

University of Nevada, Reno

**Special Interests and Climate Change: An Analysis of PAC Contributions to
Members of the 111th U.S. House**

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ABSTRACT

Using power structure research, this paper explores one of the barriers to climate legislation in the U.S.—interest group politics. Specifically, it analyzes how different groups leverage campaign finance by comparing contribution strategies by political action committees (PACs) representing fossil fuel interests and environmental advocacy groups. Industry not only outspends environmental advocacy groups, but is better represented in the campaign finance space. Using OpenSecrets data on contributions to candidates in the 111th U.S. House, logistic regression and hierarchical linear models are run to test a number of theoretically-derived hypotheses concerning the giving patterns of industry PACs versus environmental PACs. Results show that industry PACs follow pragmatic contribution patterns, which is indicative of efforts to gain access to elected officials to influence legislative outcomes. Industry PACs are significantly more likely to donate to incumbents, exhibit bipartisan giving at the district level, are more likely to donate to party leaders, members of committees with jurisdiction over their interests, and members with poor environmental voting records. In contrast, environmental PACs are more likely to donate to incumbents, but largely follow ideological contribution patterns, seeking out Democrats and those with strong environmental voting records. The findings provide insight into how financially powerful groups can strategically leverage the campaign finance system; they also reinforce previous findings—that is, the system of interest group politics is incompatible with efforts to address climate change.

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SPECIAL INTERESTS AND CLIMATE CHANGE: AN ANALYSIS OF PAC CONTRIBUTIONS TO MEMBERS OF THE 111TH U.S. HOUSE

CHAPTER 1: INTRODUCTION

Despite the clear and urgent threat of climate change, the United States has so far failed to implement any significant climate legislation at the federal level. With climate policy becoming increasingly polarized, climate action has effectively been reduced to executive actions (Dunlap, McCright, and Yarosh 2016; Kim and Urpelainen 2018, 2017). The interest group politics that characterize the U.S. policymaking arena have been cited as a factor contributing to the failure to enact climate legislation (Bryner 2008). Climate policy attracts strong interest group activity (Brulle 2018; Downie 2017; Kang 2016; Meng and Rode 2019) and opposition from electric utilities and fossil fuel companies (Stokes 2020). Understanding the failure of U.S. climate action therefore requires taking an institutional view of power and dissecting how powerful institutions compete to influence policy.

Power structure research provides a theoretical orientation from which we can understand government inaction on climate change. It offers a detailed assessment of how corporate political power is exercised to maintain the status quo and promote politics that may be environmentally harmful (Bonds 2010). There are numerous mechanisms through which powerful groups may exert their influence on government (Domhoff 2006, 2007). Through the special interest process, outside groups undertake concerted efforts to influence outcomes in specific areas of concern, primarily through targeted lobbying efforts. In the

policy-planning process, outside groups may fund or otherwise collaborate with foundations, think tanks and policy discussion groups actively involved in trying to shape policy. These groups may also actively try to engage in the opinion-shaping process to sway public opinion and influence legislative agenda-setting. Crucially, outside groups may also influence the candidate selection process by strategically using campaign contributions to influence the selection of lawmakers.

In the U.S., the fossil fuel industry holds a prominent and privileged position (Wishart 2019; Stokes 2020) and has long-standing relationships with policymakers (Loewentheil 2012). Researchers have documented the existence of influential groups of corporate actors within the climate policy planning network (Carroll et al, 2018; Sapinski 2019) and in the opinion shaping process (Vesa, Gronow, and Ylä-Anttila 2020). However, less is known about how these actors may strategically leverage campaign finance, which is a key mechanism through which they may engage in the political process (Burriss 2001) and potentially shape policy (Burns, Francia, and Herrnson 2000; Grenzke 1989). Interest groups can use campaign contributions to sway the results of elections, increase the likelihood of a favorable candidate winning, buy access to lawmakers, and help draft legislation. As such, studying patterns of campaign contributions can contribute valuable insights into our understanding of how corporations engage in the political process. In doing so, it can help explain why climate legislation is often defeated, weakened, or ultimately retrenched (Stokes 2020) to the extent it becomes “symbolic gestures” (Bonds 2010: 430).

To contribute to our understanding of how the powerful fossil fuel industry may use these networks of power, this thesis explored their campaign contribution patterns and compared it with the contribution patterns of environmental groups. Although differences have been observed in political action committee (PAC) contribution strategies between corporate interests and labor (Peoples 2009), less attention has been paid to the differences in contribution strategies between corporate interests and ideological groups, particularly in areas of public interest such as climate. By comparing corporate interests and ideological groups, we can gain a better understanding of how different interest groups engage in the political process, which may provide clues to its potential influence in U.S. policymaking. As such, this study analyzed the differences in contribution strategies between fossil fuel industry interests and environmental advocacy interests. Specifically, it sought to answer the following question: What campaign contribution strategies do corporate actors and environmental advocacy groups use in relation to environmental lawmaking—and how do they differ?

To answer this question, this study explored the patterns of campaign contributions of PACs representing the fossil fuel industry and environmental advocacy groups in the two-year election cycle before the 111th Congress (2009–2011), which was President Barack Obama’s first term. This session of Congress was ideal for analysis because it represented a period of peak efforts to enact climate policy (Wishart 2019), with high expectations that some form of legislation would be enacted (Kim et al. 2016). During this critical juncture in U.S.

climate policy, I found that industry PACs not only outspent environmental PACs but engaged in more pronounced patterns of pragmatic contributions, which seek to secure access to lawmakers. While displaying more ideological tendencies than their industry counterparts, however, we see too pragmatic contribution strategies among environmental PACs, suggesting that even ideological PACs strategically consider how to make use of the campaign contribution processes to influence policymaking. Dissecting these strategies helps to advance our understanding of how specific sectors use their political capacity to secure their desired agendas and helps to uncover how the corporate policy planning network links with powerful government lawmakers. This has important implications for government decision-making in the U.S., particularly in highly-polarized areas such as climate.

The thesis proceeds in eight chapters, as follows: Following the brief introduction presented here in Chapter 1, Chapter 2 reviews theories of corporate political power. Chapter 3 then reviews emerging evidence of a global network promulgating an agenda of climate capitalism, and Chapter 4 reviews the campaign finance landscape in the U.S. and the relation between contributions and policymaking. In Chapter 5, interest groups related to climate (industry groups, environmental groups) are introduced. In Chapter 6, the research hypotheses and methodologies are presented. Chapter 7 describes the results of the study and, finally, Chapter 8 offers some concluding remarks.

CHAPTER 2: POWER STRUCTURE THEORIES

Before diving into the specifics of climate-based interest groups and their contribution patterns (covered in Chapters 3 through 5), it is worth exploring theories of power structure. These theories have guided scholars in their analyses of the political system for many decades. Since the time of Floyd Hunter (1953) and C. Wright Mills (1956), academics have debated the extent of interest group influence in lawmaking. Although the debate remains unsettled, an expanding group of literature supports the assertion that corporate interests have an inflated influence in policymaking. This chapter reviews that literature.

Theories of Outside Interests in Policymaking

With lobbying expenditures alone reaching between \$3 billion and \$4 billion each year (Brulle 2018), and campaign contributions steadily increasing (Peoples 2020; Stratmann 2005), there is increasing concern about the influence of interest groups in lawmaking (Chamon and Kaplan 2013) and ongoing debate the extent of political unity among large corporations. There are three central theories about the role of outside interests in policymaking: (1) state-centered theory holds that outside interests have little to no role in policymaking; (2) pluralist theory maintains that a variety of interests influence policymaking; and (3) elite theory contends that business interests dominate the political arena (Peoples 2009; Peoples and Gortari 2008). Although state-centered theory has an important role in the academic debate, it views the state as relatively autonomous and rejects the assertion that outside groups, including special interests, influence government. Since this paper focuses on the role of these

outside interest groups, it focuses specifically on elite theory and pluralist theory. The proceeding briefly reviews the literature on these two theories of political power.

Elite theory.

The crux of the elite theory argument is corporate dominance. According to elite theorists, large corporations and the individuals who control them dominate the policymaking arena in the United States (Peoples 2009). This strand of theory has as its beginning Floyd Hunter (1953), who described the activity of an elite group within city policymaking, and C. Wright Mills (1956), who argued that three interlocking circles of military, political, and business elites make up a power elite in the U.S. which has direct influence over government decision-making. According to a widely cited theoretical understanding articulated by Domhoff (2006), the elite leverage four key networks to control the government and public agenda. The special-interest network involves influencing narrow areas of concern to specific businesses or industries through lobbyists, lawyers and trade associations. The policy-planning network is made up of foundations, think tanks and policy discussion groups, which are used to shape policies in ways favorable to the business community as a whole. The opinion-shaping network engages in efforts to influence public opinion and shape agenda setting, which may not be successful but may “muddy the water...and create a degree of momentary political confusion” (Domhoff 2007: 21). Lastly, the candidate-selection network leverages campaign donations to influence the selection of lawmakers sympathetic to the business community and gain access

to them once they are elected. While the theory acknowledges that a diverse group of special interests may attempt to influence government, it maintains that general class interests—such as big business—typically act in ways that promote their class-wide interest (Peoples 2009). In contrast to the pluralist perspective, which holds that the political power of corporations is diminished due to internal divisions, elite theorists maintain that corporations are politically unified (Burriss 1987; Clawson, Neustadt, and Bearden 1986).

In the context of environmental policymaking, Bonds (2010) adds a fifth influence network to Domhoff's: the knowledge-shaping process. Similar to Domhoff's power networks, the knowledge-shaping process provides an avenue for powerful elites to influence environmental knowledge. Environmental policymaking is characterized by a unique political contest in which information is politicized and individuals and organizations occupying different positions within the social structure battle over who gets to decide what counts as scientific knowledge. Within this political contest, elites can direct resources and exercise power by doing one or more of the following: suppressing knowledge that may negatively impact their interests; funding experts to contest knowledge that may be threatening to their power base; funding or promoting the production of specific knowledges; and selecting which information is deemed knowledge and which information is not (Bonds 2010). Elite mobilization is therefore an important consideration in environmental policy, as elites may influence policy both in terms of knowledge production and by influencing what counts as knowledge versus

what does not through lobbying and relationships with other elite—all of which may be supported by campaign contributions (Bonds 2010).

Pluralist theory.

The pluralist theory contends there is no single group of interests that holds exclusive sway over the government (Polsby 1960). Rather, a diverse group of actors influence governmental policymaking (Dahl 1961). The traditional view of pluralism centers primarily on interest groups and has challenged the assertion that business interests dominate, instead arguing that an array of groups may have political influence. Within this formulation of pluralist theory, some scholars argue that businesses conflict to a similar degree internally as they do with external groups such as labor and environmental organizations. For instance, one theory contends that business interests in the U.S. have become fractured since the 1990s as commercial banks became less central in the corporate network and no longer served their previous function of consensus formation (Mizruchi 2013).

In contrast to the traditional interest-group focused view of pluralism, the public opinion pluralist perspective has emphasized the role the general public plays in government rather than centering on interest groups (Burstein 1998; Peoples 2009). These differences have been conceptualized through two distinct camps within pluralist theory—majority pluralism and biased pluralism. According to the former, the interests of all citizens are relatively well represented in policymaking (Page and Shapiro 1983; Monroe 1979). In contrast, proponents of the latter contend that the interests of businesses and professional groups

dominate policymaking (Schattschneider 1960). Although biased pluralism accounts for the dominance of industry, the theory asserts that a plurality of corporate interests are expressed and dismisses the notion of a class-wide interests. In contrast, elite theory contends that while a diversity of interests may exist, class-wide rationality ultimately leads businesses to engage in collective action to protect their class-wide interests when economic activity more generally may be threatened (Banerjee and Murray 2021). Gilens and Page (2014) predominately find support for elite theory. However, in testing the two theories of pluralism, they find more support for biased pluralism, as mass-based interest groups are less active and have less collective impact on policy than business groups; moreover, average citizens have little independent influence on policy (Gilens and Page 2014).

Contemporary literature on political power.

Power structure research has tended to align more closely with elite or class cohesion theory than with pluralist theory (Banerjee and Murray 2021; Burris 2001; Clawson et al. 1986; Heerwig and Murray 2019), though some have also conceded that there may be variation in the degree of business unity in different circumstances (Mizruchi 1992). For instance, Gimpel, Lee, and Parrott (2014:1036) find that business is a “variegated constellation of interests,” with different perspectives toward the political parties across economic sectors. Despite these differences, however, corporate interests maintain a stronger influence over government than other interest groups.

In a comprehensive assessment of four theories of political activity in the U.S., Gilens and Page (2014) find that economic elites and organized groups representing business interests have substantial independent impacts on policymaking, whereas average citizens and mass-based interest groups do not. Although there are some groups, such as labor unions, that may represent the views of average citizens relatively well, they find that the interest group system as a whole does not. In fact, they find that the net alignment of business-oriented groups is negatively related to the desires of average citizens (Gilens and Page 2014). That is, business interests more often conflict with the interests of average citizens.

Prior analysis of PAC contributions to members of the 107th House also lends support to elite theory (Peoples 2009). To test state-centered theory, pluralist and elite theory, Peoples (2009) assessed the influence of business and labor PACs on roll call voting. If state autonomy were to hold true, neither business nor labor PACs would affect roll call voting. If pluralist theory were to hold true, big business PAC contributions would not affect roll call voting more significantly than labor PACs. However, Peoples (2009) finds that contributions from big business increase vote similarity among legislator dyads, whereas contributions from labor PACs have no significant effect on vote similarity, lending support to elite theory.

Adding to these findings supporting elite theory, and in contrast to theories that the corporate elite have fractured in the U.S., recent literature shows that the processes of corporate unity have shifted and there exists a transnational

corporate elite (Banerjee and Murray 2021; Murray 2017). Rather than banks serving as a primary arena for consensus building, a network of information has emerged “that transcends borders and creates a leading edge of business politics that is transnational in nature” (Murray 2017:1621). Tracing political donations by G500 firms that had a PAC and donated to a candidate in an open U.S. congressional seat in 2006, Murray (2017) finds that both the U.S. and transnational corporate elite are politically unified. Rather than the previous network of financial firms, his findings suggest political unity is now facilitated by a transnational intercorporate network comprised of interlocking and transnational inner circle directors. These inner circle directors serve on more than G500 board, with at least two being domiciled in different nations, and are able to diffuse class-wide interests.

In a similar strand of research, Carroll and Sapinski (2010) find transnational interlocks have grown as national corporate networks dissipate. They map a corporate policy network that is highly centralized at both the individual and organizational level, comprised of a tightly connected inner circle of politically active business leaders and an organizational core of policy boards and directorates from leading corporations and financial institutions. Although different groups have distinctive positions within the network and may have different regional interests, they are “unified by a neoliberal consensus” (Carroll and Sapinski 2010). A global network has also been linked to the emergence of climate capitalism, under which businesses promulgate climate solutions that

allow for continued accumulation of profit and mitigate risks to the bottom line.

This network is reviewed in the proceeding chapter.

CHAPTER 3: THE CORPORATE ELITE AND CLIMATE CAPITALISM

In addition to the emerging literature on political power, evidence from the climate policymaking arena further supports the existence of an influential corporate political network. The literature has painted a picture of how the elite leverage the policy planning network to influence environmental policy—though the picture remains murky for other important networks of power such as candidate selection.

In environmental policy, the policy-planning network establishes the general boundaries of what is acceptable in accordance with general capitalist class interests, whereas the special interest process may involve conflicts between specific groups pursuing short-term interests (Wishart 2019). While a faction of corporate actors leverages the opinion-shaping process to try to prevent climate change from making it to the political agenda through denialism (Vesa et al. 2020), there is moderate conservative faction within a global policy planning network that has established an organizational infrastructure to support expansion of the climate capitalism project, which propagates strategies to manage global warming within the neoliberal regime via pricing mechanisms (Sapinski 2019). This faction, which includes a coalition of corporate, political and civil society actors, has been mobilizing since the early 1990s, with the goal of reconciling economic growth and environmental protection (Sapinski 2016).

Within this global policy planning network, Sapinski (2019) documents close links between corporate-funded climate and environmental policy groups (CEPGs) and intergovernmental organizations, large environmental

nongovernment organizations, and business organizations. These strategically positioned CEPGs serve a unifying role within the global policy, providing a channel through which corporate influence reaches global governance organizations, helping to “insert climate capitalism within the hegemonic neoliberal globalization project” (Sapinski 2019). These links between the capitalist class and environmental organizations signal the strength of corporations in the policy arena, as environmental organizations have sought a combination of both confrontational and accommodationist strategies as the power of nation-states has dissipated (Pellow 2001). CEPGs position themselves in the polity in such a way that they can leverage the knowledge-shaping process to produce and mobilize knowledge that is supported by environmental organizations but also appeals to neoliberal hegemonic organizations (Sapinski 2019). CEPGs in the core of the network may serve as brokers between different regional corporate interests to facilitate a global climate capitalism project, which is driven by a corporate elite seeking to create new bases for capital accumulation within the neoliberal system (Sapinski 2016).

Carroll et al. (2018) document a similar network of organizations promulgating climate capitalism within Canada. Mapping the Canadian network of carbon-capital corporations whose boards interlock with knowledge-producing civil society organizations, they document what they term “a stage 2 denial regime,” in which the carbon-capital sector interlocks with knowledge-producing civil society organizations to advocate for policies that appear to address the issue of climate change but that are more business friendly and do not harm big

carbon. Their mapping reveals a “small world of corporate influence within which major carbon-capital players collaborate with each other and with other elites in the governance of CSOs,” including advocacy organizations, think tanks, universities and research institutes (Carroll et al. 2018:436). Rather than denying the scientific consensus, this “stage 2 denialism” involves obstructing changes to decarbonize and reduce emissions that would jeopardize the bottom line (Carroll et al. 2018). A similar network has been observed in the U.S., where centrally positioned energy corporations interlock with key policy planning organizations (Crawford 2012). Other comparable networks have been observed in Finland, where a pro-economy coalition occupies a central position in the policy network, with ties to key government agencies. Rather than factions involved in knowledge dissemination, such as the climate change countermovement, this centrally located coalition relies on inside lobbying to influence policy.

In the U.S., the fossil fuel industry holds a prominent position within the power structure (Wishart 2019) and has been effective at leveraging its entrenched power to oppose efforts to reduce emissions at both the federal and state level (Stokes 2020). Given the importance of energy to the economy, electric utilities and other fossil fuel companies have a privileged position within the policymaking arena (Stokes 2020) and have been able to develop long-standing relationships with policymakers and force institutionalized relationships with the Republican party (Loewentheil 2012).

What these studies show is that any analysis of environmental policymaking from pluralist or state autonomy theoretical perspectives are likely

to miss the dominance of the capitalist class through the policy planning network (Wishart 2019). Taken together, the research on political power in the U.S. lends support to the idea that the policymaking arena is dominated by business and corporate elite interests. The policy-planning network provides the capitalist class with organizational capacity to mobilize and exclude “counter-hegemonic voices” from the policy formation process (Wishart 2019) and allows energy producers to dominate the policy subsystems within which they operate (Loewentheil 2012). Connecting the policy-planning and knowledge-shaping processes (Bonds 2010), the climate capitalist faction also establishes its own knowledge production and mobilization organizations to gain support (Sapinski 2016).

Although this research documents the activity of the policy planning network, less is known about how the corporate elite leverage the candidate selection process through campaign contributions. In light of this, understanding the political strategies of corporate actors is important to understanding how they utilize levers of power to maintain their dominance. Political action committees (PACs) provide an avenue for studying the political activity of corporations and understanding their potential influence on policy, as they are often treated in literature as an expression of a corporate political goals (Clawson et al. 1986). Dissecting these strategies will help advance our understanding of how specific sectors use their political capacity to secure their desired agendas and help shed light on how the corporate policy planning network links with powerful government lawmakers via the candidate selection process. The following

chapter reviews the campaign finance landscape in the U.S. and the literature on PAC contribution strategies.

CHAPTER 4: CAMPAIGN FINANCE IN THE U.S.

The campaign finance landscape in the U.S. allows for substantial private donations to political campaigns. There are two primary categories of contributions: (1) “hard money” donations, which are contributions given directly to candidates, either by individuals or PACs, and (2) indirect “independent expenditures,” which are not given directly to candidates and are typically provided through SuperPAC contributions (Peoples 2020). Within this campaign finance landscape, the capitalist class may influence policy with “two faces”—as individuals and as corporations (Burriss 2001). Power structure researchers have observed differences in how individuals and corporations donate. PACs tend to be more bipartisan in campaign donations and often donate to congressional races (Burriss, 2001), driven by motives of access and influence (Barber 2016). In contrast, individuals tend to be more ideological.

Under existing campaign finance laws, individuals can contribute up to \$2,900 per candidate, per election, whereas PACs are allowed to contribute \$5,000 per candidate, per election (FEC n.d.). SuperPACs are unregulated, with no restrictions currently in place on how much they can spend on elections. The only restriction for SuperPACs is a prohibition against coordinating with a particular candidate or candidate’s campaign. There are also no limits on how much individuals may contribute to SuperPACs. These SuperPACs, which are more prominent in presidential elections, generally attract donations from contributors supporting a single ideological perspective. Whereas individual contributors and SuperPACs generally seek to influence election outcomes,

rather than policy, PACs may seek to influence both outcomes and policy (Peoples 2020).

In terms of contribution patterns, there has been a steady increase in contributions for both presidential and congressional elections. Election cycles that involve both presidential and congressional elections typically attract the most donations (Peoples 2020). At the time, the 2008 campaign was the most expensive in U.S. history, with a record \$5.3 billion spent on congressional and presidential races combined (Cummings 2008). That number has continued to grow substantially. In the 2020 election, it is estimated that more than \$14 billion was spent—more than the previous two presidential election cycles combined (OpenSecrets 2020b).

Contributions by PACs have been trending upward, especially for congressional elections (Peoples 2020; Stratmann, 2005). Candidates are raising more money, politics are becoming increasingly polarized and new donors are emerging (Barber, 2016). In the election cycle leading up to the 111th Congress (2007–2008), PAC contributions totaled \$412.8 million, \$358.9 million of which was directed to candidates seeking election in 2008. House candidates received \$308.3 million from PACs, up 7.8 percent from the previous election cycle. Interestingly, Republicans received \$178.9 million during this cycle, down 13.9 percent from the previous cycle, while Democrats received \$233.9 million, up a marked 44.9 percent. In addition to contributions, PACs made \$135.2 million in independent expenditures for and against candidates in 2008, an increase of more than 250 percent from the 2005–2006 cycle (FEC 2009). The following

section examines the different types of PACs and how they strategically leverage these financial resources.

Political Action Committee Contribution Strategies

Political action committees (PACs) typically represent either business, labor or ideological interests. These PACs pool campaign contributions from members and provide an avenue through which entities that are prohibited from donating directly to candidates to participate in campaign finance. As such, they provide a key mechanism for interest groups to direct funds to lawmakers.

Business PACs, which are treated as an expression of corporate interests, are by far the largest type of contributor and outspends all other types of PACs. In the 2019-2020 election cycle, for instance, business PACs made \$379.26 million in contributions, while labor made just \$71.74 million and ideological groups made \$137.52 million (OpenSecrets 2021a).

PACs representing these different interest groups will follow either ideological or pragmatic strategies. Pragmatic strategies seek to secure influence and gain access to elected officials and often involving contributing to both candidates in close races (Burns et al. 2000), resulting in a nearly even split between parties (Peoples 2020). PACs may also pursue more ideological strategies, seeking to influence the outcome of elections (Clawson et al. 1986; Grenzke 1989). These strategies involve directing contributions to races in which there is a significant political difference between candidates (Clawson et al. 1986).

Recent scholarship suggests businesses typically follow a pragmatic strategy (Burriss 2001; Peoples 2020), though Clawson, Neustadtl and Bearden (1986) found corporate PACs followed pragmatic, ideological or a mix of strategies in the 1980 election. Ideological PACs have similarly been found to use a mix of both pragmatic and ideological strategies (Burns et al. 2000), sometimes taking a middle ground between access-driven PACs and the ideological strategies used by individuals (Barber 2016). This aligns with findings by Neustadtl (1990) that business PACs follow a more opportunistic contribution strategy and use lawmaker access to shape policy before the voting stage, whereas labor PACs follow a more ideological approach by identifying “friends” and rewarding them with contributions.

Business PACs following pragmatic strategies and seeking to gain access to lawmakers will often *contribute to incumbents* (Burriss 2001; Clawson et al. 1986; Stratmann 2005), especially those whose perspectives echo their own (Austen-Smith 1995) or those in a position to either advance or stymie their ability to meet their goals (Burns et al. 2000). Barber (2016) similarly finds that ideological PACs are more likely to support incumbents. Those most likely to be impacted by legislation may favor incumbents in order to maintain access (Burriss 2001). However, the decision to invest to secure access may be influenced by a candidate’s chances of electoral success (Austen-Smith 1995). Pragmatic strategies may be reflected in business PACs being investment-driven in their campaign donation strategies. In a study of campaign contributions to the California state legislature in 2004, Apkarian et al. (2015) found that business

donors hedge their investments by *contributing across party lines* to ensure they have contributed to a winning campaign. In contrast, social organizations are generally more ideologically-driven, with a partisan bias in favor of linking Democrats as opposed to Republicans and an aversion to connecting direct opponents (Apkarian et al. 2015).

Why Contribution Strategies Matter.

Contributions are part of a broader effort to influence lawmakers that relies on relationships between PACs and lobbying firms. While there is some debate as to whether lobbying and contributions are independent activities (Powell 2013), PAC strategy is often viewed as part of a broader lobbying effort (Burriss 2001) or “multi-prong electioneering strategy” designed to frame issues prior to an election and subsequently support the candidates who support that framing (Ard, Garcia, and Kelly 2017: 1110). Recent scholarship suggests that PACs are associated with lobbying firms and that they follow access-oriented contribution strategies (Peoples 2020; Powell 2013) and develop long-run investment relationships with lawmakers (Stratmann 2005). The PAC establishes a relationship with a lawmaker through a contribution, and the lobbying firm will then actively try to use that relationship to influence policy (Peoples 2020). Powell (2013) also finds support for the access model, showing that the more time members spend fundraising, and the greater their relative rate of return on fundraising, the more they rely on lobbyists.

Kalla and Broockman (2016) have validated the link between campaign contributions and access to lawmakers using a randomized field experiment. To

address issues of endogeneity in existing research, they designed a field experiment in which a political organization attempted to schedule meetings with 191 congressional offices and its members who were active campaign donors. The organization randomly assigned whether it disclosed to congressional offices that prospective meeting attendees had contributed to campaigns. Findings revealed that when congressional officers were informed about a prospective attendee's donor status, they made themselves available considerably more often. In addition, the findings show that nearly all of the meetings scheduled with either chiefs of staff or members of Congress occurred when the offices were aware of campaign contributions. The findings indicate that policymakers grant preferential access to interest group members when they have contributed to campaigns (Kalla and Broockman 2016).

That campaign contributions help secure access to lawmakers has important implications for policy, as contact with interest groups has been found to skew the perceptions of congressional staffers about public opinion (Hertel-Fernandez, Mildemberger, and Stokes 2019). Interest groups have the advantage of being more readily organized than the public, allowing them to more effectively present their biased version of public preferences to legislators (Stokes 2020). While more contact with liberal, mass-based groups is associated with more accurate perceptions among staffers of constituent opinion, heightened contact with conservative, corporate-based groups is associated with less accurate perceptions (Hertel-Fernandez et al. 2019). In line with the findings that contributions increase access to staffers, Hertel-Fernandez, Mildemberger, and

Stokes (2019) find that increased reliance on corporate contributions is related to larger misperceptions of constituent interests among staffers. Staffers are also likely to develop new perspectives after speaking with groups that provide campaign contributions.

In addition to pursuing different strategies to gain access, PACs may also shift their strategies depending on whether legislators represent a large or small constituency supporting their interests (Stratmann 1992). Contributions may help interest groups buy both votes and effort from legislators, in the form of drafting legislation, encouraging fellow lawmakers to vote a specific way and similar legislative efforts. In an analysis of farm PAC contributions over three election cycles, Stratmann (1992) finds that PAC contributions are typically directed toward legislators whose constituency interest indicates they may be undecided on a how to vote, whereas those already likely to be predisposed to vote in their favor generally receive less contributions. He further finds that legislators with a lower supply price of effort are likely to receive more contributions (in other words, lawmakers who are better positioned to influence outcomes). Senior legislators, those on committees of interest and those whose constituency involves a larger number of the special interest group are likely to have lower supply prices than other legislators (Stratmann 1992). Further reflecting a tendency towards pragmatic giving, research finds that although members of the same industries are likely to make campaign contributions to the same candidates, sharing a primary industry is not significantly associated with ideological similarity. This suggests that firms direct donations to the same

candidates because they share similar interests represented by those individuals (Mizruchi 1990).

It is likely, as well, that the interests represented by those individuals is reflected in committee membership. Indeed, literature supports the assertion that committee membership may influence donation strategies (Clawson et al. 1986). Since committees serve as gatekeepers by deciding which policies are considered by the House (Parrott 2019; Schroedel 1986), committee membership may be an important interest factor in contribution decisions. Indeed, Fournaies and Hall (2018) find that interest groups not only target members on committees whose jurisdiction intersect with their interests, but also pursue indirect access by contributing to members with procedural power, including those with the authority to influence committee membership. Stratmann (2005) finds that incumbents on powerful congressional committees may raise more funds and that PACs may reallocate funds when members change committees. Gimpel et al. (2014) find that most economic sectors (77 percent) have a preference for directing PAC contributions to members of particular congressional committee or set of committees. For instance, the mining sector tends to favor members of the Energy and Natural Resources Committee. McKay (2020) has observed similar importance of committee memberships in the Senate, finding that lobbyists that contribute to senators on key committees of interests are more likely to achieve legislative success. Contributions may encourage committee members to become more active on issues of interest to contributors (Esterling, 2008)—a phenomenon is known as mobilization of bias

(Hall and Wayman 1990; Peoples 2013). However, members that receive contributions from groups outside the committee interest area may mobilize members away from policy hearings.

These findings align with observations from Parrott (2019) that congressional committee staff often worked with allied interest groups when organizing hearings, preparing for legislative markup sessions and organizing action on the floor. His observations point to interest groups leveraging relationships with congressional committee staff to influence key power processes, including by serving as issue area experts and sharing knowledge and resources with staff, such as public opinion surveys. Parrott (2019) argues that reliance on interest groups may tilt committees away from the desires of the full House, towards more “constituency-motivated desires” of a subset of legislators. However, that congressional staff often misinterpret public opinion (Hertel-Fernandez et al. 2019) challenges just how “constituency-motivated” these legislators may be and who in the constituency they are seeking to appease. Similarly, his observations that “committee staff generally had an open-door policy to all groups,” is challenged by Kalla and Broockman’s (2016) findings of preferential access for contributors. His observations, however, suggest that the number of legislative allies on committee that an interest group has is an important factor in seeking to influence the legislative process.

Other factors may also influence contribution strategies. Barber and Eatough (2020), for instance, present a theory that interest group donation behavior shifts based on the degree of polarization in the industry, as the

possibility of access leading to policy influence may decrease as political parties developed firm stances and issues become politicized. As political parties develop established positions on issues, it may become more valuable for PACs to pursue strategies to replace unsympathetic legislators. Using a measure of industry polarization based on newspaper reporting, they find that levels of politicization are directly related to the degree of to which PACs pursue access-seeking donation strategies. They find that as politicization increases, interest groups are more likely to support nonincumbents and to contribute to competitive races, and are less likely to contribute to candidates from the majority party or to committee chairs. This suggests that interest groups in politicized industries may pursue a less access-consistent strategy, and more ideological strategy. The findings are “consistent with donations providing interest groups with something of value,” given that PACs exhibit systematic and strategic donation behavior (Barber and Eatough 2020).

Having reviewed the literature on contribution strategies, the following section briefly reviews the literature on how these strategies ultimately reward donors in terms of legislative success and influence on roll call voting.

Campaign Contributions and Legislative Outcomes

Campaign contributions are not rewarded with an explicitly promised return, but are part of ongoing implicit exchange that yields substantial benefits to donors (Peoples 2013). Although there have been mixed findings on the influence of campaign contributions on roll call voting, recent work points to influence in both Congress and state legislatures (Burns et al. 2000; Peoples

2008, 2010, 2020; Peoples and Sutton 2015; Roscoe and Jenkins 2005), particularly for critical votes or contentious votes (Gordon 2001; Peoples 2008) and low visibility votes (Jones and Keiser 1987; Neustadt 1990; Schroedel 1986). While Grenzke (1989) found little evidence that PAC contributions impacted voting from 1975 to 1982, her study excluded corporate PACs and did not measure votes on individual pieces of legislation, instead measuring voting using a rating given by the organization concerned. In contrast, Peoples and Sutton (2015) find a significant relationship between contributions and voting among both Democratic and Republican lawmakers. Their analysis used data from PACs and all roll call votes in the 109th House (2005–2006)—representing votes on 1,214 bills and resolutions. While causality is difficult to demonstrate (Stratmann 2005) and it is possible that relationship may be reciprocal and simultaneous (Grenzke 1989), Roscoe and Jenkin’s (2005) meta-analysis suggests that contributions impact how legislators vote in a majority of instances that have been tested. Stratmann’s (2005) meta-analysis similarly suggests money influences votes.

Building on these findings, McKay (2020) uncovers a significant relationship between campaign contributions and legislative success in the Senate. In a comprehensive analysis of contributions and microlegislation—or requests for amendments—in the drafting of the Affordable Care Act, McKay (2020) finds that the predicated probability that a group is successful having desired microlegislation introduced in an amendment is more than four times higher for groups that contribute to committee members compared to those that

do not. The strength of this relationship is heightened when the requested microlegislative amendments are of low-visibility, unilateral action, and offer private benefits to the requester. Looking at lobby group-senator dyads, she further finds that when a group contributes to a committee member, the odds that that senator tables the desired amendment are five times higher than if no contribution had occurred in the dyad. In policymaking battles, McKay (2020) finds that the side that provides more contributions is more likely to win, even when controlling for whether it is the majority side or not. According to McKay (2020), these findings signal the need to question the assumption that contribution limits reduce their effects, as legislators not only pay more attention to whether—rather than how much—a group contributes, but a group’s contributions can add up despite limits.

Influence is also likely to occur earlier in the legislative process (Powell 2013), reducing the amount of legislative possibilities (Neustadtl 1990). Zhang and Tanger (2017), for instance, find evidence of a quid pro quo relationship between cosponsor of legislation and campaign contributions, which may facilitate bill passage. The literature is indicative of a broader market for legislative production that extends beyond influencing elections or key legislative events such as roll call votes (Zhang and Tanger 2017) and may include less observable services such as agenda development (Magee 2002).

These findings signal the need to study corporate PAC contribution strategies and patterns, which provides an important first step in understanding the conditions under which contributions may impact not only voting but other

phases of the legislative process. For contentious policy areas such as climate change, which has attracted substantial interest group attention, understanding the contribution patterns may provide important insight into policy gridlock. It is particularly important to understand the patterns of contributions among large interest groups such as the fossil fuel industry, as the electoral strength of interest groups has been found to influence contributions (Bombardini and Trebbi 2011). To provide context for the present analysis, the next chapter briefly examines the landscape of interest group activity in climate policy in the U.S., including during the crucial time period of the 111th Congress.

CHAPTER 5: INTEREST GROUPS AND CLIMATE POLICY

Environmental policymaking—and climate policy in particular—attract substantial interest group attention. Although it once attracted bipartisan support, environmentalism has entered a phase of rampant ideological and partisan conflict, with environmental support becoming a key differentiator between the political parties (Bryner 2008). This polarization is evidence not only in votes on environmental and energy votes in the House (Kim and Urpelainen 2017) but also corresponds to an increase in spending by interest groups on climate denial and anti-renewable campaigns (Stokes 2020). This period of increasing polarization also corresponds to increasing climate lobbying.

More than \$2 billion was spent on climate lobbying between 2000 and 2016 (in 2016 values, adjusted for inflation). Lobbying was led by electrical utilities, which spent \$554 million; the fossil fuel sector, which spent \$370 million; and the transportation sector, which spent \$252 million. Spending by these three industries far outweighed that of environmental groups or the renewables sector, neither of which accounted for more than 5% of lobbying on climate legislation in any year between 2000 and 2016, with one exception in 2002. By far, the utilities, fossil fuels, and transportation industries have been the most dominant in lobbying on climate change legislation. In fact, environmental organizational and renewables sectors were outspent by the above business sectors by a ratio of about ten to one. That environmental organizations are outspent is important given a history of being unable to produce major policy shifts. Environmental groups have been largely unable to convince Congress to pass even weak bills

to regulate greenhouse gas emissions (though it should be noted that they have been able to help shape the political agenda and have served as a veto to block controversial initiatives). This failure has largely been attributed to opposition from a powerful group of oil and coal producers and other fossil fuel dependent industries with strong ties to government officials (Bryner 2008).

Lobbying may increase when support for policy is strong due to the nature of interest group politics. When support is strong, the opposition coalition is likely incentivized to lobby policymakers to influence policymaking (Cheon and Urpelainen 2013). These lobbying efforts may provide a significant return on investment. Kang (2016) found that while energy sector lobbying had only a small impact on the likelihood of enactment of federal energy legislation during the 110th Congress (2007–2009), average returns from lobbying were between 137 percent and 152 percent. His analysis suggests that the effect of lobbying on the likelihood of a bill being enacted is stronger when an actor lobbies against a bill, rather than supporting it. While lobbying expenditures cannot legally provide direct benefit to legislators, lobbyists may provide valuable resources to legislators, including by serving as “bundlers of campaign contributions” (Kang 2016:280).

These findings signal the potential value of campaign contributions and the access to lawmakers they secure for interest groups, as trust and relationships with politicians are valued. It is possible that campaign contributions also influence the likelihood of enactment of climate legislation. Indeed, Goldberg et al. (2020) find that oil and gas companies invest, via campaign contributions,

in members of Congress with a history of voting against environmental legislation. It is therefore important to understand the patterns of PAC contributions to dissect how corporate actors may mobilize to support or oppose climate legislation.

Climate Policy in the 111th Congress

The 111th Congress is an ideal period to assess PAC strategies as Congressional attention to the issue peaked amid the largest campaign for climate legislation in the history of environmental policy in the U.S. (Brulle 2018; Loewentheil 2012). Members of Congress started introducing more significant climate legislation bills in 2007. At the same time, more industry leaders starting to voice their support for addressing the climate issue (Bryner 2008)—and expectations heading into the 11th Congress were that some form of national climate change action would be taken. The efforts during this period culminated in the House passage of the American Clean Energy and Security Act of 2009 (ACES), which included a cap-and-trade reduction plan designed to reduce economy-wide greenhouse gas emissions 17 percent by 2020 (note: no action in the Senate). The plan was promulgated largely by a collaborative effort by business and environmental groups known as the U.S. Climate Action Partnership (USCAP). While many environmental groups were opposed to market-based solutions (Pooley 2010), others sought to work with industry and seek a compromise solution (Bartosiewicz and Miley 2013). By the end of 2008, USCAP comprised 32 members, including leading environmental advocacy

groups and major polluters. The goal was to establish consensus among elite actors and use it to push forward legislation (Loewentheil 2012).

USCAP was among best-financed political campaigns in history (Loewentheil 2012) and spent nearly \$2.7 million lobbying on climate change between 2008 and 2010 (Bartosiewicz and Miley 2013) to promote a project of climate capitalism. According to Vormedal (2011), businesses lobbied for regulatory change in recognition that the costs of legislative inaction were likely greater than the costs of compliance with a more favorable cap-and-trade program. As part of USCAP, participating businesses pledged to refrain from attacking the proposal publicly in exchange for concessions to reduce compliance costs. However, USCAP does not represent a unified corporate strategy of acquiesce to climate legislation. In fact, part of the goal of USCAP was to “present a united front strong enough to stand up to the organized, politically connected and better-funded lobbyists for the coal, oil, and gas industries and electric utilities arrayed against carbon regulation” (Bartosiewicz and Miley 2013: 6). The oil and gas industries spent \$44.5 million lobbying against USCAP plan in the first three months of 2009 (Bartosiewicz and Miley 2013).

Wishart (2019) finds that while some corporations cooperated with environmental groups with USCAP, others retained close links with ultra-conservative denial organizations, industry groups and policy groups. Structurally, he finds that the “center of gravity” of the policy planning network has tilted away from climate action, as organizations supporting action are less

central than those not supporting action. Wishart's (2019) findings suggest differences between coal and other fossil fuel companies' links with moderate and ultra-conservative factions within the policy network. These findings align with those of Grumbach (2015), who found that despite some outward appearances of supporting ACES, industry stakeholders did not prefer climate reform over the status quo and operated as protagonists in efforts to reduce greenhouse gas emissions. The study signals increasing attention by industry stakeholders to politics before the bill was introduced, with a spike in campaign contributions (Grumbach 2015)—but it does not dissect the strategies these corporate stakeholders used in allocating those contributions.

Although the dynamics of governance and corporate preferences can create change and lead to “tipping points” in business strategies—and there were signals of potential corporate strategy shifts during this period of climate legislation—there is little empirical evidence regarding a shift in business strategy during the period. Vormedal (2011:5) asserts that a “clearly identifiable and prevailing group of corporations and/or business lobbies—enough to make a political difference”—started to exercise new political strategies as the dial appeared to be moving toward climate action, with states undertaking new regulatory efforts and the Supreme Court granting the Environmental Protection Agency the authority to regulate greenhouse gas emissions. However, increasing support for environmental action, outwardly, has had coalesced into actual legislative action. With documented efforts related to denialism (Pooley 2010), strong opposition by oil, coal and natural gas companies (Loewentheil 2012), and

evidence that the state level of ongoing pushback against changes to the status quo (Stokes 2020), it is imperative to assess less publicly visible corporate activity, such as campaign contributions, to gain a better understanding of policy gridlock.

Interest group activity in the 111th Congress

There was a period of record climate-related lobbying during the 111th Congress. The most significant climate legislation during the period, ACES, accounted for nearly 14 percent of all recorded lobbying expenditures at the time (Meng and Rode 2019) and was the ninth most lobbied bill among federal legislation in 2009 (Kim et al. 2016). Lobbying expenditures reached a peak of \$362 million in 2009, when lobbying on climate policy accounted for 9% of total lobbying expenditures. Climate lobbying doubled in the 111th Congress. In line with the increase in lobbying expenditures, a February 2009 analysis by the Center for Public Integrity found that more than 770 companies and interest groups had hired some 2,340 lobbyists to influence climate change policy over the preceding year. The Center estimated that \$90 million was spent on climate change lobbying in 2008, with 130 businesses and interest groups spending upwards of \$23.5 million on lobbying teams dedicated exclusively to climate (Lavelle 2009). The lobbying increase was driven largely by heightened expectations for major climate legislation (Brulle 2018). The increase in climate lobbying reflected the potential for climate legislation to be enacted amid Democratic control of Congress and the Executive Branch. Lobbying tends to go

down when there is a lower probability of action because of divided control of government or a party opposed to action being in control (Brulle 2018).

Tracing the lobbying around ACES, Meng and Rode (2019) estimate that lobbying activities decreased the likelihood the bill would be enacted by 13 percentage points, representing an expected social cost of \$60 billion, based on an estimate of the social cost of carbon and projections for mitigated greenhouse gas emissions under the bill. Notably, they found that firms expected to gain from the legislation spent more, on average, on lobbying than those expected to lose (Meng and Rode 2019). This may be, in part, due to expected winners being more likely to lobby individually than companies expected to lose financially as a result of the legislation (Kim et al. 2016). However, those expected to lose value are more effective at lobbying to lower the chances of policy enactment than firms lobbying in support of the policy (Meng and Rode 2019).

Downie (2017) contends that lobbying on ACES was a key reason for its ultimate death. Coal producers were opposed to the bill because they stood to lose significant revenues. The industry spent an estimated \$34 million lobbying between 2009 and 2010, during the debate over the bill (Downie 2017). Downie (2017a) notes that nearly all of the coal industry opposed the bill. Indeed, he finds that the top ten coal producers, representing about 76% of U.S. coal production, were almost uniformly opposed to the bill, with the one exception being Rio Tinto. While utilities that generate more electricity from renewables or natural gas had more clear incentives to lobby individually for specific interests or provisions, expected losers such as coal producers focused on collective action

to try to either weaken the legislation or prevent enactment (Kim et al. 2016). Utilities either supported, opposed, or hedged their position, depending on their generation portfolios. Although the top fifteen electric utilities, representing 71% of the total market capitalization, appeared to support the bill, Downie (2017a) identifies three different strategies: (1) utilities with diverse generation portfolios, with less than a third being coal, openly supported the bill; (2) utilities that generate more than a third of their electricity from coal hedged their position, working to shape the legislation in order to reduce compliance costs—both opposing or supporting the bill at different points as they tried to influence its contents; and (3) utilities that generated more than a third of their electricity from coal opposed the bill completely.

The existing literature points to the need to understand the strategies of the fossil fuel industry in shaping climate policy in the United States. Research by Ard, Garcia, and Kelly (2017:1109), for instance, shows the climate-change countermovement (CCCM) engaged in a “little-examined...strategy using corporate PACs to fund decision-makers’ campaigns,” from 1990 to 2010, alongside indirect lobbying strategies. Analyzing FEC data on industrial PAC donations, they show that CCCM PACs—which include industries such as oil and gas, mining, and electric utilities—typically donated more to Republicans than Democrats. The analysis suggests that as contributions from CCCM PACs increased, the likelihood of a lawmaker voting pro-environment declined (Ard et al. 2017). Donations from CCCM PACs were a significant predictor of environmental voting among Democrats, but not Republicans, suggesting PAC

donations may influence a representative to vote against their party stance. While this is indicative of the need to study PAC contributions, it does not disaggregate the data to speak to the different contribution strategies used.

Although the existing literature signals the importance of lobbying and campaign contributions related to climate lobbying, there is still no clear picture of how campaign contributions have been leveraged. It remains unclear how strategies differed between industry and special interest groups, which has important implications in efforts to leverage different levers of power to influence government decision-making. Studying the campaign contributions before the 111th Congress provides a valuable case to explore a key arena of political efforts in environmental policy in the U.S.

CHAPTER 6: RESEARCH HYPOTHESES AND METHODOLOGY

To understand the interest group activity surrounding climate policy, this research explores the patterns of contributions to House members in the two-year election cycle leading up to the 111th Congress. Specifically, the research seeks to ascertain whether corporate PACs associated with the fossil fuel industry (“industry PACs) or PACs associated with environmental organizations (“environmental PACs”) leveraged pragmatic or ideological contribution strategies.

Industry PACs are important to study as the fossil fuel industry is among the most powerful political lobbying groups (Bartosiewicz and Miley 2013) and is responsible for nearly 80 percent of the country’s energy production (Desilver 2020; EIA 2020). The net income for 43 U.S. oil producers reached a five-year high of \$28 billion in 2018 (EIA 2019). Since 1990, the profit of Big Oil—which includes BP, Shell, Chevron and Exxon—have reached nearly \$2 trillion (Taylor and Ambrose 2020). As a result of its financial strength, the fossil fuel industry has the potential to be a powerful actor in climate policy and may lobby for favorable policy. The five largest market-listed oil and gas companies spent upwards of \$200 million each year lobbying to stymie climate policy (Taylor and Ambrose 2020). Lobbying by the sector peaked in 2009 reaching \$175.48 million. Although smaller in number and budget, environmental PACs are important to study because they represent the institutional/political efforts of the environmental movement.

To understand whether industry PACs strategically donated to congressional campaigns ahead of the 111th Congress—and compare their contribution strategies with environmental PACs—this study will test several hypotheses that tap into different dimensions/measures of pragmatic contributions. But before assessing the contribution strategies of industry PACs versus environmental PACs, a few general hypotheses will be tested.

Hypotheses

The first set of hypotheses deal with contributions patterns in general (e.g., average contributions). Consistent with the literature, the hypothesis predicts that average industry PAC contributions will outweigh environmental PAC contributions by a significant margin. We would expect this given both the financial clout of the fossil fuel industry, its history of strong political lobbying, and the anticipated impact of climate legislation on fossil fuel companies' "bottom line." In particular, we would expect the potential economic impact to be a strong driver of pragmatic donation strategies as fossil fuel businesses seek to mitigate or minimize economic headwinds. In contrast to fossil fuel companies, spending by environmental groups has historically been much lower, which is in line with the broader categorical trend of business PACs far outspending ideological or labor PACs (OpenSecrets 2021a).

H_{1A}: Average contributions (amount, in dollars) from industry PACs were significantly higher than average contributions from environmental PACs.

H_{1B}: Aggregate donations—aggregated to the candidate level—over the two-year election cycle (amount, in dollars) from industry PACs were, on

average, significantly higher than aggregate donations from environmental PACs.

The second group of hypotheses deal with donations to political parties—initially addressing general giving before taking a more granular look by examining district effects. These hypotheses are designed to test whether PACs engaged in bipartisan giving, which has been used as a measure of a pragmatic, or access-oriented, political strategy (Heerwig and Murray 2019). In line with the literature, these hypotheses predict that industry PACs pursued a more pragmatic donation strategy compared with environmental PACs—in other words, industry PACs were more likely to donate to both parties, whereas environmental PACs were more likely to donate to a single party. Given their vested economic interests in climate legislation, fossil fuel companies pursuing a pragmatic strategy would likely hedge their investments by contributing across party lines to maximize their potential access to lawmakers by ensuring they have contributed to a winning campaign (Apkarian et al. 2015). In contrast, environmental groups are expected to have contributed to Democratic candidates given the clear partisan divide on environmental issues. (Dunlap et al. 2016; Kim and Urpelainen 2018). Democrats typically support, and Republicans typically oppose, climate policy. In line with these partisan camps, environmental groups endorsed Obama in the 2008 election (Eilperin 2012). An ideological donation strategy would involve campaign contributions aligned with that endorsement.

H_{2A}: In general, industry PACs were more likely to donate to candidates from both parties, whereas environmental PACs were more likely to donate primarily to candidates from the Democratic party.

H_{2B}: Accounting for district effects, industry PACs were more likely to donate to candidates from both parties, whereas environmental PACs were more likely to donate primarily to candidates from the Democratic party.

The last set of hypotheses deal with donations to incumbents. Measuring donations to incumbents aligns with previous literature on PAC contribution strategies, which has used this as a proxy of pragmatism (Burriss 2001; Clawson et al. 1986; Heerwig and Murray 2019). Consistent with the literature, these hypotheses predict that industry PACs were more likely to give pragmatically than environmental PACs—in other words, industry PACs were more likely to give to incumbents, regardless of party, than environmental PACs. Given the potential impact of climate legislation on fossil fuels companies, they may favor incumbents as they seek to maintain access to lawmakers (Burriss 2001) to ensure they have a seat at the legislative bargaining table and can try to influence the legislative process. In contrast, we would expect environmental PACs to donate more evenly to both incumbents and challengers as they target both incumbent Democrats and the Democrats challenging Republican incumbents.

H_{3A}: In general, industry PACs were more likely to donate to incumbent candidates, whereas environmental PACs were more likely to donate to both incumbent and challenger candidates.

H_{3B}: Accounting for district effects, industry PACs were more likely to donate to incumbent candidates, whereas environmental PACs were more likely to donate to both incumbent and challenger candidates.

Data Collection

To examine these hypotheses, campaign contributions from industry PACs and environmental PACs to the 435 members of the 111th House and their challengers in the election were examined. The election cycle leading up to the 111th Congress was selected because the timing of contributions may be a signal of the contributors' intent. Contributors may first contribute to the election campaign on the assumption that, if elected, the candidate will vote in the contributors interest in the next Congress (Zhang and Tanger 2017).

Similar to other studies of PAC contributions, presidential campaign contributions are excluded because presidential candidates receive a portion of their campaign monies via public funding (Mizuchi 1990); moreover, senatorial contributions are excluded since senatorial candidates are up for election every six years on a staggered basis, meaning only one third of senators are up for election in any given election cycle.

Campaign contribution data were obtained from OpenSecrets. Their data are collected, compiled, and organized from the original source—the Federal Election Commission (FEC). OpenSecrets uses a coding scheme that classifies

donors by industry. Interest groups are classified by primary focus or area of policy interest (Barber 2016). For this analysis, PACs were coded as “industry PACs” if they were categorized by OpenSecrets under the coal mining, mining, oil and gas, and electric utilities sectors. PACs were coded as “environmental PACs” if they were categorized by OpenSecrets under the environment issue category. For a complete list of codes used to categorize industry and environmental PACs, see the Appendix. (Note: demographic data on the 435 members of the House, which included 257 Democrats and 178 Republicans, were compiled from Congress.gov).

Although they play an important role in environmental advocacy, renewable energy companies have been excluded from this analysis because their presence within the policy planning network has been found to be minor compared to those focused on fossil fuels during the time period of interest (Wishart 2019) and they are poorly represented in the global climate capitalist network (Sapinski 2016).

The initial dataset comprised 14,275 contributions made by PACs representing industry or environmental interests to members of the House and their challengers in the two-year election cycle before the 111th Congress. Three contributions to independent or third parties were removed from the dataset, as they were of little value to the analysis, and no independents or third parties won seats in the election. For later analyses, the dataset was reconfigured such that the unit of analysis was PAC x candidate. In all, there were 1,337 Democratic and Republican candidates included in the analysis. The candidate list was

compiled using FEC elections results data, with write-ins excluded. The candidate list was then matched to OpenSecrets CID numbers. Three candidates were removed as they did not have CID numbers. The dataset comprised 260 industry PACs and 10 environmental PACs. Using the PAC x candidate unit, the second dataset comprised 360,990 units of analysis.

Variables

For the first set of hypotheses, the variable of interest is amount, which is a quantitative variable ranging from -5000 to 5000 in the contribution dataset, which reflects PAC contribution limits in USD. In the PAC x candidate dataset, amount is aggregated, representing the total amount of contributions from PAC X to candidate Y throughout the entire two-year election cycle. The aggregated amounts range from -2000 to 17,500. The independent variable is PAC type, which is a dichotomous variable coded 1 if a PAC represents fossil fuel industry interests and 0 if it represents environmental interests. To test the likelihood of a contribution being given for the second and third sets of hypotheses, a dichotomous variable (“contribution”) was created and coded 1 if PAC x contributed to candidate y and 0 if PAC x did not contribute to candidate y. Data sources and measurements for all variables in the analyses can be found in Table 1. Descriptive statistics for the variables can be found in Table 2.

For the second set of hypotheses, a dichotomous variable, labeled “Republican,” was created and coded 1 if the candidate was a Republican and 0 if the candidate was a Democrat. As noted previously, independents and third parties were removed from the analysis. Control variables were also used for the

Table 1. Sources for, and Measurements of, Variables in Analyses

Variable	Data source	Measurement
Amount	OpenSecrets	Quantitative, in USD
PAC type	OpenSecrets	Dichotomous, 1 = fossil fuel, 0 = environmental
Contribution	OpenSecrets	Dichotomous, 1 = donated, 0 = not
Incumbent	OpenSecrets, FEC, Congress.gov	Dichotomous, 1 = incumbent, 0 = not
Challenger	OpenSecrets, FEC, Congress.gov	Dichotomous, 1 = challenger, 0 = not
Open seat	OpenSecrets, FEC, Congress.gov	Dichotomous, 1 = candidate running in open seat, 0 = not
Republican	OpenSecrets	Dichotomous, 1 = Republican, 0 = Democrat
Sex	Congress.gov	Dichotomous, 1 = female, 0 = male
Native American	Congress.gov	Dichotomous, 1 = Native American, 0 = otherwise
Black	Congress.gov	Dichotomous, 1 = Black, 0 = otherwise
Asian	Congress.gov	Dichotomous, 1 = Asian, 0 = otherwise
Hispanic	Congress.gov	Dichotomous, 1 = Hispanic, 0 = otherwise
Committee Membership	Congress.gov	Dichotomous, 1 = member of Science and Technology, Energy and Commerce, Foreign Affairs, Financial Services, Education and Labor, Transportation and Infrastructure, Natural Resources, Agriculture, Ways and Means, Select Global Warming committee, 0 = Otherwise
League of Conservation Voters Score	League of Conservation Voters National Environmental Scorecard	Quantitative, percentage ranging from 0 to 100

Leadership	Congress.gov	Dichotomous, 1 = speaker, majority leader, minority leader, Democratic whip, Republican whip, Democratic caucus chairman, Republican conference chairman, 0 = otherwise
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second set of analyses, including demographic data such as race and sex, and measurements of ideology and Congressional standing, such as League of Conservation Voter Score, committee membership and party leadership. However, control variables were collected only for members of the 111th Congress, meaning those that won the election. Given that the nature of many of the variables—such as the measurements of ideology and Congressional standing—require that the candidate has served previously, these variables are limited to incumbents in the election who won their seat in the 111th House. For committee membership, committees of interest to environmental policymaking were identified by examining the legislative history of the American Clean Energy and Security Act of 2009, which had the most significant legislative history at the time, having passed the House. For the League of Conservation Voters Score, the score for incumbents in the 110th Congress was used.

For the third set of hypotheses, three separate variables were created based on the candidates incumbency status in the election—“incumbent” (coded 1 if the recipient is an incumbent and 0 if they were not), “challenger” (coded 1 if the recipient is a challenger and 0 if they were not), and “open seat” (coded 1 if the recipient is running in an open seat race and 0 if they were not). A cautionary note is due here as there was some disagreement in a select few instances

between OpenSecrets and FEC classifications for incumbents and open seat races. In these instances, third sources were consulted, including congressional biographies, to ascertain whether a candidate was an incumbent, defined as having served in the prior Congress (the 110th). For each district, there was either a single incumbent and a single or group of challengers or all candidates were coded as open seat. In only a few instances, the OpenSecrets data was adjusted.

Table 2. Descriptive Statistics for Variables in Analyses				
Variable	N	Mean	St. Deviation	Min, Max
Contribution dataset				
Amount	14725	1313.78	1077.53	-5000, 5000
Sex	11864	.118	.323	0,1
Native	11864	.003	.059	0,1
Black	11864	.065	.246	0,1
Asian	11864	.007	.084	0,1
Hispanic	11864	.0533	.224	0,1
Committee Membership	11864	.741	.438	0,1
LCV Score	10964	49.08	38.316	0, 100
Leadership	11864	.036	.186	0,1
PAC x Candidate Dataset				
Amount	360990	50.09	494.51	-2000,17500
Amount, excluding \$0	6857	2636.87	2460.43	-2000,17500
Contribution	360990	.014	.136	0,1
PAC Type	360990	.963	.189	0,1
Incumbent	360990	.299	.458	0,1
Challenger	360990	.059	.237	0,1
Open seat	360990	.057	.231	0,1
Republican	360990	.488	.499	0,1

Methods

This study used a two-fold approach, starting with descriptive statistics. Then, regression models—ordinary least squares regression, or OLS, and logistic regression, depending on the measurement of the dependent variable—were run to assess contribution patterns according to party and incumbency status, controlling for other factors, where possible/appropriate. Finally, mixed models—akin to hierarchical linear modeling, or HLM—were used to account for district effects. All analyses were completed in SPSS 27.0.1.

A couple of cautionary notes are in order: First, the regression models using PAC-candidate units violate the assumption of case independence. Second, the final Hessian matrix for the HLM models in SPSS were not positive definitive, despite all convergence data being satisfied. Since the HLM models are supplementary analyses to account for effects of electoral districts, the models were accepted despite the warning. Given the above issues, however—and the large N in the PAC-candidate models—only relationships significant at the highest significance threshold ($p < .001$) are considered statistically significant and worthy of comment.

Analyses for first set of hypotheses.

For H_{1A}, an OLS regression using the dichotomous predictor variable PAC type and dependent variable amount was conducted. The initial analysis was conducted on the contribution dataset (N = 14,275), exploring contributions as individual units. Subsequently, for H_{1B}, an OLS regression was run using the

same variables in the PAC x Candidate dataset (N = 360,990), which aggregates all of the contributions by PAC x to candidate y over the entire election cycle.

Analyses for second set of hypotheses.

For the second group of hypotheses, multiple models were used. First, to explore the general patterns of contributions based on candidate party, interaction effects were used. Logistic regression was conducted on the entire PAC x candidate dataset (N = 360,990) using the dependent variable “contribution” and predictor variables for PAC type, candidate party, and an interaction term for PAC type and party (i.e., industry X Republican). Next, separate analyses were conducted for industry and environmental PACs. In these separate analyses, regressions were conducted using the “Republican” predictor variable and dependent variable “contribution.” Finally, HLM models were run using electoral districts as the grouping variable, with the dependent and predictor variable remaining the same. These models were conducted to account for the potential effects of electoral districts. Finally, one last set of models were run addressing the second group of hypotheses. In these models, the data were limited to only incumbents who won their seat in the 111th Congress, which allowed several control variables to be introduced, including demographic variables (i.e., race and sex) and variables to account for a lawmaker’s ideology and standing in Congress (i.e., League of Conservation Voter score, party leadership, and committee membership).

Analyses for third set of hypotheses.

In similar fashion to the approach used for the second set of hypotheses, the analysis for the third group began by exploring the relationship between PAC type and incumbency status using interaction effects. To get an initial sense of patterns, logistic regression was conducted on the entire dataset (N = 360,990) using the dependent variable “contribution” and predictor variables for PAC type, incumbency, and an interaction term for PAC type and incumbency (i.e. industry X incumbent). Subsequently, to gain a more detailed understanding of the effect of incumbency status on contribution patterns among industry and environmental PACs, additional analyses were completed. Specifically, logistic regressions were run using the three incumbency predictor variables and the dependent variable “contribution” in two separate analyses—the first limited to industry PACs and the second limited to environmental PACs. To account for the effects of electoral districts, HLM models were run with electoral district as the grouping variable, again with the dependent variable “contribution” and the predictor variables based on incumbency.

CHAPTER 7: RESULTS

Results Pertaining to First Set of Hypotheses—Donation Amounts

Taking an initial cursory look at the contribution dataset ($N = 14,275$), we see that the mean contribution by industry and environmental PACs in the election cycle leading up to the 111th Congress was \$1,313.78, with a standard deviation of \$1,077.35. Descriptive statistics, displayed in Table 3, show that industry PACs made noticeably more donations than environmental PACs—13,172 contributions compared to just 1,103 by environmental PACs. The

Table 3. Contribution Amount (USD), Descriptive Statistics, $N = 14,275$ Contributions

	Mean	Median	SD
Total Contributions	1313.78	1000	1077.35
Senders			
<i>Industry PACs</i> ($N = 13,172$)	1377.45	1000	1076.45
<i>Environmental PACs</i> ($N = 1,103$)	553.46	250	750.21
Receivers, by Party			
<i>Democrats</i> ($N = 6,985$)	1231.18	1000	1049.08
<i>Republicans</i> ($N = 7,290$)	1392.93	1000	1098.37
Receivers, by Incumbency*			
<i>Incumbents</i> ($N = 12,838$)	1303.43	1000	1037.74
<i>Challengers</i> ($N = 480$)	1455.29	1000	1480.02
<i>Open Seats</i> ($N = 921$)	1435.78	1000	1294.77

*Missing data ($N=36$) excluded. CRP leaves the data field blank if a candidate is neither a member of Congress nor running during the election cycle.

average contribution by industry PACs was \$1,377.45, compared to \$553.46 for environmental PACs. Coinciding with the much larger number of contributions and higher average contribution amount, data show PACs representing industry contributed markedly more, in total, than environmental PACs. In all, industry PACs donated \$18,143,766, whereas PACs representing environmental interests donated only \$610,462. On cursory view, the descriptive statistics show that Republicans received slightly more donations and a higher average donation than Democrats. Incumbents received markedly more donations than challengers and candidates running for open seats, though both of the latter received slightly higher average donations than the former—perhaps as a function of the lower N. Strikingly, more PAC contributions were provided to candidates in open seats than candidates challenging incumbents.

Turning to the aggregated data with PAC x candidate as the units (N = 360,990), the descriptive statistics, presented in Table 4, on first glance seem to show relatively small donations overall, with a mean of just \$50 and standard deviation of \$494.50. However, this accounts for all PAC x candidate units, for whom many the amount is \$0 because the PAC in question did not donate to the given candidate. Excluding these instances of zero contribution, we find that that there are 6,455 units of PAC x candidate in which industry PAC “x” donated to candidate “y,” compared to just 402 instances for environmental PACs. There is an observable difference in aggregate amounts donated to candidates across the two-year election cycle. Exploring the instances in which PACs did contribute to candidates, we see that Republicans received slightly more and slightly higher

aggregate donations, on average, than Democrats. In addition, we see PACs primarily contributed to incumbents. On aggregate, incumbents also received slightly higher average donations than both challengers and open seat candidates.

Table 4. Contribution Amount (USD), Descriptive Statistics, Aggregated Data, $N = 360,990$ PAC x Candidate Units

	Mean	Median	SD
Aggregate contributions, all units ($N = 360,990$)	50.09	0	494.5
Aggregate contributions, units with contribution > 0 ($N = 6,857$)	2,636.87	2000	2460.43
Senders, units with contribution > 0			
Industry PACs ($N = 6,455$)	2708.47	2000	2488.61
Environmental PACs ($N = 402$)	1487.29	1010	1554.78
Receivers, by party, units with contribution > 0			
Democrats ($N = 3,323$)	2558.27	2000	2400.05
Republicans ($N = 3,534$)	2710.79	2000	2513.99
Receivers, by incumbency, units with contribution > 0			
Incumbent ($N = 6,069$)	2654.95	2000	2479.56
Challenger ($N = 312$)	2577.24	2000	2385.41
Open seat ($N = 476$)	2445.47	2000	2250.99

Taking a more granular look at the difference in contributions by exploring statistical differences, we see that average donations from industry PACs were significantly higher than average donations from environmental PACs. Results from an OLS regression of the difference in average contributions given by

industry PACs and environmental PACs, displayed in Table 5, show the average donation made by industry PACs was \$823.93 higher than the average donation made by environmental PACs, which is a statistically significant difference ($t = 24.92$, $p < .001$). The confidence interval suggests the difference in average contributions between industry PACs and environmental PACs is at least \$759.18 but not more than \$888.80. Based on these results, we can accept hypothesis (H_{1A}) that that average contributions from industry PACs were significantly higher than average contributions from environmental PACs.

At the aggregate level—meaning the aggregate given by PAC x to candidate y throughout the entire election cycle—we similarly see that industry PACs gave significantly more than environmental PACs. Results from an OLS regression on the difference in average aggregate contributions, also displayed in Table 5, show that aggregate donations by industry PACs, on average, were about \$1,221.17 higher than those of environmental PACs ($t = 9.721$, $p < .001$). The confidence interval suggests the difference in average aggregate contributions was at least \$974.90, but not more than \$1,467.44. Although the data suggests a relatively low number of relationships between PACs and candidates, given the low N ($N = 6,857$) relative to the total number of possible relationships (360,990), it may also be indicative of PACs strategically using financial resources by directing contributions to potential lawmakers capable of providing the biggest return on investment. The subsequent analyses will explore this potential strategic giving in more detail.

Table 5. Unstandardized Coefficients from OLS Regression of Contribution Amount (USD) on PAC Type

	Contribution Dataset (N = 14,275 contributions)			PAC x Candidate Dataset (N = 6,857 PAC x Candidate units)		
	B	t	95% CI	B	t	95% CI
(Constant)	553.456* (31.761)	17.425	(491.198, 615.714)	1487.294* (121.887)	12.20 2	(1248.357, 1726.230)
PAC Type	823.994* (33.065)	24.920	(759.181, 888.806)	1221.173* (125.625)	9.721	(974.900, 1467.437)
	Adjusted R square		0.42	Adjusted R square		0.13

Note: Standard error shown in parentheses.

* p <.001

Results Pertaining to Second Set of Hypotheses—Party

Examining the full PAC x candidate dataset (N = 360,990) using interaction effects, the logistic regression results suggest industry PACs are more likely, and environmental PACs less likely, to donate to Republicans. In fact, the results, displayed in Table 6, suggest the when the candidate is a Republican and the PAC represents industry, a contribution is about 13.5 times more likely (coefficient of 2.605, p <.001). In contrast, contributions are much less likely when the candidate is a Republican and the PAC represents environmental interests, with an odds ratio of .092 (coefficient of -2.382, p <.001).

Turning to the analyses truncated to *industry* PACs, the results, displayed Table 7, show that Republicans were slightly more likely to receive contributions. The logistic regression (dichotomous dependent variable, “contribution,” and dichotomous independent variable, “Republican”) revealed a coefficient of .223, which is significant at the .001 level. The odds ratio indicates that industry PACs were about 1.25 times more likely to contribute to Republican candidates than

Table 6: Unstandardized Coefficients from Logistic Regression of Contribution (Dichotomous; Y/N) on PAC Type, Party and Interaction Effect, $N = 360,990$ PAC x Candidate Units

	B	Odds ratio
Republican	-2.382* (.180)	.092
PAC Type	-1.213* (.057)	.297
IndustryXRepublican	2.605* (.182)	13.533
Constant	-2.869** (.054)	.057
Pseudo R square	.008	

Note: Standard error shown in parentheses. R square = Nagelkerke.

* $p < .001$, $p^{**} < 0.0005$

Democratic candidates. Controlling for the effects of electoral districts, however, we find that this pattern falls out of significance, as shown in Table 8. Although it does not definitively indicate pragmatism, the finding aligns with our expectations that industry PACs likely followed a more pragmatic strategy at the level of individual electoral contests by donating across party lines to gain access to winning candidates.

Table 7: Unstandardized Coefficients from Logistic Regression of Contribution (Dichotomous; Y/N) on Party

	Industry PACs ($N = 347,620$ PAC x Candidate Units)		Environmental PACs ($N = 13,370$ PAC x Candidate Units)	
	B	Odds Ratio	B	Odds Ratio
Republican	.223* (.025)	1.250	-2.382* (.180)	.092
Constant	-4.082** (.019)	.017	-2.869** (.054)	.057
Pseudo R square	.001		Pseudo R square	.099

Note: Standard error shown in parentheses. R square = Nagelkerke.

* $p < .001$, $p^{**} < 0.0005$

Shifting to the *environmental* PAC results, also displayed in Table 7, we see that Republican candidates were significantly less likely to receive a contribution. The logistic regression (dichotomous dependent variable, “contribution,” and dichotomous independent variable, “Republican”) revealed a coefficient of -2.382, which is significant at the .001 level. This provides an indication that environmental PACs were more ideological in their contribution strategies, directing more contributions to candidates from the Democratic party. Controlling for the effects of electoral districts, we see, as shown in table 8, that the relationship still holds. Even when accounting for electoral districts, environmental PACs display an ideological tendency to contribute significantly less to Republicans.

In the final analyses, truncated to incumbents who won their seat in the 111th Congress, we can see some of the effects of the control variables. The results, shown in Table 9, indicate that industry PACs were actually less likely to give to Republicans when taking into consideration other variables (coefficient of -1.239, $p < .001$). They were significantly less likely to give to candidates with higher LCV scores (coefficient of -.022, $p < .001$), as would be expected and in line with previous analyses (Bradham, Tartar, and Warren 2020; Goldberg et al. 2020). As a sign of pragmatism, we also see they were significantly more likely to target party leaders (coefficient of .812, $p < .001$) and members on committees of interest (coefficient of .123, $p < .001$). The results also signal some potential importance for demographic variables, particularly sex, where we see that industry PACs were significantly less likely to give to women (coefficient of -.298,

Table 8: Estimates from HLM Regression, with District Grouping Variable, of Contribution (Dichotomous; Y/N) on Party

	Industry PACs (<i>N</i> = 347,620 PAC x Candidate Units)		Environmental PACs (<i>N</i> = 13,370 PAC x Candidate Units)	
	Estimate	t score	Estimate	t score
Republican	.008 (.003)	2.674	-.050 (.002)	-16.808*
Intercept	.022 (.002)	10.818*	.056 (.002)	24.802*

Note: Standard error shown in parentheses.

* $p < .001$, ** $p < 0.0005$

$p < .001$). In contrast, we see that the only significant variable for environmental PACs is the LCV score (coefficient of .043, $p < .001$), which is a strong signal of ideological contribution strategies. Party is no longer being significant, though LCV scores themselves are polarized, with high scores almost exclusively among Democrats (Bradham et al. 2020). Indeed, interpreting these results must be done with caution as party (“Republican”) and LCV scores are highly correlated ($r = -.913$). While it remains unclear to what extent party or LCV score may be driving the significance here, it nevertheless provides an indication of ideological contributions. Environmental PACs also exhibit less pragmatism than industry PACs, as neither committee membership nor leadership are significant.

Taken together, the findings suggest that we can accept the assertion that environmental PACs were more likely to donate primarily to Democrats, with the caveat that LCV score appears to be more important than party in contribution strategies. Nevertheless, this lends support to the idea that ideological PACs are indeed more ideological in their contribution strategies. While we cannot outright

accept that industry PACs were more likely to donate to candidates in both parties in general, given the finding that they were slightly more likely to donate to Republicans overall, the findings do suggest that industry PACs were more likely to donate to both parties when controlling for the effects of electoral

Table 9: Unstandardized Coefficients from Logistic Regression of Contribution (Dichotomous; Y/N) on Party, LCV Score, Committee Membership, Sex, and Race, Incumbents Only

	Industry PACs (N = 95422 PAC x Candidate Units)		Environmental PACs (N = 3671 PAC x Candidate Units)	
	B	Odd Ratio	B	Odd Ratio
Republican	-1.239* (0.83)	.265	.465 (.341)	1.591
LCV Score	-.022* (.001)	.978	.043* (.005)	1.044
Committee Membership	.123* (.035)	1.131	.053 (155)	1.055
Leadership	.812* (0.79)	2.252	.498 (.498)	1.646
Sex	-.298* (.049)	.743	.035 (.161)	1.035
Native	.257 (.205)	1.293	-15.932 (12710.133)	.000
Black	-.170 (.059)	.844	-.204 (.193)	.815
Asian	-.848* (.222)	.428	.000 (.417)	1.000
Hispanic	-.142 (.063)	.868	.014 (.242)	1.014
Constant	-1.139 (.095)	.320	-5.918* (.511)	.003
	Pseudo R square	.030	Pseudo R square	.145

Note: Standard error shown in parentheses. R square = Nagelkerke.

* p <.001, p **<0.0005

districts. In addition, the fact that the sign flips when running analyses on winning incumbents, accounting for control variables such as LCV scores and committee

membership, suggests that industry PACs are pragmatic in their contributions. Party, however, may not be the only pragmatic consideration in contributions, as the findings also indicate that LCV score, leadership and committee membership, as well as certain demographic variables, significantly influence contributions by industry PACs. Turning next to incumbency, we can further test patterns of pragmatic or ideological contribution strategies.

Results Pertaining to Third Set of Hypotheses—Incumbency

Looking first at the full dataset using interaction effects, we find that industry PACs are more likely to donate to incumbents. Results, presented in Table 10, show that when the candidate is an incumbent and the PAC represents industry interest, the likelihood of a contribution is about 6.3 times higher (coefficient of 1.838, $p < .001$). When the PAC represents industry and the candidate is not an incumbent, a contribution is less likely (coefficient of -1.480, $p < .001$).

Table 10: Unstandardized Coefficients from Logistic Regression of Contribution (Dichotomous; Y/N) on PAC Type, Incumbency and Interaction Effect, $N = 360,990$ PAC x Candidate Units

	B	Odds Ratio
Incumbent	1.838* (.113)	6.284
PAC Type	-1.480* (.102)	.228
IndustryXIncumbent	1.200* (.120)	3.321
Constant	-4.401** (.095)	.012
Pseudo R square	.168	

Note: Standard error shown in parentheses.

* $p < .001$, $p^{**} < 0.0005$

Finally, when a PAC represents environmental interests and the candidate is an incumbent, the likelihood of a contribution is about 3.3 times higher (coefficient of -1.200 $p < .001$).

For the analysis truncated to industry PACs, results from logistics regressions, displayed in Table 11, show industry PACs were significantly more likely to give to incumbents than other types of candidates (i.e., challengers or those running in open seat elections). The logistic regression (dichotomous

Table 11: Unstandardized Coefficients from Logistic Regression of Contribution (Y/N) on Incumbency				
	Industry PACs ($N = 347,620$ PAC x Candidate Units)		Environmental PACs ($N = 13,370$ PAC x Candidate Units)	
	B	Odds Ratio	B	Odds Ratio
Incumbents				
Incumbent	3.038** (.041)	20.869	1.838* (.113)	6.284
Constant	-5.882** (.039)	.003	-4.401** (.095)	.012
	Pseudo R square	.171	Pseudo R square	.096
Challenger				
Challenger	-3.473** (.065)	.031	-1.882* (.136)	.152
Constant	-3.183** (.013)	.041	-2.825** (.056)	.059
	Pseudo R square	.140	Pseudo R square	.083
Open Seat				
Open Seat	-.893* (.050)	.409	-.268 (.157)	.765
Constant	-3.876** (.013)	.021	-3.439** (.054)	.032
	Pseudo R square	.007	Pseudo R square	.001

Note: Standard error shown in parentheses. R square = Nagelkerke.

* $p < .001$, $p^{**} < .0005$

dependent variable, “contribution,” and dichotomous independent variable, “incumbent”) revealed an unstandardized coefficient of 3.038, which is significant at the .001 level. The odds ratio suggests that industry PACs were about 20.869 times more likely to donate to incumbents than other types of candidates. Similar logistic regressions on dichotomous predictor variables for challenger and open seat candidates, also displayed in Table 11, revealed negative unstandardized coefficients, indicating that industry PACs are slightly less likely to give to such candidates.

When controlling for the effects of electoral districts in mixed model regression, we see that these relationships still stand, as shown in Table 12. Though the significance level drops, the HLM models still indicate significance at the .001 level on the predictor variable “incumbent”—the estimate is .052297, t is 18.474 and p value is $<.001$ for the model using “incumbent” as the predictor variable. While the results for challengers likewise remain significant at the .001 level, open seat falls out of significance when accounting for district effects. This makes intuitive sense given that open seat is, in effect, a district effect. Although these initial results are supportive of H_{3A} and H_{3B}, support diminishes when we explore the results of the analyses truncated to environmental PACs, where we see the same pattern emerge.

In the analyses truncated to environmental PACs, displayed in Table 11, we find that environmental PACs, like their industry counterparts, are significantly more likely to donate to incumbents. The logistic regression (dichotomous dependent variable, “contribution,” and dichotomous independent variable,

“incumbent”) revealed an unstandardized coefficient of 1.838, which is significant at the .001 level. The odds ratio suggests environmental PACs are about 6.28 times more likely to donate to incumbents than either challengers or candidates in open seats. Once again, the challenger sign is negative and significant at the .001 level. The open seat sign is also negative but is not statistically significant. Accounting for the effects of electoral districts in the HLM models, the relationships for incumbents and challengers still hold at the .001 level, as shown in Table 12.

Table 12: Estimates from HLM Regression, with District Grouping Variable, of Contribution (Dichotomous; Y/N) on Incumbency				
	Industry PACs (N = 347,620 PAC x Candidate Units)		Environmental PACs (N = 13,370 PAC x Candidate Units)	
	Estimate	t score	Estimate	t score
Incumbents				
Incumbent	.052 (.002)	18.474*	.059 (.004)	12.951*
Intercept	.002 (.000)	7.738*	.012 (.002)	7.115*
Challengers				
Challenger	-.053 (.003)	-18.828*	-.053 (.003)	-16.882*
Intercept	.051 (.003)	19.525*	.062 (.002)	24.575*
Open Seat				
Open Seat	-0.12 (.002)	-2.577	-.007 (.005)	-1.263
Intercept	.024 (.004)	15.377*	0.032* (.002)	17.761

Note: Standard error shown in parentheses.

* p <.001, p **<0.0005

Given these findings, while we can accept the assertion that industry PACs are more likely to donate to incumbents, we cannot accept that

environmental PACs are more likely to donate to both incumbents and challengers. While the patterns are more pronounced among industry PACs, the findings suggest that environmental PACs do, in fact, follow similar patterns of contributions. These findings are indicative of ideological PACs following more pragmatic contribution strategies than expected.

Results Pertaining to Overall Contribution Patterns—Incumbency and Party

For good measure, logistic regressions and HLM models were conducted to examine the combined effects of party and incumbency. As with the second and third set of tests, separate analyses were completed in truncated datasets for industry and environmental PACs. Here we see, as shown in Table 13, that industry PACs are more likely to donate to incumbents, even when controlling for the effects of party. In fact, when controlling for the effects of party, the likelihood of donating to an incumbent actually increases. While the models without party

Table 13: Unstandardized Coefficients from Logistic Regression of Contribution (Dichotomous; Y/N) on Party and Incumbency

	Industry PACs (<i>N</i> = 347,620 PAC x Candidate Units)		Environmental PACs (<i>N</i> = 13,370 PAC x Candidate Units)	
	B	Odds Ratio	B	Odds Ratio
Republican	.443* (.026)	1.558	-2.281* (.181)	.102
Incumbent	3.089** (.041)	21.957	1.751* (.114)	5.759
Constant	-6.136 (.042)	.002	-3.779** (.097)	.023
	Pseudo R square	.178	Pseudo R square	.182

Note: Standard error shown in parentheses. R square = Nagelkerke.

* *p* < .001, ** *p* < .0005

revealed an odds ratio of 20.86, the models controlling for party show that industry PACs are 21.96 times more likely to make a contribution when a candidate is an incumbent (coefficient of 3.089, $p < 0.0005$). In the HLM models accounting for district effects, displayed in Table 14, we once again see that the effect of party falls out of significance. While industry PACs are still more likely to donate to incumbents, the effects of districts erase the significance of party, once again providing an indicator of potential pragmatism in contribution strategies.

Among environmental PACs, we again see a decreased likelihood of donating to Republicans and increased likelihood of donating to incumbents. However, controlling for the effects of party actually decreases the odds ratio for incumbents, which may be a signal of ideology dampening pragmatic giving strategies, at least marginally. In the models not accounting for party, environmental PACs were about 6.2 times more likely to donate to incumbents. Controlling for party, however, we see that decline slightly to 5.7. The relationships are still significant when accounting for district effects, as shown in

Table 14: Estimates from HLM Regression, with District Grouping Variable, of Contribution (Dichotomous; Y/N) on Party and Incumbency

	Industry PACs ($N = 347,620$ PAC x Candidate Units)		Environmental PACs ($N = 13,370$ PAC x Candidate Units)	
	Estimate	t score	Estimate	t score
Republican	.001 (.000)	2.392	-.035 (.003)	-11.232*
Incumbent	.052 (.002)	18.508*	.057 (.003)	12.879*
Intercept	.001 (.000)	4.740*	.030 (.002)	13.457*

Note: Standard error shown in parentheses

* $p < .001$, ** $p < .0005$

Table 14, signaling a more ideological giving strategy than industry PACs, but with a mix of pragmatism as well.

CHAPTER 8: CONCLUSION AND DISCUSSION

To recap, the results show that PACs representing industry outspend environmental PACs by a significant margin, both in terms of average donations and aggregate amounts given to candidates throughout the election cycle. Industry PACs are not only more financially powerful, but they are also much more well represented in the interest group arena. A large group of industry PACs, relative to those representing environmental advocacy interests, strategically uses its financial resources to influence the candidate selection process.

The above findings show that industry PACs follow largely pragmatic contribution strategies, which is indicative of access-seeking behavior. As expected, these PACs are more likely to donate to incumbents and pursue bipartisan giving at the level of individual electoral contests. Although industry PACs are slightly more likely to donate to Republicans overall, the significance of party all but disappears when controlling for the effects of electoral districts, suggesting that industry PACs likely give across party lines to increase the likelihood of having access to the winning candidate. Additional signs of pragmatism are documented in that industry PACs are more likely to donate to party leadership and members of committees of interest.

In contrast, we find that environmental PACs do not exhibit bipartisan giving and are significantly less likely to donate to Republicans, even when accounting for district effects. While we find that environmental PACs are, by and large, more ideological in their contribution strategies than industry PACs, the

findings also indicate some potential pragmatism. When controlling for ideology, party, committee membership, party leadership, and demographic variables, the only statistically significant variable is ideology—in that environmental PACs are significantly more likely to donate to members with higher LCV scores. However, the findings also indicate that environmental PACs, like their industry counterparts, are more likely to donate to incumbents. Regardless of the driving force, environmental PACs exhibit a similar pattern to industry PACs, though the relationship is much less pronounced.

Implications

What implications do these findings raise? Firstly, they suggest that ideological PACs do, for the most part, follow more ideological contribution strategies than business PACs. These findings help shed light on how different actors strategically engage in the political process—but they do raise additional questions. For instance, how do these differing contribution strategies impact legislative success—and what implications does that have, in turn, for democratic representation? Future research should investigate the correlation between ideological and pragmatic contribution strategies and legislative outcomes in Congress, which may have significant implications for policy.

Secondly, the findings lend additional support to elite theory by providing a clear picture of corporate dominance in the candidate selection process, as industry is far better represented and significantly outspends environmental groups. Although these findings speak only to the two-year election cycle before the 111th Congress, the overrepresentation of industry relative to ideological

groups has continued. Fossil fuels continue to outspend environmental interests, which often lack spending power (Yu 2019). In 2020, for instance, 19 environmental PACs spent \$2.19 billion (OpenSecrets 2021b), while 100 oil and gas PACs spent \$12.86 billion (OpenSecrets 2021c). However, the emergence of “climate donors,” who made more than \$15 million in contributions to President Joe Biden in 2020, may signal a new battle front in money politics, as climate activists seek to provide a counterbalance to the financial powerhouse of oil and gas (Friedman, 2020). Future research should explore how these expanding areas of public influence intersect with corporate efforts to influence government, and what implications that has in relation to the power structure.

The fact that industry is more well-represented, and strategically leverages its financial clout, raises significant implications for democratic processes in the U.S., as relationships between lawmakers and interest groups may corrupt Congress (Peoples 2013) and prevent action on pressing issues such as climate change. As Gilens and Page (2014:576) argue, “the majority does not rule—at least not in the causal sense of actually determining policy outcomes.” The reality that the majority does not rule, and ideological PACs are largely outspent and underrepresented, speaks to the flaws of the campaign finance system, which favors financially powerful groups. The consequences of such a flawed system “range from merely harmful to nearly catastrophic” (Peoples 2020) and undermine the ability of the U.S. to effectively respond to the urgent threat of climate change.

This brings us to the third implication of these findings—that is, that the system of interest groups politics in the U.S. is incompatible with efforts to address climate change (Bryner, 2008). This has additional ramifications for the future of climate action in the U.S. as the “dominance of adversarial groups in a fragmented and diffuse policymaking system makes it extremely difficult to achieve the broad, comprehensive, integrated policy efforts required by climate change” and “suggests a traditional interest group approach to climate—partisan, incremental and adversarial—will fall short” (Bryner 2008: 329). The findings of this and other studies (Peoples 2020) speak to the need for campaign finance reform.

Although increasing skepticism about special interests in politics has prompted some legislators to outwardly commit to not accept campaign contributions from fossil fuel and other corporate PACs, they continue to do so by operating within the grey zones of their own commitments. For instance, they may pledge not to accept donations of over \$200 from executives, lobbyists and PACs in the industry, but instead accept donations from other high-level officials in smaller amounts (Fuchs and Ye Hee Lee 2019). Indeed, recent data suggests that while PACs are losing influence, corporate actors are making up for it with record levels of donations from small donors.

In future, the shifting lines of the campaign finance landscape should be assessed to understand the pervasiveness of corporate money in politics and the need for more significant structural changes. In addition, future research should explore whether environmental or industry PACs have changed their strategies

as climate politics have shifted over time. Recently, for instance, a movement has been underway among businesses to reassess political spending, with some even discontinuing their corporate PACs (Subin 2021). At the same time, environmental PACs have started to give more directly to candidates and committees than ever before (Miller 2020), signaling a potential shift to insider strategies. Have strategies changed over time and, if so, how have those strategies influenced legislative outcomes? Understanding how these trends have—or have not—influenced campaign contribution strategies will provide important insights into future efforts to enact climate legislation and, ultimately, to protect democratic processes.

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APPENDIX

List of CRP Codes Used

CRP Codes for Industry PACs	CRP Code for Environmental PACs
E0000 Energy, Natural Resources and Environment E1000 Energy production & distribution E1100 Oil & Gas E1110 Major (multinational) oil & gas producers E1120 Independent oil & gas producers E1140 Natural Gas transmission & distribution E1150 Oilfield service, equipment & exploration E1160 Petroleum refining & marketing E1170 Gasoline service stations E1180 Fuel oil dealers E1200 Mining E1210 Coal mining E1220 Metal mining & processing E1230 Non-metallic mining E1240 Mining services & equipment E1300 Nuclear energy E1320 Nuclear plant construction, equipment & services E1500 Alternate energy production & services E1600 Electric Power utilities E1610 Rural electric cooperatives E1620 Gas & Electric Utilities E1630 Independent power generation & cogeneration E1700 Power plant construction & equipment E2000 Environmental services, equipment & consulting LE100 Mining Unions LE200 Energy-related unions (non-mining)	E300 Environmental policy