and Republicans.

⁴⁷ At-large districts have a *partisan donors lost score* of 0.

Redistricting Analyses

I use the *partisan donors lost score* as the key independent variable in the proceeding analysis to examine how losing in-district partisan donors affect members' total contributions and ideological alignment with out-of-district donors.⁴⁸

My analyses include all House incumbents who ran for reelection following redistricting events between 1980 and 2016.⁴⁹ By using incumbents, I hold the member constant across redistricting cycles and control for any within member confounders that changing House members between redistricting cycles introduces.

I analyze members' position-taking behavior in the first Congress following a redistricting event for two reasons. First, member attrition in later Congresses introduces unmeasurable bias into the estimates because there may be something systematic about incumbents that lose or resign, compared to incumbents that continue to win. Second, the strength of losing donors as a treatment likely weakens the longer members represent their new district and form new relationships with in-district donors. Therefore, if distortion exists, it should be most conspicuous in the cycle immediately following redistricting.

To test my first hypothesis, losing donors after redistricting increases reliance on out-of-district contributions, I examine members' fundraising across four redistricting cycles between

⁴⁸ My measure deviates from Crespin and Edwards (2016) and Crespin (2005). They use the percentage of new donors in a members' district (*% New*). Instead, I use the *partisan donors lost score* because it is exogenous from incumbents' efforts to recruit donors in their new district after redistricting. I argue that members have more control over recruiting donors (*% New*) in their new district and less control over losing in-party donors. Therefore, my measure should provide better leverage for causal identification.

⁴⁹ My sample includes incumbents who win office before redistricting and run for reelection after redistricting. Appendix Tables 3.11A-3.13A reports whether the *partisan donors lost score* predicts member's decision to run for reelection. I find that retirements are correlated with the *partisan donors lost score*, suggesting that my analyses understate the effects of redistricting on outside money and representation.

1982 to 2016. My dependent variable is the proportion of campaign contributions members receive from outside their district, *% Outside Donations*. I calculate this variable by summing contributions members receive from outside their district and dividing it by the total number of contributions they receive.

To analyze members' contributions, I estimate the following ordinary least squares regression (OLS) model:

$$\% \textit{ Outside Donations} = \alpha + \beta_1(\textit{Partisan Donors Lost Score}) + \beta_k(X_k) + \sigma_d + t + \varepsilon$$

The coefficient β_1 captures the effects of the *Partisan Donors Lost Score*. I report the effects of the *partisan donor lost score* on my outcome measure as a standard deviation change in the percentage of partisan donors lost after redistricting. I also include several additional predictors, X_k . I control for members' *party* and *the absolute difference in ideology* between members and their donors.⁵⁰ I include U.S. Census data on each district's *median income*, the *percent of households with incomes over two-hundred thousand dollars*, and *unemployment rate*.⁵¹ I control for *gender* differences and chamber characteristics, such as whether the member is in the *majority* or *minority party leadership*, a *committee chair*, serving on the *Appropriations, Rules, or Ways and Means Committee*, a *majority party member* and their *seniority* (measured in years served).⁵² Finally, I report the results of the district (σ_d) and cycle (t) fixed effects model.⁵³

⁵⁰ I control for party since Democrats and Republicans have unique fundraising strategies. I control for the absolute difference in ideology because the greater the policy differences between members and donors, the less likely donors should be to contribute.

⁵¹ These variables control for the economic climate inside members' district.

⁵² Chamber characteristics control for how influential a member is in the legislative process. Out-of-district donors target influential members to achieve policy goal.

⁵³ Appendix Table 3.1A reports additional model specifications illustrating that results are not model dependent. I include a base, control and a lagged dependent variable model.

To test my second hypothesis, I examine whether in-district donors experience agency loss after redistricting. I expect that as members lose their partisan in-district donors, they will become more ideologically responsive to their out-of-district donors. To measure members' and donors' ideology, I use CFscores from the DIME dataset.

While CFscores are not a direct behavioral measure of position-taking in the way traditional measures like DW-NOMINATE scores are (i.e., because they are inferred from contributions by others), they are a valid and reliable estimate of legislators' and others' ideological positions. Previous studies find robust agreement between CFscores and DW-NOMINATE. For example, Bonica (2014, 5) finds that the correlation between CFscores and DW-NOMINATE is equal to 0.92. Additionally, CFscores do about as well as DW-NOMINATE at classifying correct voting behavior among representatives and senators in Congress (Bonica 2014). CFscores also provide a highly predictive estimate of non-incumbents' roll call scores before entering higher office (Bonica 2018). While I cannot use DW-NOMINATE scores to measure the ideological location of donors, the evidence suggests CFscores are a valid substitute for assessing representation between members and their donors.

I use a proximity rule to measure ideological alignment between members, out-of-district donors, and constituents (Stone 2017). The proximity rule simultaneously compares members' ideological position with their average in-district and out-of-district donor's ideological locations, thereby, incorporating all three ideal points into the dependent variable. The output indicates which donor group, in or out-of-district, a member is ideologically closest to. I define the proximity rule, *donor proximity advantage*, using the equation:

$$\text{Donor Proximity Advantage: } |M_{ij} - \bar{D}_{sj}| - |M_{ij} - \bar{D}_{\text{out-of-District}j}|$$

I measure members' ideology by using their Congress-specific CFscore (M_{ij}).⁵⁴ \bar{D}_{sj} represents principals' ideology. I create a proximity advantage measure for each principal. This process creates three measures that captures incumbents' proximity advantage between general election, primary, and in-district donor principals, relative to out-of-district donors. I measure in-district and out-of-district donors' ideology by aggregating their CFscores and taking the group mean (\bar{D}). I use estimates based on Kujala's (2020) to measure the general election and primary electorates' ideology. Positive (negative) values of *proximity advantage* indicate that the members' ideology aligns better with their out-of-district donors (general election, primary, or in-district donor constituency).

To analyze members' alignment with principals, I estimate the following ordinary least squares regression model:

$$\begin{aligned} \text{Proximity Advantage} = & \alpha + \beta_1 (\text{Partisan Donors Lost Score}) + \beta_i (X_i) \\ & + \beta_i (\text{Lagged Partisan Donors Lost Score}) + \varepsilon \end{aligned}$$

The coefficient β_1 captures the effects of the *partisan donors lost score*. If β_1 is positive (negative) and significant, it suggests that the more partisan donors are displaced the more ideologically proximate members become to their out-of-district (in-district) donors. As in the previous model, X_i is a vector of control variables in the model. I control for the *proportion of total campaign contributions* members receive from out-of-district contributors and members' *party*. Lastly, I include a lagged dependent variable term in the model⁵⁵

⁵⁴ Congress-specific refers to members' unique CFscore in each election cycle.

⁵⁵ Appendix Table 3.2A – 3.4A report additional model specifications illustrating that results are not model dependent. I include a base, control and a lagged dependent variable model.

Finally, I built a responsiveness model that puts the various principals' ideology into the same model and reveals which principal incumbents represent most. I input each principal's ideology iteratively into the model to track how incumbents' responsiveness to the principal's ideology change with the inclusion of each theoretically relevant ideology measure.

To analyze incumbents' responsiveness to principals, I estimate the following ordinary least squares regression model:

$$\text{Incumbent's CFscore}_j = \alpha + \beta_i(\text{Principal's Ideology}_{s_j}) + \varepsilon$$

Following the formula Achen (1978) offers, *Incumbent's CFscore_j* represents the incumbents' ideology in district j, while the intercept, α , denotes representatives' ideology when constituents' ideology (and all control variables) is zero. $\beta_i(\text{Principal's Ideology}_{s_j})$ represents the iterative process of adding principal's ideology into the regression model. The iterative process is as follows: general election constituency, primary election constituency, in-district donors, and out-of-district donors. The iterative process is important to highlighting how principals' ideology, particularly those of the voting constituency, changes as I include donors (both in and out-of-district) donors into the same model. The following regression formula illustrates the final model that includes all principals' ideology in the regression model.

$$\begin{aligned} \text{Incumbent's CFscore}_j = & \alpha + \beta_1(\text{General Election Constituency's CFscore}_j) \\ & + \beta_2(\text{Primary Election Constituency's CFscore}_j) \\ & + \beta_3(\text{In District Donors' CFscore}_j) \\ & + \beta_4(\text{Out of District Donors' CFscore}_j) + \varepsilon \end{aligned}$$

A representative is fully responsive to their constituents when the β_1 coefficient perfectly predicts representatives' ideology. As Achen (1978) describes when representatives' and constituents' ideology is on a 0 and 1 scale, then β_1 should equal 1.

Results

I find that House members' fundraising behavior between 1980 and 2016 suggests that out-of-district donors comprise a large proportion of campaign contributions. Differences between the ideological positions of members' territorial constituents and out-of-district donors are significant and growing over time. My statistical analyses of House members' fundraising and position-taking activity following redistricting support my predictions. The more redistricting displaces members' partisan donors, the more they rely on out-of-district contributions to fund their campaigns. Members also appear to tailor positions to out-of-district donors following redistricting, resulting in significant agency loss for territorial constituents.

Redistricting Enhances Out-of-District Contributions

I find support for my hypothesis that redistricting-induced donor displacement increases members' out-of-district contributions. Table 3.4 reports the OLS coefficients from regressing the percentage of out-of-district contributions on the standardized *partisan donors lost score* and control variables. For every standard deviation increase in the percentage of donors lost after redistricting, members' out-of-district contributions increase by 2.6 percent. As the partisan donors lost score changes from 0 to 20 percent (covering 54 percent of the data), members see a 2 percent increase in out-of-district contributions. Larger changes from 0 to 60 percent (covering 90 percent of the data) leads a 6 percent increase in the percentage of out-of-district contributions.

Table 3.4: Out-District Amount Percentage Model

	Dependent Variable:	
	% Out-District Donations	
Donors Lost Percentage	2.619***	(0.373)
Absolute Difference in Ideology	-1.233	(2.848)
Members' Party: Republican	-4.151***	(1.052)
Standardized Median Income	2.251	(1.652)
Percent of Household over 200K	-0.985***	(0.308)
Unemployment Percent	0.405	(0.284)
Competitive District: Yes	1.321	(1.067)
Female	1.667	(1.270)
Majority Party Leadership	5.473**	(2.437)
Minority Party Leadership	4.251*	(2.282)
High Value Committee Position	1.013	(0.872)
Majority Party Member	-2.292***	(0.736)
Committee Chair	4.430***	(1.550)
Seniority	0.495***	(0.093)
Constant	85.856***	(5.589)
District and Cycle Fixed Effects	YES	
Observations	1,314	
Adjusted R ²	0.347	
Residual Std. Error	9.677 (df = 832)	

Note:

*p<0.1; **p<0.05; ***p<0.01

See Table 1A for additional model specifications.

Estimates are from the first cycle following redistricting.

Interpret *Partisan Donors Lost Score* as a standard deviation change.

High Value Committee Position means the member is on Appropriation, Rules, or Ways and Means.

Redistricting Enhances Members' Ideological Proximity to Out-of-District Donors

I find support for my hypothesis that losing partisan donors increases ideological alignment between members and out-of-district donors.

Table 3.5 regresses the *proximity advantage* (i.e., the relative proximity of members to their out-of-district donors relative to each competing principal) on the standardized percentage of donors removed after redistricting and control variables. It reports the effect size of a standard deviation change in the partisan donor lost score on incumbents' ideological movement relative

to each competing principal. The analysis finds a positive and significant ($p < 0.05$) relationship between the percentage of old donors dismissed and ideological movement towards out-of-district donors. The effect holds when I compare incumbents' positions to the general election constituency, primary election constituency, and in-district donors. Together, these results imply that the more donors are placed outside members' congressional district after redistricting, the more incumbents move away from the general election, primary, and in-district donors constituency and towards out-of-district contributors.

Table 3.5: Regression Results for the Proximity Advantage Across Competing Principals

	Dependent Variable:		
	General Constituency (1)	Primary Constituency (2)	In-District Constituency (3)
Partisan Donors Lost Score	0.014*** (0.004)	0.005* (0.003)	0.015*** (0.004)
Members' Party: Republican	0.033*** (0.007)	-0.029*** (0.006)	-0.138*** (0.011)
% Out-District Donations	-0.010** (0.004)	-0.002 (0.003)	0.010** (0.004)
Lagged Proximity Rule	0.189*** (0.004)	0.267*** (0.003)	0.100*** (0.005)
Constant	0.234*** (0.005)	0.030*** (0.004)	-0.017*** (0.006)
Observations	1,339	1,339	1,308
Adjusted R2	0.681	0.888	0.529
Residual Std. Error	0.132	0.097	0.147

Note:

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Positive (negative) values indicate movement towards out-of-district donors (listed stimuli).

The magnitude of the shift towards out-of-district donors is small. Nonetheless, the shift is detectable. Several considerations belie these concerns about a small effect size. First, I am able to detect this shift using the population of incumbents who endured through redistricting, not a subsample. Second, previous studies emphasize that “members die with their ideological bootstraps on” (Poole 2007, 200). As Poole (2007) notes members ideological positions do not

change. Therefore, finding any movement, no matter how small is a meaningful finding. Finally, while the effect size is small, this is largely due to the narrow scale of proximity rule. For example, a 0.015 unit change in general elections' proximity rule represents a 1 percent shift closer to out-of-district donors, when accounting for the proximity rule's full range. Therefore, a standard deviation change in the partisan donors lost score moves incumbent's positions a non-trivial distance.

These results suggest that removing partisan donors from the district increases members' alignment with their out-of-district donors, thereby contributing to agency loss for members' territorial constituents. Because proximity is zero-sum, members' movement toward out-of-district donors means movement away from their other constituencies. As members moves away from constituents, for example, ideological representation of their territorial constituency suffers.

These results extend research on how donations from outside members' districts affect legislative behavior. I show that members' ideology is not exclusively (or even primarily) responsive to in-district donors' opinions, contrary to what classic studies of the U.S. Congress predict (Erikson 1978; Fenno 1978). Instead, this evidence supports monetary surrogacy, which theorizes that members cater to out-of-district donors at territorial constituents' expense (Mansbridge 2003).

Redistricting Enhances Members' Responsiveness to Out-of-District Donors

I find support for the hypothesis that losing partisan donors increases members' responsiveness to their out-of-district donors to a greater extent than their voting constituency.

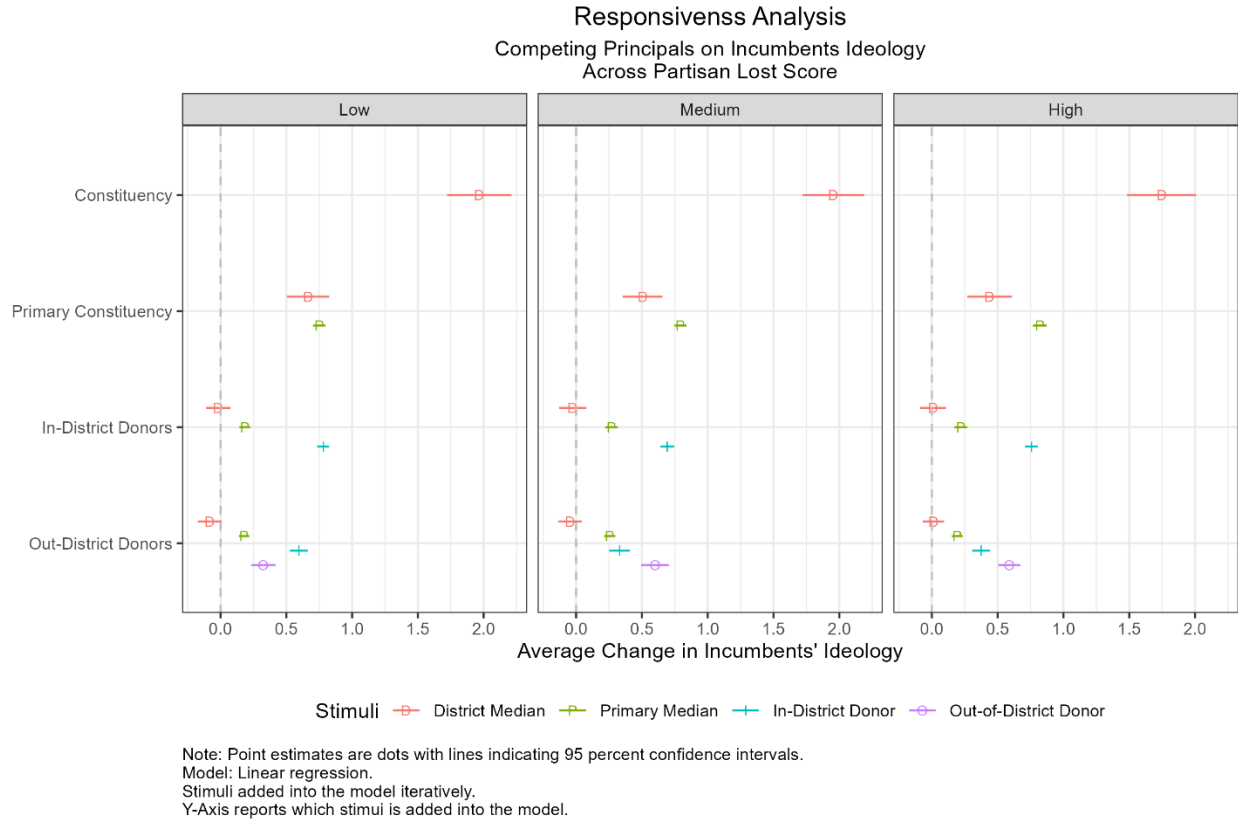
I begin by separating the partisan donors lost score into three equally sized bins representing the number of donors removed from incumbents' district: i.e., low, medium, and

high.⁵⁶ Then, I regress incumbents' ideology onto the principals' ideology, iteratively. I start with a simple model that includes the incumbents' ideology and the general election constituency's ideology and end with a complex model that includes the primary, in-district donors, and out-of-district donors. I present the results in this way to illustrate how the magnitude of the responsiveness term changes for the voting constituency as I introduce donors, especially out-of-district donors, into the equation and simultaneously explore who members are responsive to when redistricting alters their district.

The responsive analysis in Figure 3.3 reports several key takeaways about incumbents' representational behavior. First, incumbents' responsiveness to their general election constituency declines with the introduction of competing principals' ideology into the model. Across each level of the partisan donors lost score, incumbents' responsiveness to their general election constituency is positive and significant in the bivariate model. However, incumbents' responsiveness to their general election constituency quickly reduces to insignificant levels as I introduce other principals' ideology into the model. These results are consistent with previous literature that reports that members are not responsive to the median voter.

⁵⁶ I determine the bins for low-high by sorting an equal number of cases into each bin. The thresholds for low, medium and high are (0 – 7.25%), (7.26% – 28.6%), (28.7% - 100%), respectively.

Figure 3.3: Responsiveness Analysis



Second, members are most responsive to their in-district donors over all other principals at low levels of the partisan donor lost score. In the model that includes all principals' ideology, incumbents' responsiveness to in-district donors is positive and significant (0.60), out-pacing the magnitude of all other competing principals' coefficients.

Finally, members are most responsive to their out-of-district donors at medium and high levels of the partisan donor lost score. For every one-unit increase in out-of-district donors' ideology, incumbents' ideology moves 0.60 and 0.59 units in the same ideological direction, respectively. Compared to low levels of the partisan donor lost score, incumbents' responsiveness to out-of-district donors increases by 0.27 units at medium levels. At high levels of the partisan donor lost score, incumbents are more responsive to out-of-district donors than

their voting constituency by 0.21 (in-district), 0.40 (primary), and 0.58 (general) units. This shift in responsiveness from in-district donors to out-of-district donors is important in illustrating the effect of changes in incumbents' district has on whom they decide to represent.

Together these results suggest that members are not especially responsive to their general election constituency and that redistricting may lead to greater responsiveness between members and their out-of-district donors.

Conclusion

Many scholars, practitioners, and ordinary citizens agree that the influence of money in politics is perfidious. Citizens suspect that money from well-heeled donors drown out their voices. Congressmembers believe that raising money consumes too much time. While scholars argue that fundraising activity undermines representation and distracts members from legislative work. Thanks to the Supreme Court, technology, and campaign strategies, money in politics increases every election cycle. Perhaps more problematic, out-of-district fundraising already outpaces in-district contributions, raising concerns about the efficacy of territorial representation.

Furthermore, empirical scholarship is uncertain about whether the influence of money in politics warrants concern, especially with respect to out-of-district contributions. I find that losing donors after redistricting increases out-of-district funding and enhances ideological alignment between members and their out-of-district donors. Given the significant gaps between in- and out-of-district donors' ideological positions, such alignment frequently occurs at constituents' expense. These findings suggest that out-of-district donors receive representation in the form of position taking by grateful congressmembers. Such behavior might result in agency loss for constituents, as contributions from the donor constituency pull members into different ideological orbits.

My results offer lessons for scholars and practitioners interested in the influence of money in politics. For scholars, I build on Crespin's (2005) measure of constituency displacement by creating a novel measure capturing the percentage of donors removed from members' old district. Further, I demonstrate that redistricting, via the *partisan donors lost score*, is useful for identifying causal effects of campaign contributions since it represents an exogenous shock to members' donor constituency, reshuffling members' allied donors. Finally, I find evidence suggesting that money may distort representation, contrary to some previous scholarship.

Members' proximity to out-of-district donors over constituents raises normative implications for representation. Contrary to some classic studies predicting a strong electoral connection (Fenno 1978; Erikson 1978; Ansolabahere et al. 2012), my results suggest that contributions may bias outcomes towards contributors at the average American's expense (Bartels 2018; Gilens 2012; Schattschneider 1960). Future research should investigate the pervasiveness of such bias on other legislative behaviors. Scholars can also leverage redistricting at other levels of government to investigate similar questions. Campaign contributions may lead members to leapfrog constituents and cater to contributors who are more ideologically extreme than the median voter (Bafumi and Herron 2010).

Despite the rigorous analysis in this study, limits exist. First, members who position themselves closer to donors may have other strategic reasons for their position-taking activity beyond monetary benefits, which this study cannot fully unearth. Members, donors, and voters are strategic actors, and one study alone cannot confirm their motivations unilaterally. Second, this study cannot confirm the ideological direction out-of-district donors pull members towards. In certain cases, I find that out-of-district donors' ideology is more moderate than members'

ideology. If members are drawn to out-of-district donors, as my analysis finds, then this may suggest that out-of-district donors moderate members' ideology and reduce ideological extremism in Congress. If scholars find evidence in favor of this claim, then it may also suggest that out-of-district donors enhance representation between members and the district's median voter. Future research should use the ideological measures in this dissertation to examine this directionally, as the findings may provide useful insight into the drivers or moderators of elite polarization. Finally, scholars may suggest that out-of-district donors are attracted to a district because of the voters who live there, and it is voters' continued support for these members that encourages out-of-district donors to gain influence with these members. This potential explanation may confound this dissertation's argument that out-of-district donors behave exclusively as exogenous actors. Scholars should investigate these claims more thoroughly in future research.

Despite these limitations, these results underscore the need for practitioners to take campaign finance reform seriously. As money in politics increases, the *competing principals problem* is likely to become more frequent and acute. The last major effort by Congress to revamp campaign finance was 20 years ago. Since then, the Supreme Court has rolled back regulations, making it easier to inject money into the political system, especially out-of-district contributions. Federal regulations prohibit non-residents from voting but allow non-resident political donations. Further, they outlaw contributions from foreign nationals yet allow contributions from individuals in congressional districts thousands of miles away. As Gimpel, Lee, and Pearson-Merkowitz (2008) note, state legislatures and citizens in Alaska, Vermont, and Oregon have passed reforms limiting contributions from non-residents. However, these laws,

along with others (including matching funds), face an uphill legal battle as the Supreme Court continues to affirm that contributions are protected speech.

Finally, this study should prompt a rethinking of conventional wisdom about how members interact with constituents. While previous research presumes that reelection-minded members are responsive to territorial constituents (Fenno 1978; Erikson 1978), the rising costs of modern political campaigns require well-financed donors who live outside the district. This study illustrates the conditions that may lead donors to receive representation at territorial constituents' expense. It argues that the *competing principals problem* frames how members represent constituents and rearranges the relative importance of in and out-of-district constituencies. Members' field of vision is no longer constrained to their territorial constituency; it encompasses donors across the nation.

Supplementary Materials

“Competing Principals: The Increasing Prominence
of Out-of-District Contributors and their Effects on
Representation in Congress”

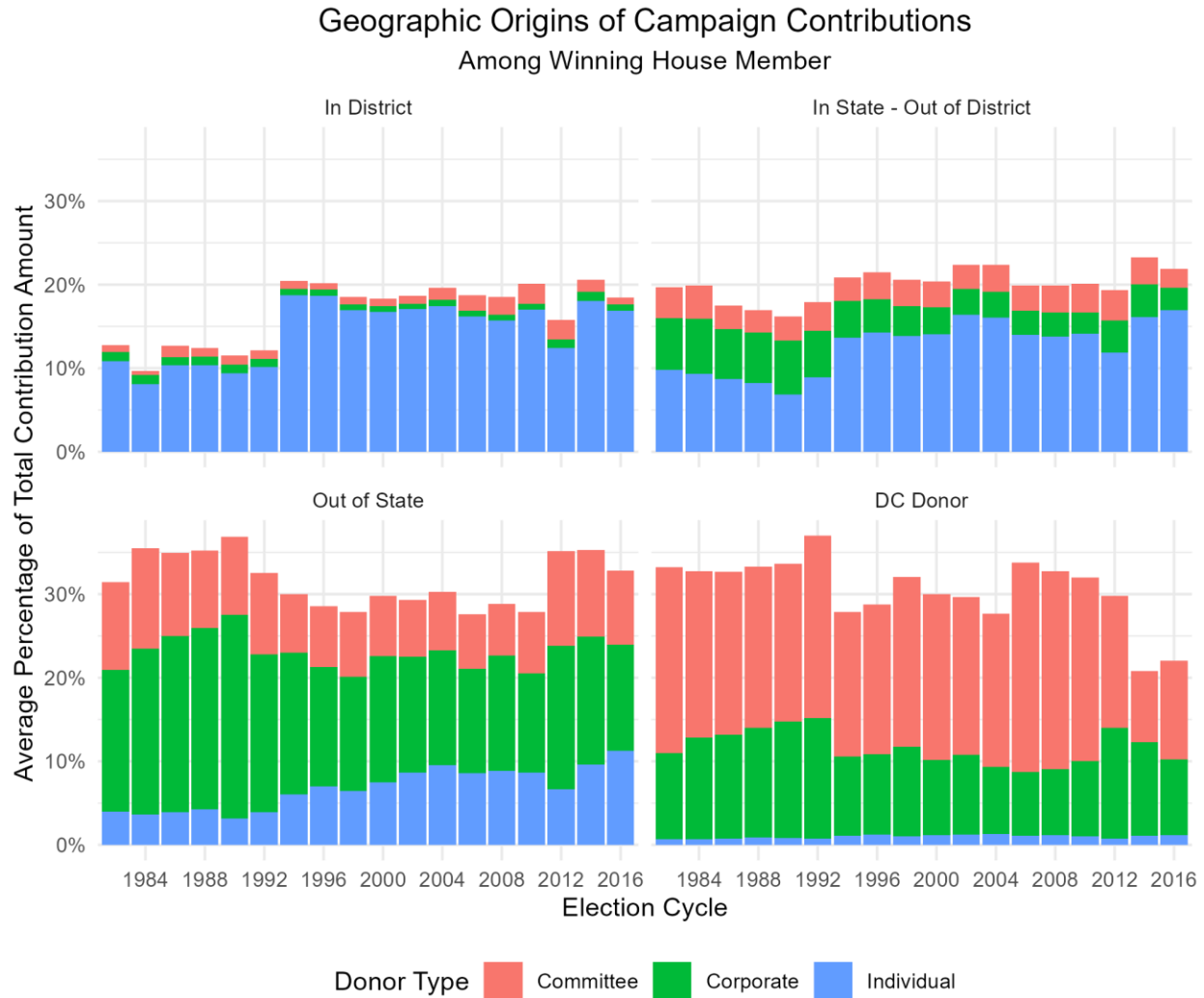
Chapter 1 Supplemental Material

“Completing Principals Theory: Understanding the Influence of Out-of-District Donors and Competition for Congressional Representation”

Variation in Donor Type Across Contribution Source

The source of contributions (i.e., individuals, corporations, PACs) varies markedly among donors' locations. Figure 1.1A displays members' campaign finance portfolios using both the geographic location and the donor's type. Each panel describes a different location (in-district, in-state out-of-district, out-of-state, DC donor), and each color represents a different type of donor. Figure 1.1A reports that most in-district donations come from individuals. Out-of-district, corporate and committee donations are more prominent. Corporate and committee donations dominate out-of-state donations, with individual donations rising over time. Committee donations from Washington D.C., make up the largest share of contributions. Figure 1.1A illustrates that the *donor constituency* is diverse and far-flung, with donor type and geographic location explaining varying contribution amounts.

Figure 1.1A: Geographic Origins of Campaign Contributions Among Winning House Members Across Each Donor Type

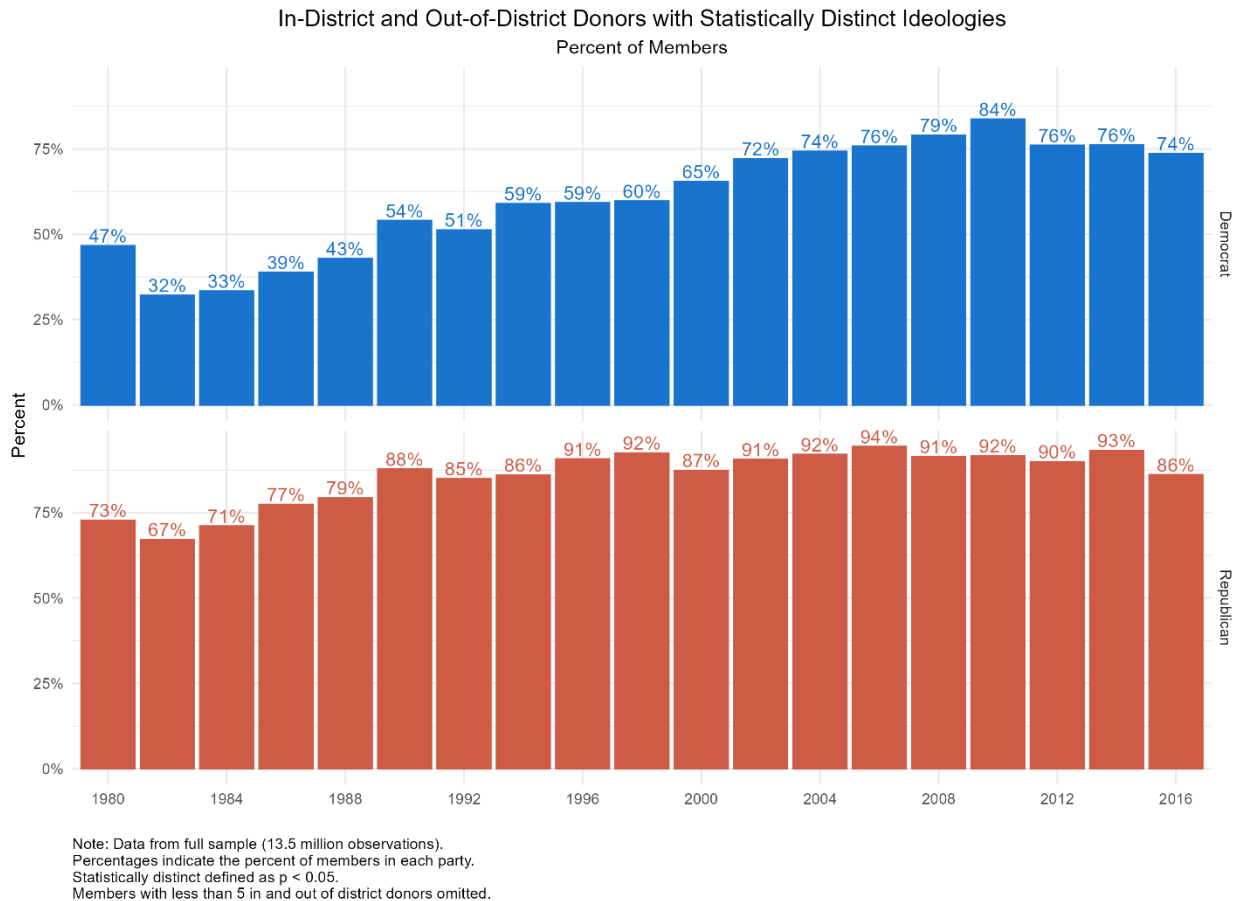


Meaningful Distinction Between In-District and Out-of-District Donors

Since little previous work distinguishes between in-district and out-of-district donors, it is important to examine whether they are in fact ideologically distinct. To assess whether out-of-district and in-district donors have different ideological positions, I calculate each member’s in-district and out-of-district donors’ mean CFscores from 1980 to 2016 and conduct a difference-of-means test between in and out-of-district donors’ CFscores for each two-year cycle. Figure 2A reports the percentage of members (within each party) whose in-district and out-of-district donors have significantly different CFscores. This figure reveals that more members today have in-district and out-of-district contributors with distinct ideologies than 40 years ago. This phenomenon is stronger among Republicans than Democrats, with 86.1 percent of Republican members having out-of-district and in-district contributors with distinct ideologies in 2016. Nonetheless, disagreement between out-of-district and in-district contributors is becoming more common among Democrats over time, with the share of members with significant differences

increasing from 46.6 percent in 1980 to 73.5 percent in 2016. The results in Figure 1.2A demonstrate that it is increasingly common for members to have in-district and out-of-district donors with distinct ideological positions. This phenomenon suggests a greater potential for out-of-district donors to distort representation through a more acute competing principals problem.

Figure 1.2A: Percentage of Members with Statistically Distinct In-District and Out-of-District Donors' Ideologies

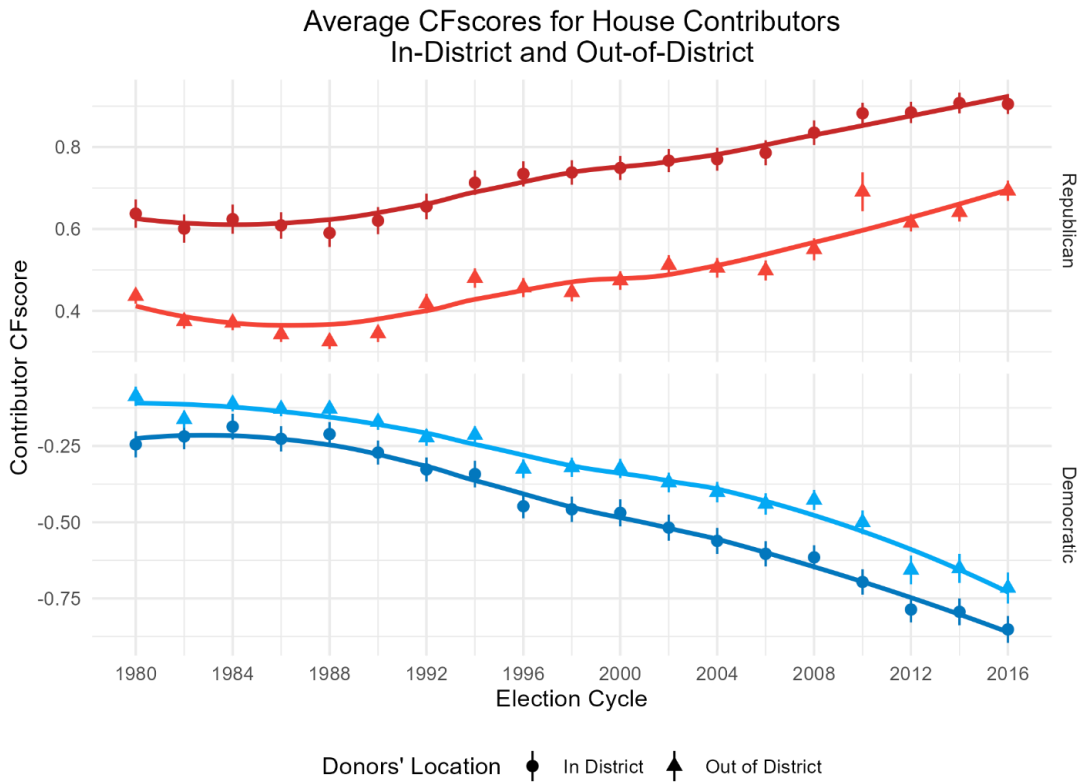


What then is the direction and magnitude of these ideological differences? Figure 1.3A reports the pooled mean of members' in and out-of-district donors' average CFscores over time.⁵⁷ As Figure 1.3A illustrates, both Democratic and Republican out-of-district donors tend to be ideologically moderate when compared to their in-district counterparts. Both groups of donors, like MCs and voters, appear to be polarizing over time. However, Democratic members' in and out-of-district donors are polarizing faster than Republican members' donors. That said, Republican donors have always been and continue to be more conservative than Democratic members' donors are liberal. Another apparent finding from Figure 1.3A is that the absolute difference between in-district and out-of-district donors tends to be greater in the Republican

⁵⁷ To calculate the pooled mean, I average each member's in-district and out-of-district donors' CFscore. Then, I average members' mean in-district and out-of-district donors' CFscore across each year.

Party (0.26) than the Democratic Party (0.12). Thus, these findings echo the results in Figure 1.2A: greater differences in ideology between in and out-of-district donors in the Republican Party, and growing ideological differences over time between in-district and out-of-district donors in the Democratic Party.

Figure 1.3A: Pooled CFscore for In-District and Out-District House Contributors across Congressional Districts



Note: Red (Blue) represents Republican (Democratic) members.
 Figure shows the distribution of in and out of district donors' CFscore of all types.
 Point estimates include 95 percent confidence intervals.
 I include a loess line (without a confidence interval) to track the trend over time.
 These estimates are generated by taking the mean CFscore of each members' in and out of district donors,
 and then taking the mean CFscore for each members' in and out of district donors for each cycle.

Chapter 2 Supplemental Material

“Measuring Voters’ Ideology on the CFscore Scale: A Supervised Machine Learning Approach”

Decade Over Decade Correlations

The main text reports correlations and scatterplots showing that my recovered measure performs equally well in validation tests as Kujala (2020) measure. I examine scatterplots and correlations within each measures time frame. Alternatively, I can also examine these correlations over time. Figure 1A reports these correlations across each decade of the DIME dataset. The recovered measure covers the years 1970, 1980, and 1990; while Kujala (2020) measure covers 2000 and 2010. I include CCES measures in the analysis even though the Kujala (2020) uses the CCES to derive his measure.

Figure 2.1A reports that correlations between recovered measure and Kujala (2020) measure are similar over time, with similar variation between the last recovered measure decade (1990) and the first Kujala (2020) measure decade (2000). The correlation with presidential vote share is similar across time. Further, as I discuss in the main text, alignment between House vote share and the recovered measure increases over time as well, echoing the alignment between House vote share and presidential vote share in Figure 2.2A. In summary, the similarity between correlations across time enhance the validity of the recovered measure and illustrate its usefulness in capturing the ideological dimensions in each decade.

Figure 2.1A: Correlation Table of General Constituency Measures

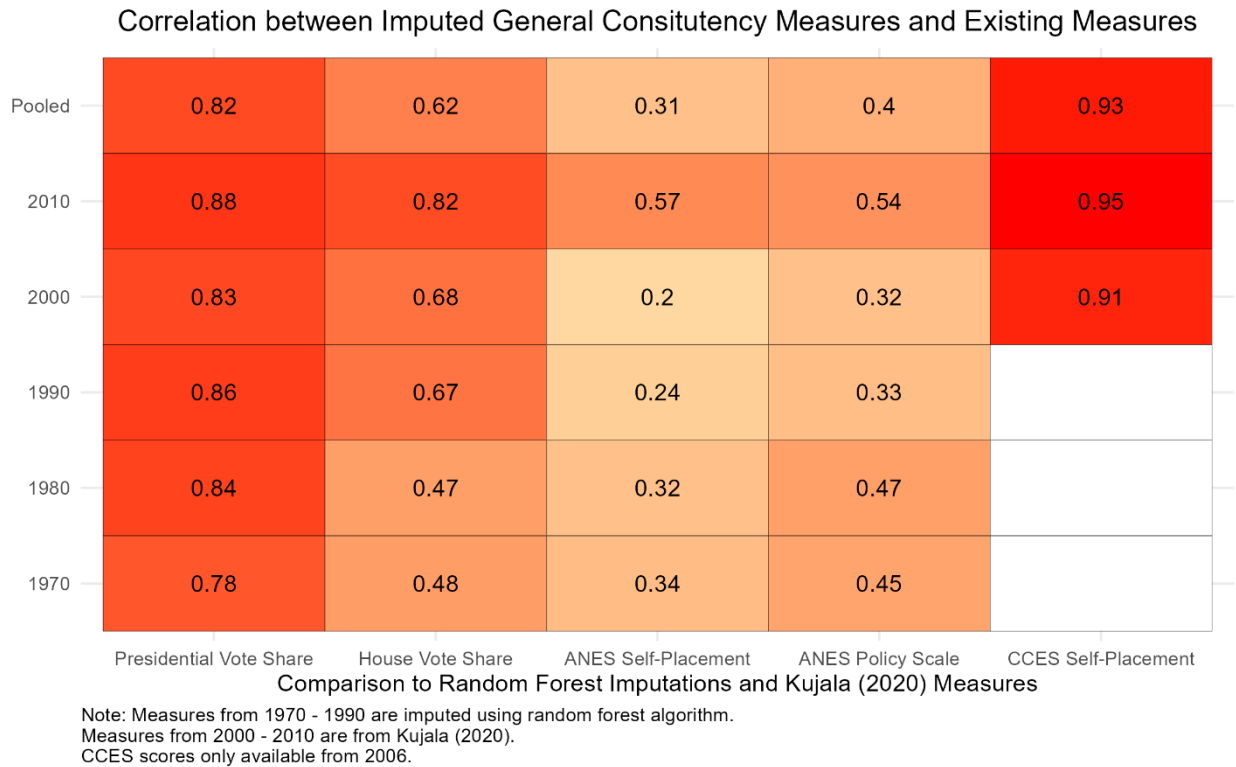
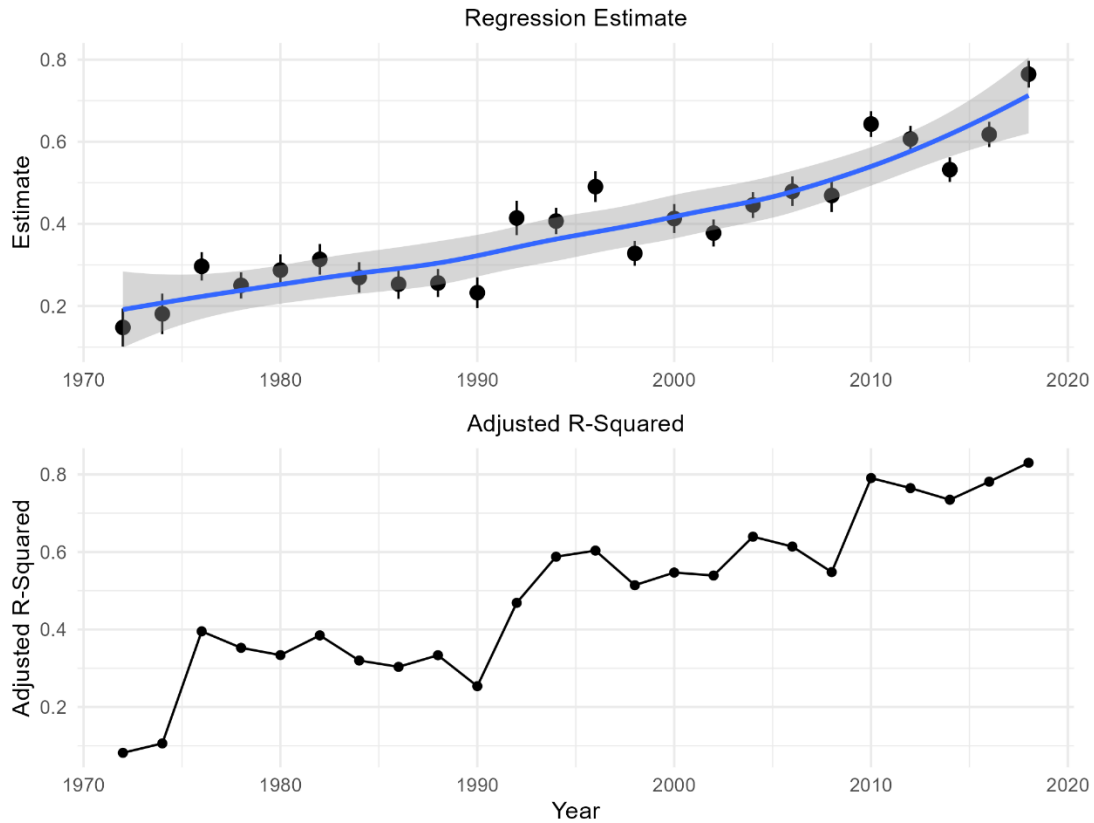


Figure 2.2A: The Relationship Between House and Presidential Vote Share Over Time

The Relationship Between House and Presidential Vote Share



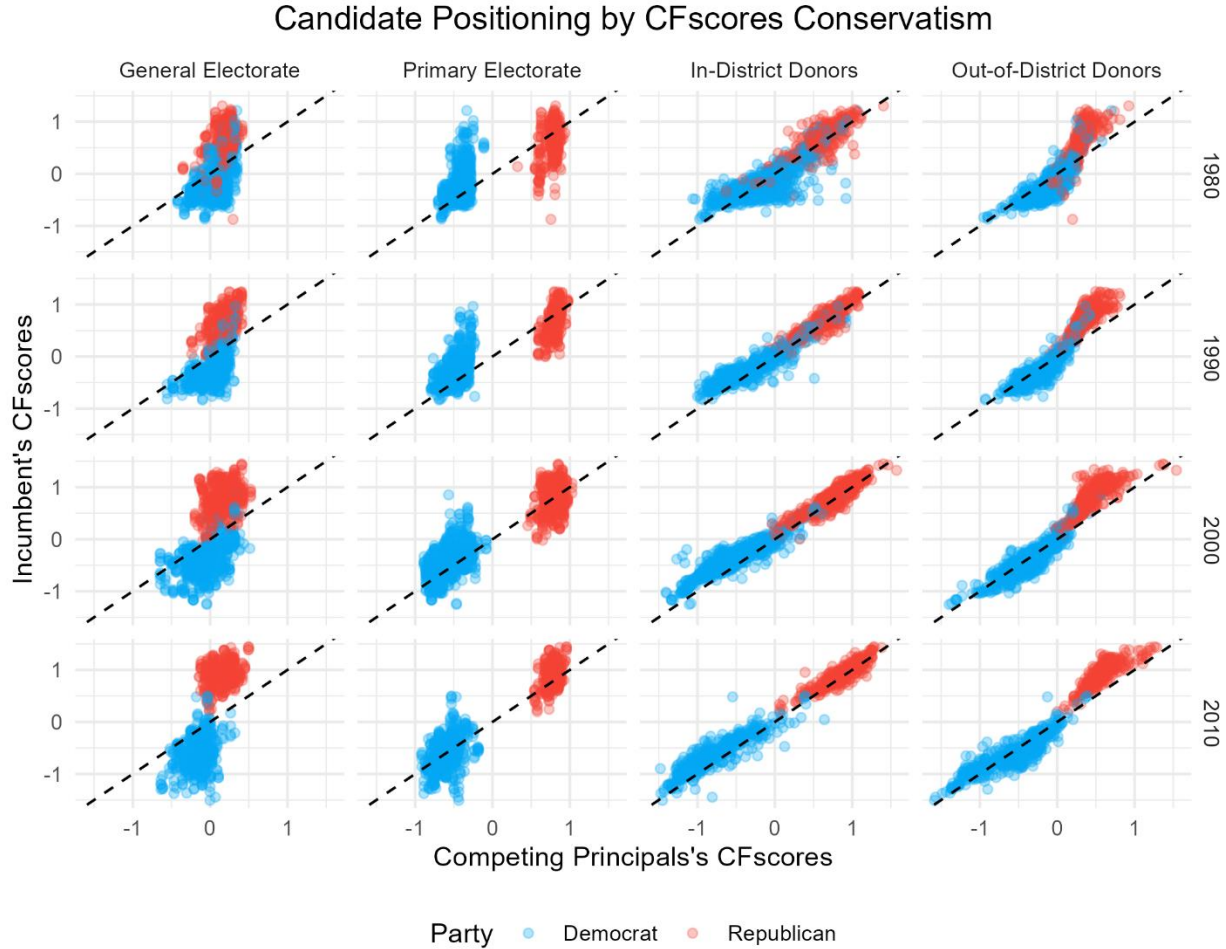
I report the estimate and R-squared of a bivariate linear regression.
I regress presidential vote share on House vote share.

Responsiveness Analysis

As an alternative to the proximity analysis, another common analysis that scholars use is the responsiveness analysis. This analysis regresses members onto constituents' ideology and reports how well constituents' ideology predicts members' ideological positions. The better constituent's ideology is at predicting members ideology the more responsive members are to their constituents.

Past scholars have conducted responsiveness analysis with various measures of the general electorate (Ansolabehere, Snyder, and Stewart 2001; Bafumi and Herron 2010; Jessee 2009) but they have rarely done so with measures of various constituencies. This responsiveness analysis uses measures of the general, primary, in-district and out-of-district donors on the same scale and over time. I begin by plotting members ideology against each competing principal to examine which constituency members is the best predictor of members' ideology. Figure 2.3A illustrates members' responsiveness across principal, party and decade.

Figure 2.3A: Scatterplot of Responsiveness Across Competing Principals



Note: Plot illustrates responsiveness analysis. Competing principles in the columns and decades in the rows. Fit with linear line and 95% confidence interval. Plot includes incumbent members of Congress. Dotted line is fit to represent 1:1 relationship.

The figure reports that members tend to be more responsive to their donors over their voting constituency. The figure illustrates increasing polarization between each party's general electorate over time, emphasizing Bafumi and Herron (2010) leapfrog representation. The figure shows the difference between Democrats and Republicans' primary constituencies and the variation of members' responsiveness within each party to them. The figure also indicates a consistently strong relationship between in-district donors and members' ideology. Finally, the figure presents a relationship between members and out-of-district donors that aligns more closely over time.

To further illustrate the usefulness of my recovered measure, I derive a naive model exploring which constituencies' ideology is most predictive of members CFscore. By placing the general, primary, in-district and out-of-district donors' ideology into the same regression model, we can examine which constituencies' ideology is the most predictive of members ideology.

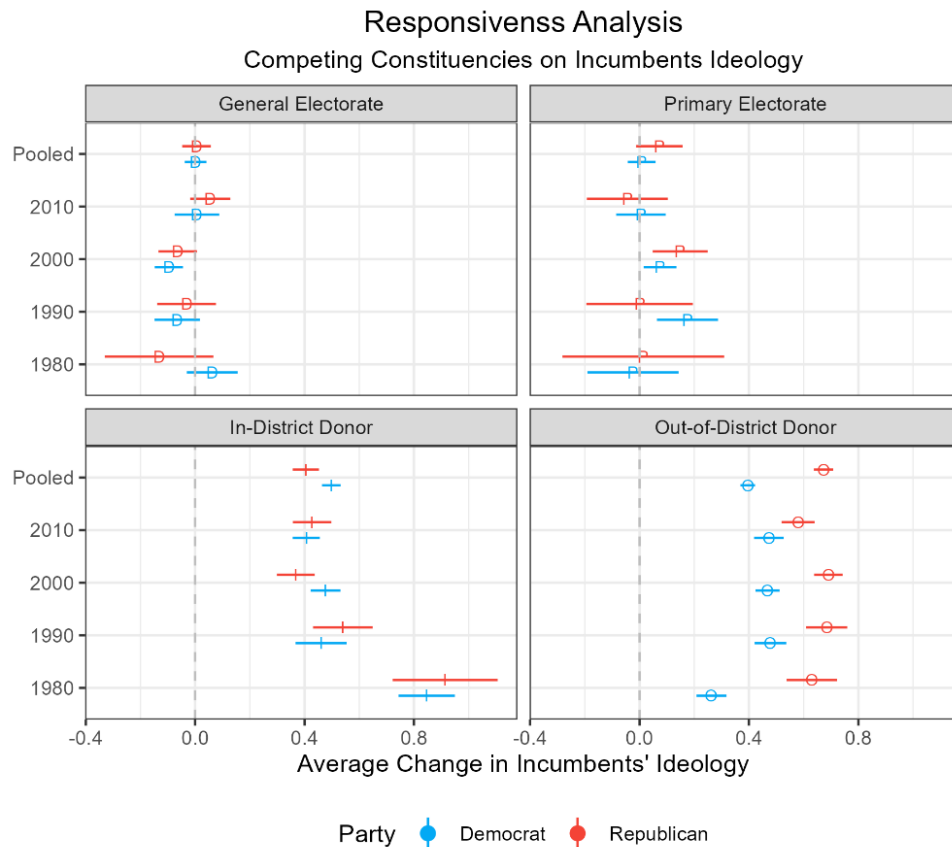
The responsiveness analysis is useful because it directly compares the magnitude of their influence on members' ideology. Furthermore, imputing the measures for the general and primary constituency for the 1980s – 1990s allows this analysis to double its sample size and explore this question in a new time period.

I specify a naive regression model using the following linear regression equation:

$$\begin{aligned}
 \text{House Member Ideology} &= \alpha + \beta_1(\text{General Electorate}) + \beta_2(\text{Primary Electorate}) \\
 &+ \beta_3(\text{In District Donor Electorate}) + \beta_4(\text{Out of District Donor Electorate}) \\
 &+ \varepsilon
 \end{aligned}$$

This formula places each constituency into a single regression model, which has several advantages. First, controls for the effects of each other constituency simultaneously, preventing confounding relationships from biasing the model. Second, estimates the effect each constituency's *independent* effect on members' position while accounting for the other constituencies effects, providing a more reliable understand of the relationship.

Figure 2.4A: Responsiveness Analysis



Note: Point estimates are dots with lines indicating 95 percent confidence intervals.
Pooled Estimate Reported in the Figure.
Model: Linear regression.
Y-Axis reports the decade.

The results in Figure 2.4A illustrate two useful findings: members tend to be more responsiveness to donors than voters and these results are consistent across time and measure. The results report that on average, members ideology is not responsiveness to either their general or their primary constituency, this result holds when using either the recovered measure or Kujala (2020) measure. The model reports that the general and primary constituency do not significantly predict members' position when accounting for donors' ideology. The results also report that responsiveness to members' donors is robust over time, with Republicans displaying strong favoritism towards out-of-district donors. On average, both in-district and out-of-district donors are a significant predictor of members ideological positions, with Democratic in-district donors predicting members ideology (0.5) better than out-of-district donors and Republican out-of-district donors predicting members' ideology (0.67) better than in-district donors. Across all models and parties, Republicans' out-of-district donors was the strongest predictor of members' ideology.

Together, the responsiveness analysis echoes past scholarship showing that members are not responsiveness to the median voter (Ansolabehere, Snyder, and Stewart 2001a; Bafumi and Herron 2010; Gilens and Page 2014a) and, instead, tend to be responsive to their donors (Canes-Wrone and Gibson 2019; Canes-Wrone and Miller 2022; Gimpel, Lee, and Pearson-Merkowitz 2008). Simultaneously, the recovered measure in the 1982 and 1992 redistricting cycles behave as I would theoretically predict when examined with members' ideology: an increasingly polarized general electorate and a constituency polarized primary electorate with some but not the highest association with members' ideology.

Chapter 3 Supplemental Material

“Competing Principals and Representation: Using Redistricting to Assess the Effects of Out-of-District Donors on Position Taking in the U.S. House of Representatives”

Tables with Full Model Specifications from Results Sections

Table 3.1A: Out-District Amount Percentage Model

	Dependent Variable:			
	<i>% Out-District Donations</i>			
	Base (1)	Control (2)	Lagged DV (3)	FE (4)
Partisan Donors Lost Percentage	3.591*** (0.322)	3.316*** (0.302)	2.591*** (0.270)	2.619*** (0.373)
Absolute Difference in Ideology		-1.461 (2.338)	2.133 (2.078)	-1.233 (2.848)
Members' Party: Republican		-3.919*** (0.800)	-1.880*** (0.718)	-4.151*** (1.052)
Standardized Median Income		1.171** (0.509)	-5.082*** (0.566)	2.251 (1.652)
Percent of Household over 200K		-1.017*** (0.156)	0.342** (0.157)	-0.985*** (0.308)
Unemployment Percent		-0.055 (0.103)	-0.146 (0.091)	0.405 (0.284)
Competitive District: Yes		1.247 (0.915)	1.154 (0.810)	1.321 (1.067)
Region: East		0.958 (0.899)	1.079 (0.796)	
Region: South		-0.790 (0.780)	-1.863*** (0.694)	
Region: West		1.317 (0.928)	0.871 (0.822)	
Lagged Amount Proportion			0.390*** (0.021)	
Female		-0.070 (1.029)	-0.031 (0.911)	1.667 (1.270)
Majority Party Leadership		5.709*** (2.105)	4.691** (1.864)	5.473** (2.437)
Minority Party Leadership		3.374* (1.976)	1.527 (1.752)	4.251* (2.282)
High Value Committee Position		-0.219 (0.662)	-0.495 (0.587)	1.013 (0.872)
Majority Party Member		-1.609** (0.645)	-0.857 (0.572)	-2.292*** (0.736)
Committee Chair		3.414** (1.325)	3.985*** (1.178)	4.430*** (1.550)
Seniority		0.606*** (0.080)	0.286*** (0.073)	0.495*** (0.093)
Constant	86.692*** (0.322)	88.657*** (1.328)	55.473*** (2.161)	85.856*** (5.589)
District and Cycle FE	NO	NO	NO	YES
Observations	1,326	1,314	1,313	1,314
Adjusted R ²	0.085	0.212	0.378	0.347
Residual Std. Error	11.714 (df = 1324)	10.631 (df = 1296)	9.411 (df = 1294)	9.677 (df = 832)

Note:

*p<0.1; **p<0.05; ***p<0.01

Estimates are from the first cycle following redistricting.

Interpret Partisan Donors Lost Percentage as a standard deviation change.

High Value Committee Position means the member is on Appropriation, Rules, or Ways and Means.

Table 3.2A: Regression Results for the Proximity Rule Using General Constituency Measure

	Dependent Variable:			
	General Constituency			
	Base (1)	Control (2)	Lagged DV (3)	Fixed Effects (4)
Partisan Donors Lost Score	0.032*** (0.006)	0.045*** (0.006)	0.014*** (0.004)	0.033*** (0.007)
Members' Party: Republican		0.017 (0.013)	0.033*** (0.007)	-0.028* (0.017)
% Out-District Donations		-0.044*** (0.007)	-0.010** (0.004)	-0.036*** (0.007)
Lagged Proximity Rule			0.189*** (0.004)	
Constant	0.249*** (0.006)	0.242*** (0.008)	0.234*** (0.005)	0.015 (0.095)
Observations	1,352	1,352	1,339	1,352
Adjusted R2	0.018	0.052	0.681	0.372
Residual Std. Error	0.232	0.228	0.132	0.15

Note:

*p<0.1; **p<0.05; ***p<0.01

Positive (negative) values indicate movement towards out-of-district donors (listed stimuli).

Fixed effects model includes district and cycle fixed effects.

Table 3.3A: Regression Results for the Proximity Rule Using Primary Constituency Measure

	Dependent Variable:			
	Primary Constituency			
	Base (1)	Control (2)	Lagged DV (3)	Fixed Effects (4)
Partisan Donors Lost Score	0.025*** (0.008)	0.027*** (0.007)	0.005* (0.003)	0.011 (0.009)
Members' Party: Republican		-0.279*** (0.014)	-0.029*** (0.006)	-0.245*** (0.021)
% Out-District Donations		-0.013* (0.008)	-0.002 (0.003)	-0.012 (0.009)
Lagged Proximity Rule			0.267*** (0.003)	
Constant	0.017** (0.008)	0.137*** (0.009)	0.030*** (0.004)	0.287** (0.120)
Observations	1,352	1,352	1,339	1,352
Adjusted R2	0.007	0.226	0.888	0.344
Residual Std. Error	0.289	0.255	0.097	0.189

Note:

*p<0.1; **p<0.05; ***p<0.01

Positive (negative) values indicate movement towards out-of-district donors (listed stimuli).

Fixed effects model includes district and cycle fixed effects.

Table 3.4A: Regression Results for the Proximity Rule Using In-District Donor Constituency Measure

	Dependent Variable:			
	Base (1)	In-District Constituency Control (2)	Lagged DV (3)	Fixed Effects (4)
Partisan Donors Lost Score	0.022*** (0.006)	0.015*** (0.005)	0.015*** (0.004)	0.018*** (0.006)
Members' Party: Republican		-0.262*** (0.009)	-0.138*** (0.011)	-0.215*** (0.013)
% Out-District Donations		0.019*** (0.005)	0.010** (0.004)	0.019*** (0.006)
Lagged Proximity Rule			0.100*** (0.005)	
Constant	-0.076*** (0.006)	0.036*** (0.006)	-0.017*** (0.006)	0.160** (0.076)
Observations	1,315	1,315	1,308	1,315
Adjusted R2	0.009	0.4	0.529	0.526
Residual Std. Error	0.213	0.166	0.147	0.119

Note:

*p<0.1; **p<0.05; ***p<0.01

Positive (negative) values indicate movement towards out-of-district donors (listed stimuli).

Fixed effects model includes district and cycle fixed effects.

Redistricting Measure Validation

The findings in this paper are only consequential if the variable measuring the loss of donors after redistricting is a valid measure of district change. I compare my *partisan donors lost score* with Crespin's (2005) measure of district discontinuity to see determine how well it measures district change. Crespin's (2005) measure, examines how many citizens stay in a district after redistricting, he calls it *district displacement*. He uses the GIS boundaries for districts before redistricting, after redistricting, and census track data to determine which citizens are displaced from their district and which citizens remain in the same district after redistricting. Crespin derives displacement by dividing the common population shared in both the redistricting cycles by the total population in the previous redistricting cycle. Displacement measures the extent to which a district's population remains the same in the new election cycle.

As the main test of the paper explains, I draw on the same methodology as Crespin (2005). However, instead of using citizens' location as he does, I use campaign contributors' location. To create my measure, Adam Bonica and I geolocate contributors' congressional district using the longitude and latitude of their address. From there, we can determine the location of donors in each redistricting cycle since the 1970s. Following the procedure laid out in Crespin (2005), I build a displacement measure that pertains exclusively to donors.

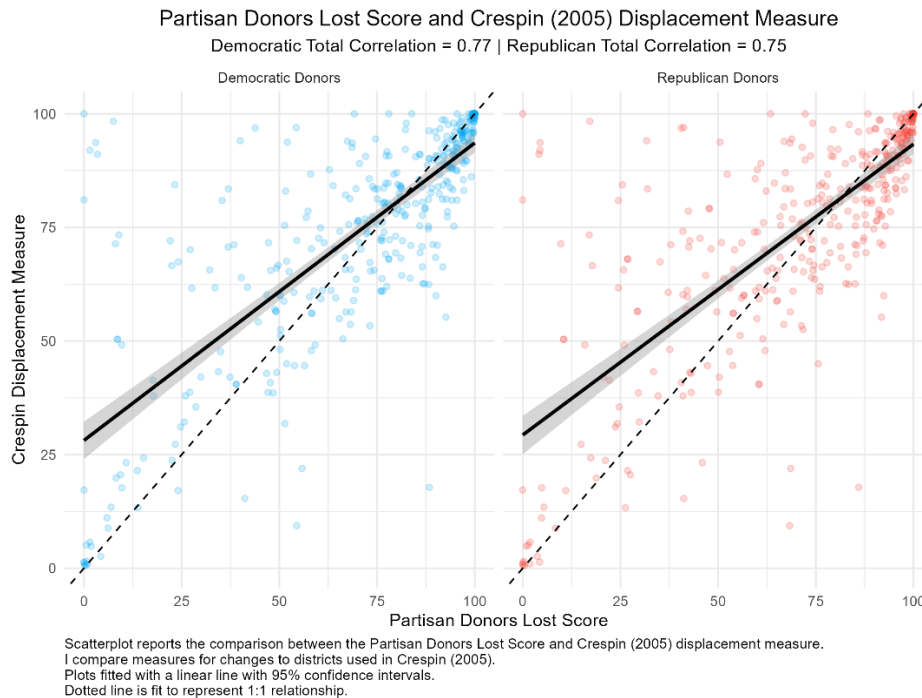
I draw my sample from the population of campaign contributions to candidates for the House of Representatives from 1980 to 2018. Next, I subset unique donors. Since donors can give to multiple candidates in a single election cycle, I remove duplicate donors to ensure the measure counts each donor once per election cycle. The working data set includes a census of campaign donors, the cycle they contributed to candidates, and the congressional district they reside in. I keep all types of donors (i.e., individual, corporate, committee, and unions) in the process.

After the calculations are complete (see main text for explanation), I check the validity of the donor continuity scores with Crespin's (2005) census-based continuity scores. Crespin's scores are available on the Harvard data verse. His scores span the 107th Congress and the 108th Congress (or the redistricting cycle between the 1990s and the 2000s). I subset the same elections cycles in the donor continuity scores. Using data on the dyadic relationship between each district in a state, I run a correlation between the donor and census-based displacement and continuity scores. The correlation between the donor displacement scores and the census-based displacement scores for Democrats and Republicans is 0.92 and 0.91, respectively. These results suggest that the donor measure is externally valid (at least for that election cycle). These results, exploring the displacement of voters and donors' dyadic relationships to all districts, does an excellent job predicting the continuity of a congressional district after redistricting in 2000.

I check the external validity of donors' displacement and continuity within the same congressional district. For example, I check to see how well my measure of continuity and displacement in NM01 predicts Crespin's (2005) measure of continuity and displacement in the

same district. The correlation should be lower than the dyadic correlations because there are strategic incentives to keep donors in the districts more so than voters (Kirkland 2013). When comparing the correlations of displacement and continuity between the same district, the correlation of Democratic and Republican displacement between voters and donors is 0.77 and 0.75 respectively. Figure 3.1A illustrates a scatterplot of within district comparisons of displacement scores. As we would expect, the results trend in a positive direction with the donor measure overpredicting Crespin’s measure at low levels of donor continuity and displacement. This result does not necessarily conform to Kirkland’s (2013) expectation but does suggest that political actors distinguish between donors and nondonors when they redistrict. These results are meaningful because they mean that while our measure does a decent job explaining Crespin's (2005) measure, it does not fully explain it. As a result, the results suggest that the measure has external validity and leaves some unexplained variance to explore. being closer is in-district donors is better than being closer to out-of-district donors.

Figure 3.1A: Scatterplot of the *Partisan Donors Lost Score* and Crespin’s (2005) Displacement



This claim leads to the second assumption which is that in district donors are a better approximation of district’s median voter than the out-of-district donors. The paper assumes that out-of-district donors’ ideology is divorced from the district’s median voter and that in-district donors, albeit it not perfectly related, is a better approximation.

Robustness Checks

How much do members rely on past donors after redistricting?

Scholars may question how much of the increase in post-redistricting fundraising from donors who live in the state but outside members’ congressional district is simply members

relying on donors who lived in the district before redistricting but outside the district after redistricting. The logic being that members similarly rely more strongly on past connections after redistricting. To address this concern, I isolate donors who live inside a member’s congressional district before redistricting and then live outside a member’s congressional district after redistricting. Then, despite the fact that they live outside a member’s district, they contribute to contribute money to their former member of Congress. I call these donors “holdover donors,” as these donors continue to contribute to their former member of Congress despite living outside their district.

The purpose of this analysis is to examine (1) what percentage of in-state out-of-district donors are holdover donors and is this group sizeable and (2) is there a relationship between the donor lost measure and the number of holdover donors.

To measure what percentage of in-state-out-of-district donors are also holdover donors, I take the number of holdover donors and divide it by the total number of in-state-out-of-district donors for each member (m) to create the holdover count percentage. This number describes the percentage of in-state-out-of-district donors that are holdover donors.

$$\text{Holdover Count Percentage}_m = \frac{\text{Number of Holdover Donors}_m}{\text{Total Number of In State \& Out District Donors}_m}$$

To measure what percentage of in-state-out-of-district donors’ total contributions originate from holdover donors, I take the total amount of holdover donors’ contributions and divided it by the total amount of in-state-out-of-district donors’ contribution for each member (m) to create the holdover amount percentage. This number describes the percentage of in-state-out-of-district donors contributions come from holdover donors.

$$\text{Holdover Amount Percentage}_m = \frac{\text{Total Holdover Contributions}_m}{\text{Total In State \& Out District Donors Contributions}_m}$$

I find right-skewed distribution of the number of holdover donors and their contributions to former members of Congress. This result means there is a strong bias towards zero, with holdover donors being the exception rather than the rule. In Table 3.5A, I find that, on average, holdover donors comprise 3.39 percent of the total number of members’ in-state-out-of-district donors after redistricting, with a standard deviation of 6.26 percent. Next, I find that, on average, holdover donors comprise 3.72 percent of the total amount of in-state-out-of-district donors’ contributions after redistricting, with a standard deviation of 7.40 percent.

Table 3.5A: Percentage of Holdover Donors in the In-State Out of District Category

	Mean	Standard Deviation
Count	3.39	6.26
Amount	3.72	7.40

Note: Values are reported as percentages.

Table 3.6A reports two linear models' results regressing these count and amount percentages on to the donor lost measure. Model 1 reports the count model results, and model 2 reports the amount model results. The base regression models show a small, but statistically significant. For the count model, the results can be interpreted in the following manner, for every standard deviation increase in partisan donor lost score, holdover donors increase .611 percent as a share of the total number of members' in-state-out-of-district donors after redistricting. For the amount model, the results suggest that for every standard deviation increase in partisan donors lost, the share of holdover donors' total contributions as a part of the total contributions from members' in-state-out-of-district donors increases .716 percent after redistricting. While these results are significant, the estimates and the R-squared are extremely small.

Table 3.6A: Percentage of Holdover Donors Across Partisan Donor Lost Score

	Dependent Variable:	
	<i>Count Percent</i>	<i>Amount Percent</i>
	(1)	(2)
Partisan Donors Lost Score	0.611*** (0.093)	0.716*** (0.109)
Constant	3.395*** (0.093)	3.727*** (0.109)
Observations	4,543	4,543
Adjusted R ²	0.009	0.009
Residual Std. Error (df = 4541)	6.239	7.370

Note: *p<0.1; **p<0.05; ***p<0.01

Crespin and Edwards (2016) find similar results: donors drawn out of members districts are less likely to financially support their former members of Congress. The results I present here suggest that the percentage of holdover donors, both in terms of their total number and contributions, as a share of the in-state-out-of-district donor category is extremely small. These percentages are so small that any concerns that members' reliance on their in-state out-of-district donors because those donors are from their old congressional district should be assuaged.

What about using change in out-of-district contributions, proximity and responsiveness?

The dependent variables I use in the main text examines out-of-district contributions, proximity and responsiveness at one time point (the post-redistricting election).

However, I can also examine the change in out-of-district contributions, proximity and responsiveness between the election cycles before and after redistricting. By using the change, I can determine the dynamic shifts among members fundraising and representation strategy. I employ this alternative in this section of the appendix. Substantially, leveraging the change in examines to what extent changes to in-district donors after redistricting influences changes the

percentage of out-of-district contributions, members' ideological proximity and their responsiveness to out-of-district donors before and after redistricting.

Results favoring an increase in out-of-district contributions and better representation after redistricting, relative to before, would affirm my results and provide further evidence in favor of both H2 and H3 hypotheses in the main paper. If the change in % of Out-of-District Donations is positive (negative) and significant, then the results suggest that the more partisan donors are displaced after redistricting, the more out-of-district (in-district) contributions a member receives in the period following redistricting than before redistricting. If the change in donor proximity advantage is positive (negative) and significant, then the results suggest that the more partisan donors are displaced after redistricting, the better members align with their out-of-district (in-district) donors in the period following redistricting than before redistricting. If the change in out-of-district donors' ideology approximates the change in incumbents' ideology, more so than other competing principals across various levels of the partisan donor lost score, then this evidence suggests that members are more responsive to out-of-district donors than other competing principals.

Table 3.7A reports the OLS coefficients regressing the change in percentage of out-of-district contributions on the partisan donors lost score and the accompanying controls. The estimates and significance for the partisan donors lost score are robust across each model specification. According to the fixed effects model (Model 4), for every standard deviation increase in partisan donor displacement, the change in the percentages of members' out-of-district contributions increase 0.648 percent. Meaning relative to the previous year, members whose lose donors see an increase in their out-of-district contributions by 0.648 percent for every standard deviation change in their in-partisan donors. These results reaffirm the results in the main text and offer further evidence in favor of H2 hypothesis.

Table 3.7A: Change in Out-District Amount Percentage Model

	Dependent Variable:			
	<i>Change in Proportion of Out-District Donations</i>			
	Base (1)	Control (2)	Lagged DV (3)	FE (4)
Partisan Donors Lost Score	-1.132** (0.442)	-0.006 (0.347)	1.727*** (0.283)	0.648* (0.393)
Absolute Difference in Ideology		6.488** (2.667)	1.839 (2.123)	4.507 (3.004)
Members' Party: Republican		1.578* (0.910)	-1.740** (0.732)	2.163* (1.109)
Standardized Median Income		-14.648*** (0.577)	-4.794*** (0.581)	-0.720 (1.737)
Percent of Household over 200K		2.449*** (0.177)	0.267* (0.161)	0.176 (0.323)
Unemployment Percent		-0.261** (0.117)	-0.152 (0.093)	0.215 (0.299)
Competitive District: Yes		1.423 (1.041)	1.378* (0.826)	0.656 (1.127)
Region: East		1.047 (1.023)	1.034 (0.812)	
Region: South		-3.697*** (0.892)	-1.365* (0.713)	
Region: West		0.535 (1.052)	1.662** (0.836)	
Lagged Amount Proportion			-0.609*** (0.022)	
Female		-0.402 (1.171)	-0.231 (0.930)	-1.044 (1.338)
Majority Party Leadership		2.708 (2.396)	4.443** (1.902)	2.340 (2.568)
Minority Party Leadership		-1.381 (2.249)	1.330 (1.787)	-1.674 (2.417)
High Value Committee Position		-0.856 (0.754)	-0.496 (0.598)	0.089 (0.920)
Majority Party Member		0.341 (0.734)	-0.989* (0.585)	-0.960 (0.776)
Committee Chair		3.790** (1.514)	3.824*** (1.202)	2.262 (1.642)
Seniority		-0.208** (0.091)	0.274*** (0.074)	-0.231** (0.098)
Constant	10.060*** (0.441)	3.672** (1.511)	55.550*** (2.229)	36.108*** (5.898)
District and Cycle FE	NO	NO	NO	YES
Observations	1,325	1,313	1,313	1,313
Adjusted R ²	0.004	0.419	0.634	0.587
Residual Std. Error	16.053 (df = 1323)	12.098 (df = 1295)	9.601 (df = 1294)	10.201 (df = 831)

Note:

*p<0.1; **p<0.05; ***p<0.01

Estimates are from the first cycle following redistricting.

Interpret Partisan Donors Lost Percentage as a standard deviation change.

High Value Committee Position means the member is on Appropriation, Rules, or Ways and Means

Table 3.8A contains results from my models regressing the change in donor proximity advantage on the partisan donors lost score and the accompanying controls. There is a positive and significant ($p < 0.05$) relationship between partisan donor lost score and the change in donor proximity advantage for general constituency and in-district donors. The results suggest that for every standard deviation increase in partisan donor lost score, members' ideology changes 0.012 and 0.018 units closer to out-of-district donors, relative to the general and in-district donor constituency. These results reaffirm the results in the main text and offer further evidence in favor of H3 hypothesis. However, I do not find a significant change in proximity between incumbents and their primary constituency. Redistricting did not move incumbents closer to or away from their primary constituency.

Table 3.8A: Change in Proximity Model

	Dependent Variable:		
	Proximity Rule		
	General Constituency (1)	Primary Constituency (2)	In-District Constituency (3)
Partisan Donors Lost Score	0.012** (0.005)	0.002 (0.004)	0.018*** (0.007)
Members' Party: Republican	0.031** (0.013)	-0.010 (0.009)	0.024 (0.015)
% Out-District Donations	0.004 (0.006)	0.002 (0.004)	-0.003 (0.007)
Constant	-0.003 (0.073)	-0.024 (0.051)	0.039 (0.086)
District and Cycle Fixed Effects	Yes	Yes	Yes
Observations	1,339	1,339	1,308
Adjusted R2	-0.013	-0.038	0.046
Residual Std. Error	0.114	0.081	0.135

Note:

*p<0.1; **p<0.05; ***p<0.01

Positive (negative) values indicate movement towards out-of-district donors (listed stimuli).

Fixed effects model includes district and cycle fixed effects.

Figure 3.2A reports the change in responsiveness model. As a note, I calculate the change in responsiveness by subtracting each stimuli's current ideology from their ideology in the previous cycle. These terms are included in the following regression model and represent the dynamic change in responsiveness. Like the models in the main text, I add principals' ideology iteratively into the model.

$$\text{Change in Incumbent's CFscore}_j = \alpha + \beta_i(\text{Change in Principal's Ideology}_{s_j}) + \sigma_d + t + \varepsilon$$

The results provide evidence suggesting that incumbents' ideology changes most in response to changes in out-of-district donors' ideology, even when controlling for changes in voting principals' ideology. For a one-unit change in out-of-district donors' ideology in the conservative direction, incumbents' ideology changes 0.47, 0.51 and 0.59 units in the same ideological direction at low, medium and high levels of the partisan donor lost score, respectively. At high levels of partisan donor lost score, incumbents are more responsive to out-of-district donors than their voting constituency by 0.47 (in-district), 0.57 (primary), and 0.62 (general) units. This shift in responsiveness from in-district donors to out-of-district donors is important in illustrating the effect changes in incumbents district has on who they decide to represent.

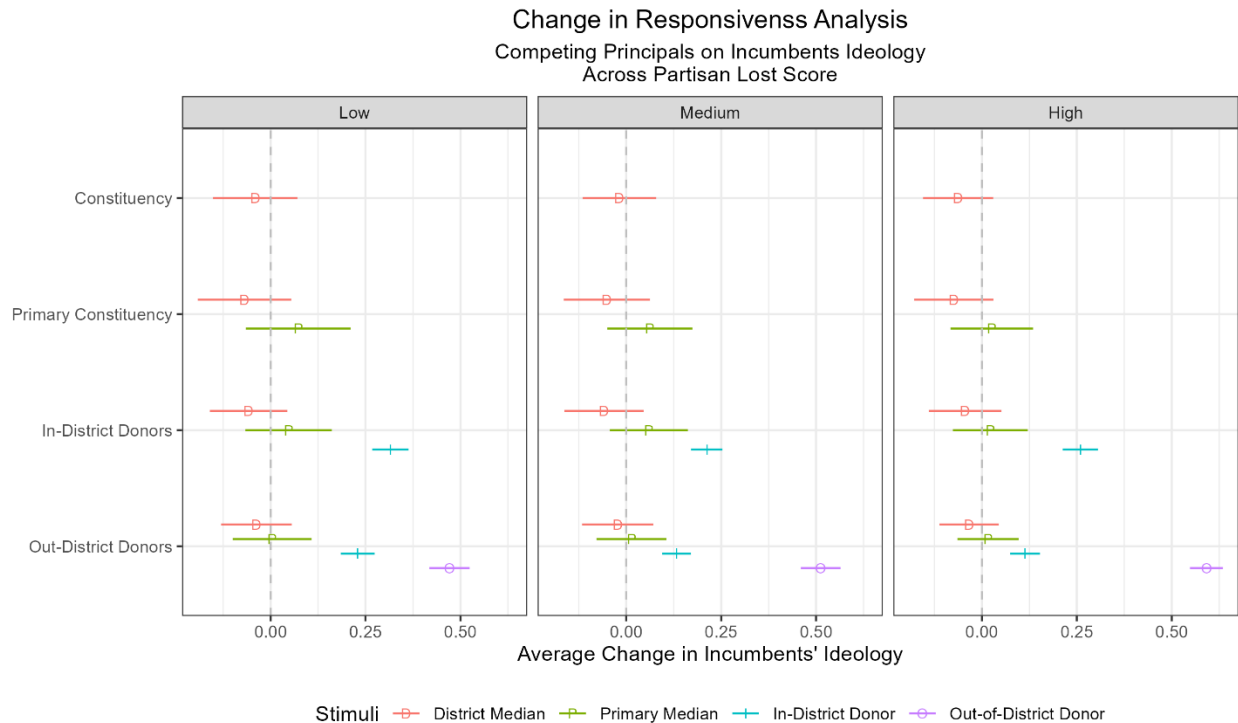
Furthermore, the more that incumbents lose out-of-district donors, the greater congruence between incumbents and out-of-district donors' ideology. As an incumbent moves from the low (medium) category to the medium (high) category of the partisan donors lost score, the change in responsiveness increases by 0.04 (0.08) units. Therefore, a change from low to high category of

partisan donors lost score is equal to a 0.12 increase in alignment between incumbents and out-of-district donors' ideology. This result illustrates those members representation strategy changes as the composition of their donors inside their district changes. Changes to their in-district donor constituency leads to greater ideological responsiveness with out-of-district donors.

Finally, incumbents' ideology is not responsive to changes in the general or primary constituency's ideology. As Figure 3.2A illustrates when the general and primary constituency's ideology changes, the change in the incumbent's ideology is not statistically responsive. Irrespective of the model or the level at which in-district donors are reassigned due to redistricting, changes in general and primary constituency's ideology results in a null effect in incumbents' ideology. This result reaffirms evidence in the literature that incumbents are not responsive to constituents who do not donate money to their political campaigns.

Together, these results affirm the results in the main text. First, incumbents are responsiveness to out-of-district donors' ideology more than other principals' ideology. Second, losing in-district donors as a result of redistricting exacerbates agency loss to the voter constituency as incumbents become even more responsive to their out-of-district donors.

Figure 3.2A: Change in Responsiveness Model



Note: Point estimates are dots with lines indicating 95 percent confidence intervals.
Model: Linear regression.
Stimuli added into the model iteratively.
Y-Axis reports which stimuli is added into the model.

What are the results if I use the overall donor lost score?

In the main text of the paper, my main measure of district change is the partisan donors lost score. However, scholars might challenge this reduction and instead prefer to see the result using an overall measure of the donor donors lost score. That is the purpose of this section.

Here, I rerun the redistricting analysis using the overall donor donors lost score instead of the partisan donors lost score. The control covariates stay the same.

Theoretically, I do not expect to see the same results. By including all donors in this measure, I also include donors to the member's out-party. I expect members to be less responsive to the loss of donors contributing to both the members and their opponent, and even less responsive to the displacement of donors contributing to their out-party opponents. Consequently, the results in this analysis should be weaker in this analysis, relative to the analysis in the main text.

Table 3.9A reports the OLS coefficients regressing the percentage of out-of-district contributions on the overall donor donors lost score and the accompanying controls. The estimates and significance for the overall donors lost score are robust across each model specification. According to the fixed effects model (Model 4), for every standard deviation increase in overall donor displacement, the percentages of members' out-of-district contributions increase 2.03 percent. Meaning relative to the previous year, members whose donors are displaced see an increase in their out-of-district contributions by 2.03 percent for every standard deviation change in their districts' donors. These results reaffirm the results in the main text and offer further evidence in favor of H2 hypothesis.

Table 3.9A: Overall Partisan Donors Lost Score & Amount Percentage Model

	Dependent Variable:			
	% Out-District Donations			
	Base (1)	Control (2)	Lagged DV (3)	FE (4)
Overall Partisan Donors Lost Score	2.713*** (0.331)	2.679*** (0.315)	1.858*** (0.283)	2.029*** (0.433)
Absolute Difference in Ideology		-0.360 (2.388)	2.465 (2.120)	-0.157 (2.912)
Members' Party: Republican		-4.754*** (0.818)	-2.307*** (0.739)	-5.141*** (1.089)
Standardized Median Income		1.762*** (0.515)	-4.810*** (0.584)	3.605** (1.687)
Percent of Household over 200K		-1.187*** (0.159)	0.262 (0.162)	-1.250*** (0.313)
Unemployment Percent		-0.082 (0.105)	-0.165* (0.093)	0.498* (0.289)
Competitive District: Yes		1.188 (0.934)	1.133 (0.827)	0.915 (1.088)
Region: East		-0.051 (0.941)	0.372 (0.834)	
Region: South		-0.721 (0.809)	-1.762** (0.719)	
Region: West		0.863 (0.933)	0.671 (0.826)	
Lagged Amount Proportion			0.397*** (0.022)	
Female		-0.696 (1.044)	-0.574 (0.925)	0.678 (1.293)
Majority Party Leadership		5.182** (2.055)	4.145** (1.821)	5.379** (2.449)
Minority Party Leadership		3.201 (2.067)	1.111 (1.834)	4.299* (2.338)
High Value Committee Position		-0.521 (0.678)	-0.659 (0.601)	0.456 (0.905)
Majority Party Member		-1.398** (0.660)	-0.734 (0.585)	-2.129*** (0.755)
Committee Chair		3.327** (1.378)	4.021*** (1.226)	4.395*** (1.614)
Seniority		0.641*** (0.083)	0.298*** (0.076)	0.560*** (0.099)
Constant	86.758*** (0.331)	89.631*** (1.356)	55.724*** (2.229)	86.327*** (5.674)
District and Cycle FE	NO	NO	NO	YES
Observations	1,298	1,286	1,285	1,286
Adjusted R ²	0.048	0.190	0.361	0.333
Residual Std. Error	11.932 (df = 1296)	10.755 (df = 1268)	9.523 (df = 1266)	9.761 (df = 813)

Note:

*p<0.1; **p<0.05; ***p<0.01

Estimates are from the first cycle following redistricting.

Interpret Partisan Donors Lost Score as a standard deviation change.

High Value Committee Position means the member is on Appropriation, Rules, or Ways and Means

Table 3.10A contains results from my models regressing the *donor proximity advantage* on the overall donors lost score and the accompanying controls. There is a positive and significant ($p < 0.05$) relationship between overall donor donors lost and the *donor proximity advantage* in each model specification, except the lagged dependent variable model. While the base, control, and the fixed effects models are positive and significant, the final model is not. Yet, despite the lagged fixed effects model being insignificant, I argue these results still affirm the result in the paper by offering empathizing my theoretical expectation. First, the coefficients in each model specification are weaker than in the main text, even among the significant models. Second, the weak coefficients and insignificance of the final model reaffirm the theoretical expectation that members are only responding to changes to their in-partisan donors, not all

donors in the district. These results emphasize the importance of examining the loss in members' in-partisan donors after redistricting over the displacement of all donors.

Table 3.10A: Overall Partisan Donors Lost Score & Donor Proximity Advantage Model Using General Constituency

	Dependent Variable:			
	Base (1)	Control (2)	Lagged DV (3)	Fixed Effects (4)
Overall Partisan Donors Lost Score	0.014** (0.006)	0.022*** (0.007)	-0.003 (0.004)	0.020** (0.008)
Members' Party: Republican		0.017 (0.013)	0.034*** (0.008)	-0.026 (0.017)
% Out-District Donations		-0.036*** (0.007)	-0.005 (0.004)	-0.030*** (0.008)
Lagged Proximity Rule			0.193*** (0.004)	
Constant	0.250*** (0.006)	0.243*** (0.009)	0.235*** (0.005)	-0.0001 (0.095)
Observations	1,294	1,294	1,294	1,294
Adjusted R2	0.003	0.027	0.683	0.369
Residual Std. Error	0.233	0.23	0.131	0.149

Note:

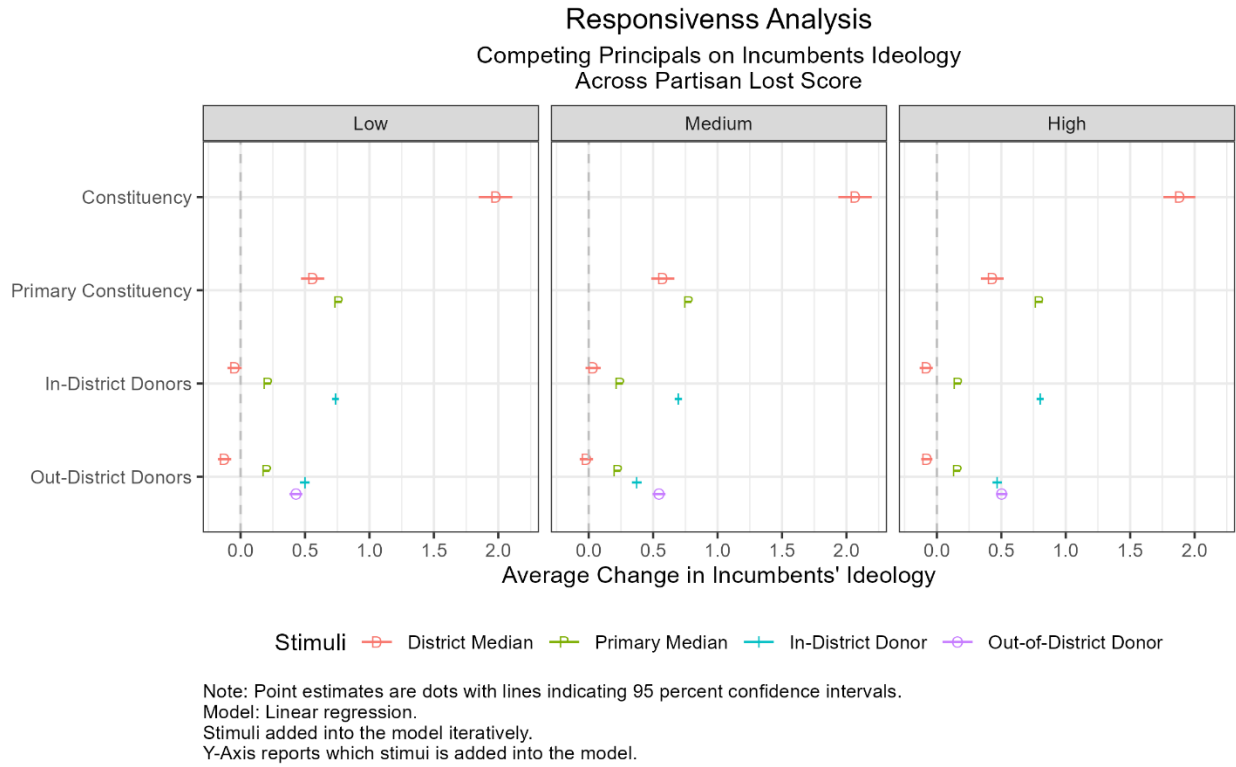
*p<0.1; **p<0.05; ***p<0.01

Positive (negative) values indicate movement towards out-of-district donors (listed stimuli).

Interpret Partisan Donors Lost Score, Amount Percentage and Lagged Proximity Rule as a standard deviation change
Fixed effects model includes district and cycle fixed effects.

Figure 3.3A reports the results of the responsiveness analysis using the overall partisan donor lost score. The results echo the findings in the main text: out-of-district donors receive representation at the expense of voting constituencies. Like in the main text, these results are the strongest when members lose an average percentage of their donors after redistricting. Concurrently, when I add principals into the model iteratively, members' responsiveness to the median voter wanes. These results reaffirm the robustness of the findings in the main text while supporting the competing principals theory.

Figure 3.3A: Responsiveness Analysis using Overall Partisan Donor Lost Score



Does losing donors predict incumbents' decisions to run for reelection?

The analysis in the main paper excludes incumbents not seeking reelection and incumbents who won reelection before redistricting but lost in the cycle after. A concern scholar might raise is that the incumbents I include in the final sample deviate, in some way, from the incumbents I exclude. This section addresses those concerns.

To qualify to be in the final dataset an incumbent must run and win reelection in years ending in double zeros and years ending in a two. This qualification ensures that the incumbent is held constant before and after redistricting. Table 3.11A reports the joint distribution of incumbents seeking reelection and incumbents who won or lost reelection during this time frame. The table shows that 87.03% both sought reelection and won, these incumbents are included in the sample in the main text of the paper. However, 3.74 percent of incumbents did not seek reelection (coded as NA in reelection) and 9.21 percent of incumbents sought reelection but lost. In sum, I exclude 12.97 percent of incumbents from the main paper's analysis.

Table 3.11A: Joint Distribution of Incumbents Seeking and Winning Reelection Before and After Redistricting

<i>Reelection Decision</i>	<i>Reelection Outcome</i>		
	NA	Loss	Won
Did Not Seek Reelection	3.74% (125)	0% (0)	0% (0)
Seek Reelection	0% (0)	9.21% (308)	87.03% (2908)

For the results to be skewed, there must bias the main independent variable, the partisan donor lost score. As a result, I run two tests to check. The first regresses a binary indicator for seeking reelection and winning reelection onto the partisan donor lost score. The test determines if there is a statistically significant difference in seeking/winning reelection across the partisan donor lost score. The second test employs an OLS to determine whether there is a statistically significant difference in the partisan donor lost score for those who did not seek and those who lost reelection, relative to incumbents who sought and won reelection.

I run a bivariate logistic regression and find that there is a negative and statistically significant difference in the probability of seeking and winning reelection across the partisan donor lost score. Table 3.12A reports the results of both models. The independent variable is the partisan donor lost score. I standardize it. As such, the probabilities can be interpreted as a standard deviation change in the partisan donor lost score. The logistic regression suggests that as redistricting displaces incumbents' donors, there is a statistically significant decline in the probability of incumbents seeking reelection and winning reelection. The first difference between the predicted probability of a one standard deviation changes in the partisan donor lost score suggest that the probability of seeking reelection declines 5.0 percent and the probability of winning reelection declines 5.6 percent.

Incumbents who decided not to run for reelection or who lost reelection experienced a greater change in their district, relative to those who ran and those won, respectively. The OLS model in

Table 3.13A reports that incumbents who did not seek reelection and incumbents who lost reelection experienced a change to their partisan donors 22.6 and 16.1 percent higher than reelection seekers and winners, respectively. Substantively, these results suggest that incumbents who choose not to seek reelection did so strategically and those who lost faced an uphill battle from the start.

Table 3.12A: Marginal Effects of Seeking/Winning Reelection given Partisan Donor Changes

	Dependent Variable:	
	<i>Sought Reelection</i>	<i>Won Reelection</i>
	(1)	(2)
Partisan Donors Lost Score	-0.050*** (0.007)	-0.056*** (0.010)
Observations	1,869	1,782
Log Likelihood	-325.704	-482.412
Akaike Inf. Crit.	655.408	968.824

Note:

*p<0.1; **p<0.05; ***p<0.01

Regression: Logistic Regression

Marginal effects calculated using standard deviation change in *Partisan Donors Lost Score*

Table 3.13A: OLS Results of Seeking/Winning Reelection and Changes to in Partisan Donors

	Dependent Variable:	
	<i>Partisan Donors Lost Score</i>	
	(1)	(2)
Did Not Seek Reelection	0.226*** (0.028)	
Lost Reelection		0.161*** (0.018)
Constant	0.240*** (0.006)	0.230*** (0.006)
Observations	1,869	1,869
Adjusted R ²	0.034	0.042
Residual Std. Error (df = 1867)	0.252	0.251

Note:

*p<0.1; **p<0.05; ***p<0.01

Together, these results suggest that there are differences between the incumbents used in the main sample and incumbents that were excluded, albeit with a caveat. Differences exist along both the average partisan donor lost score and the propensity to seek and win reelection along the partisan donor lost score. However, these results do not invalidate the findings in the main text. In fact, I argue these results suggest that the main paper underestimates the true effect of donors' influence. My theory argues and finds support for the hypothesis that the greater the partisan donor displacement the more money incumbents take from outside the district and the better they ideologically align with outside donors. If excluded incumbents have a higher partisan donor lost score and faced barriers to reelection relative to included incumbents, such that they chose not to run or lost reelection altogether, then had they been included in the main sample, my theory would expect these incumbents to accept more money from outside donors or align more closely ideologically with them, relative to included incumbents. The differences between included and excluded incumbents underestimate the true influence out-of-district donors and offer additional support for my theory.

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