

# Political Donor Motivations and Public Support of Policies: A Time Series Analysis

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The two predominant theories of political donor motivations are the access-oriented model and the consumption model. This paper combines political donation records and social media posts from politicians to test whether either behavior is observed. In the access-oriented model, individual political donors and political action committees (PACs) are assumed to contribute to campaigns in an effort to acquire access and influence politicians into supporting specific policy issues. In this study, the access-oriented model of donors predicts that donations from specific groups of donors will precede public support of certain policies. The consumption model of donors views political contributions as being an extension of voting along a participatory spectrum, and that donors support candidates who they already know support policy issues that the donors care about or are ideologically motivated. In this research, the consumption model predicts that donations from various groups of donors will lag in response to public support of certain policy issues. Historically, these two models have treated political donors as all having the same motivations. More recent studies in campaign finance have found that both motivational models can exist in different groups of donors. However, these studies categorize groups of donors in broad strokes, generally as either small-dollar donors and large-dollar donors as well as PACs. This paper statistically derives coalitions of similar donors and tests the competing models of political donor motivations on these more granular groups of donors who support similar candidates.

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## Introduction

Previous studies on the motivations of political donors often treated donors as a monolith. These studies would contrast the two predominant theories of political donor motivation—access-oriented or consumption—against each other. In the seminal paper, “Why is There so Little Money in U.S. Politics?,” Ansolabehere, de Figueiredo, and Snyder (2003) stated that “two extreme views bracket the range of thinking about the amount of money in U.S. political campaigns.” They conclude that “campaign contributions should be viewed *primarily* as a type of consumption good.” Similarly, Gordon, Hager, and Landa (2007) succinctly asked, “Consumption or Investment?” Welch also stated that there two models of campaign contributions. In one model, contributions to given in exchange for political favors (now referred to as the access-oriented model) or to affect election probabilities (no the consumption model) (Welch 1980). Many other studies focus on a single model of donor motivation and seek evidence for that model without considering alternatives.

Recently, a more nuanced view of the motivations behind political donors has emerged that sees donors as unique actors and that different donors may have different motivations, intents, and goals in making a political contribution. Barber (2016) examines the differences in motivation between Political Action Committees (PACs) and individual donors, finding that PACs exhibit behavior inline with the access-oriented model of donors and individuals appear to be motivated by political consumption/ ideology. Heerwig (2016) drills down into individual donors by categorizing individual donors as either frequent or infrequent donors, concluding that frequent donors are more access-oriented whereas infrequent donors are more motivated by consumption/ ideology. This paper continues in this direction of segmenting donors to understand unique motivations. Instead of making a descriptive distinction between donors (PACs versus individuals (Barber 2016) or frequent versus infrequent donors (Heerwig 2016)) clusters donors who are similar to one another using a network approach where donors in a cluster are

similar to one another in who they contributed to.

This network-based approach conceives of clusters of donors acting as a *coalition* where each coalition can have a distinct motivation. Further, I believe that this coalition-based approach can capture evidence of donor motivations more accurately. For example, a contributor may only make a single donation. That single donation may not have a statistically-identifiable influence on politicians, but if that single donor is acting in concert with other donors, there is a potential for identifiable results. For example, under an access-oriented/ influence model of donor motivations, this single donor could be a member of a pro-environment interest group. If many members of this group give individually to a candidate, the coalition could exhibit influence over that campaign. Similarly, under a consumption/ ideology model of motivation, a candidate could come out with a strong pro-environmental message and many members of the coalition could be attracted to the message and reward the pro-environment stance taken by the campaign.

In addition, this paper adds a dimension of policy issues. Are there certain policy issues that have donors who exhibit behavior inline with the access-oriented model or consumption model? It is possible that different issues are related to different coalitions of donors with different motivations. For example, perhaps pro-environmental donors are driven by the access-oriented model and anti-abortion groups are driven by the consumption model of politics. This paper combines donation records with social media data collected in Wisconsin during the 2016 election cycle to measure whether campaigns' support of certain policy issues respond to donations from clusters or whether donations from coalitions respond to public support of policy issues. Particularly with the rise of politics online, adding in social media data provides a valuable variable in understanding the information ecology that political donors experience and how the information ecology relates to their donation motivations.

## **Access-Oriented Model**

Access-oriented political donors are those that attempt to use their contributions to gain access to politicians. Most often, access-oriented motivations are thought to be the reason behind contributions from Political Action Committees (PACs) and donors with business interest. The theory goes that this access can then influence legislative behavior (Francia et al. 2003). Milbrath (1958) centers legislative influence as a communicative process where those seeking to influence legislators must be able to “communicate their power, as well as the facts and arguments supporting their position, when they confer with a legislator.” Congress is operating in a “vacuum filled with noise.” And political contributions can gain direct access that allows to cut through all the noise of competing information that the legislator might be encountering (Milbrath 1958). In interviews, business groups themselves said that they seek “access” to either a member of congress or a member of their staff when they make a contribution. But these groups stated that their contribution only gains the access to make an argument and it is the merit of the argument that determines support for their cause or not (Herndon 1982). Surveys confirm that donors to U.S. House and Senate campaigns try to influence politics in a way that helps their businesses (Baker 2020a). Empirical studies of financial documents backup this claim that donors seek access in order to influence policy (Fournaies and Hall 2015).

Past research has suggested that political contributors are successful in their goals to gain access as measured by the amount of time that organized interest groups spend with members of congress (Langbein 1986). This increased access has been not only in PACs but also for increased access for individual donors. A randomized experiment found that when it is revealed to congressional offices that prospective meeting attendees contributed to the member’s campaign that senior members of the office took meetings between three to four times more often than when information about contributions were withheld (Kalla and Broockman 2016).

However, measuring the direct access that political financiers gain from political contributions is difficult to measure. Instead, researchers have treated the “access” component of contributor influence as an implicit assumption and instead look for evidence of “influence” of political contributors on politicians. Many political science papers do not use the explicit term “access-oriented donor” and instead refer to their work as examining the potential “influence” of political donors on politicians. This line of influence research implies a gain of access by political contributors. As Langbein (1986) states, “[Access] is a precondition for having influence over public policy. Contributions themselves have little meaning for a congressman, because they do not carry any ‘message.’ Only access, or some other form of direct or indirect communication, can translate money into influence.”

Even though research has suggested there is a connection between political contributions and access. It is unclear if that access actually converts to *influence* in the political process. Despite confirmation that PACs attempt to influence the legislative process (Grenzke 1989), past research has found PAC contributions to have a limited effect on roll-call voting (Wright 1985). In rare instances, there is an apparent connection between PAC contributions and roll-call votes, but it that correlation is most likely due to broader support from larger interest groups (Grenzke 1989). These sparse correlations could be manifestation of the finding that legislators are responsive to changes to the opinions of the national individual donor class (Canes-Wrone and Gibson 2019). One article went so far as to conclude that “evidence in the article undermines belief in the military-industrial complex model” (Wayman 1985) when studying the effect of defense-related PACs on roll-call voting.

Other studies on the connection between campaign contributions and legislative voting does support that moneyed interests play a significant role in the legislative process, particularly organized business interests that are within a member’s district (Hall and Wayman 1990), potentially similar to how members of congress prioritize public opinion of their district over national public opinion (Butler and Nickerson 2011). Further, there

appears to be a stronger influence as a result of contributions from individuals with business interests, opposed to PACs, which many other studies focus on (Fellowes and Wolf 2004). A meta-analysis found that model specification played a significant role in whether significant results were found when looking for a connection between donations and roll-calls votes, concluding that studies that controlled for “friendly giving by including a measure of legislators’ ideology and that include more than one contributions variable are less likely to produce significant results” (Roscoe and Jenkins 2005). Despite this variability in model specification, the authors conclude that one-third of roll-call votes are impacted by campaign contributions (Roscoe and Jenkins 2005).

Potentially, the influence exerted by contributors when making a political contribution is so indirect that it doesn’t always materialize in statistical patterns of legislative voting, but there is evidence of the influence as a result of the legislation. For example, one study found that firms that donated to winning candidates experienced an abnormal equity return of 3% compared to firms that contributed to losing campaigns (Akey 2015). Another study found that future returns of firms is positively and significantly correlated with contributions in support for candidates, finding the strongest effect among firms that support candidates within the state that the firm is based (Cooper, Gulen, and Ovtchinnikov 2010). In addition to immediately-felt financial returns, donors may systematically contribute money to legislative agenda setters, such as chairs of financial committees, in an effort to set future legislative agendas (Fouirnaies 2018). Even campaign contribution from business executives are “best understood as purchases of ‘good will’ whose returns, while positive in expectation, are contingent and rare” (Gordon, Hafer, and Landa 2007).

Instead of focusing on direct access or financial outcomes, this research article examines politicians’ public support of policy issues. Under the access-oriented/ influence model of political donor motivations, we would expect to find politicians who are more supportive of certain policy issues after receiving campaign contributions from access-oriented donors, which leads to  $H_1$ .

**$H_1$ : Donations from various coalitions of political donors will precede, or Granger cause, increased public support on certain political issues from the politicians to whom they donate.**

Since access-oriented donors are thought to be wealthier contributors, sometimes seeking access for financial gain, this paper will also examine the amount contributed by members of donor coalitions that are accepted by  $H_1$ .  $H_2$  also serves as a measure of face validity for the theory of access-oriented motivation and this study's measurement.

**$H_2$ : Donors from access-oriented coalitions will on average be *larger* contributors to political campaigns than donors not in access-oriented coalitions.**

### **Consumption Model**

While the access-oriented model is centered on donor *influencing* the political process, the consumption model is about donors *participating* in the political process. As Ansolabehere, de Figueiredo, and Snyder (2003) concluded, "In our view, campaign contributing should not be viewed as an investment, but rather as a form of consumption—or, in the language of politics, participation." They put forward that individual donors are intrinsically motivated by ideology. People don't receive a direct benefit from making a political donation, but they do experience the indirect benefits of participating in a political campaign that matches their ideology and excites them. Said another way, for consumption motivated donors, making a contribution is just an extension of voting on a participatory spectrum. Under the consumption model of political donor motivations, donations are a way for individuals to participate and be responsive to their "perception of the stakes in the election" (Hill and Huber 2017). Ideological proximity has been found to be an important component of explaining a donor's decision to make a contribution (Ensley 2009). Divergence of ideology among the candidates for an office does not seem to impact donors' decision to make a contribution (Ensley 2009).

Often associated with the consumption model of donation is the idea of ideological

proximity. In other words, donors give to candidates that they are ideologically similar to. For example, the similarity between a donor's policy preferences and a senator's roll calls is a predictor of whether a donor makes a contribution (Barber, Canes-Wrone, and Thrower 2017). Out-of-state donors have been found to have policy motivations for making a donation in an effort to acquire surrogate representation (Baker 2020b), but this finding didn't hold for in-district donations.

***H<sub>3</sub>: Public support from politicians on certain political issues will precede, or Granger cause, donations from various coalitions of political donors.***

Individual donors, as opposed to PACs, continue to make up a clear majority of donations to political candidates (Heerwig 2016). And these individual donors have been found to most often exhibit behavior consistent with the consumption model of donations (???; Heerwig 2016). Further, individual donors arguably play an even more central role in politics more recently with the growth in small-dollar individual donors.

With the rise of small-dollar donors on the internet and the assumption that these small-dollar donors are motivated by the consumption model of donor motivations, this paper will examine the amount contributed by members of donor coalitions that are accepted by *H<sub>3</sub>*. *H<sub>4</sub>* also serves as a measure of face validity for the theory of the consumption motivation model of political donors and this study's measurement.

***H<sub>4</sub>: Donors from consumption coalitions will on average be smaller contributors to political campaigns than donors not in consumption coalitions.***

### **Rise of Small-Dollar Donors**

The growing number of small-dollar donors in the political process suggests that there will be more consumption-oriented donors in the future. The anecdotal examples of the Bernie Sanders and Donald Trump presidential campaigns, both of which received a large number of small-dollar donors (Choma and Voght 2020), illustrate the consumption-oriented model's connection to small-dollar donors. Small dollar donors did not directly



access or influence the politics of the Sanders or Trump campaigns. Instead, donors reacted to their messages and decided to move further down the participatory spectrum in those campaigns.

The Democratic Party as a whole has recently grown its proportion of money that is coming from small-dollar donors (Albert and Raja 2020). And incumbents have been able to sustain their small-dollar fundraising programs (Heberlig and Larson 2020)—suggesting that this trend is not going to go away. This growth in small-dollar donors has created a donorate that is more demographically representative of America but is more ideologically extreme (Albert and Raja 2020)—this trend can be anecdotally seen in the Sanders and Trump campaigns. It is conceivable that campaigns that rely on small donors will adopt rhetoric and tout their “outsider” status in an effort to activate these small, more ideologically extreme donors (Arbour 2020). As a result, some have predicted that small-dollar donors will polarize the nation’s politics even further. And although legislators who receive a large number of small-dollar donors aren’t more polarized in their voting in the next legislative session, legislators taking up a more polarized agenda does increase the number of small-dollar donors they attract in the subsequent election (???). Other studies have agreed that mass donors are the cause of partisan polarization (???). And so, even though small-dollar donors themselves may not be polarizing, they may provide incentive for politicians to take more polarized positions.

This rise in small-dollar donors has been driven primarily by technological advancements (Albert and Raja 2020) including growing sophistication with big data analytics (???), particularly in modeling political behaviors (Nickerson and Rogers 2014). Digital firms, including Facebook, Twitter, and Google embed themselves into political campaigns and serve as “quasi-digital consultants” to political campaigns that shape the “digital strategy, content, and execution” of campaigns (Kreiss and McGregor 2018). Along with virtually every other component of political campaigns, fundraising, especially from small-dollar donors is moving online (Chester and Montgomery 2017).

## Online Fundraising

### Ideological Measurement Using Donor Data

#### Data

Data for this research comes from two primary sources: politicians' social media posts and political donation data. For social media posts, this paper used the Facebook (Barbera, Geisler, and Atteveldt 2017) and Twitter (Kearney 2019) APIs to collect social media posts from all candidates for the Wisconsin State Senate and Wisconsin State Assembly during the 2016 election cycle ( $n = 82,851$ ). A subset of these posts were hand-coded into 27 topical categories. This subset was used to train a BERT deep learning transfer model that was used to predict the topic of the remainder of the posts (training dataset = 8,242, 10% of total posts; testing dataset = 4,122, 5% of total posts). Political donation data for all candidates to the Wisconsin State Legislature during the 2016 election cycle were collected from the Wisconsin Campaign Information System (CFIS) ( $n = 12,962$ ). These donations were used to create a network of political donations with candidates and donors serving as nodes and donations between them as edges. This network was clustered into distinct communities so that donors in each community are most similar to one another based on which campaigns they contributed to. I theorize that these clusters of donors represent *latent coalitions* of donors who, whether they operate in an organized fashion or not, are working toward the goal of electing the same candidates. Studying political fundraisers as members of political coalitions has been studied in the past (Adams 2007; Heerwig 2016). This paper's statistically-driven definition of latent coalitions seeks to add to the coalition literature.

## **Methodology**

These two datasets were analyzed against each other using the Granger causality time-series methodology. This methodology has been used by other researchers to study social media (Freelon, McIlwain, and Clark 2018; Lukito 2020). Similar to political donations, this methodology has been used to study the relationship between social media and non-social media events such as offline protests (Bastos, Mercea, and Charpentier 2015) and stock prices (Park, Leung, and Ma 2017). Granger causality detects whether movements in one time series precedes, lags, has a confounding variable, or is not related to another time series. Specifically, this paper compares time series of donations from clusters of political donors and time series of the number of social media posts by each topic that were made by campaigns that each donor cluster contributed to. For example, a time series of donations from a donor coalition was compared to the aggregate count of posts about a given topic made by candidates that the donor cluster contributed to.

## **Preliminary Results**

Initial results suggest that it is more common to observe behavior consistent with the consumption model (31% of coalitions, 4/13) than the access-oriented model. However, the access-oriented model is still observed in 15% of coalitions (2/13). Under a strict interpretation of either model, we would expect to find behavior that fits only with that model. These results that find both the models present in the data is in line with some other research in suggesting that there are a “diversity of roles individual contributors play in the campaign finance system” (Heerwig 2016). Specific results of the Granger causality model are in Figure 1 below.

One theoretical next step for this paper is to flesh out the implications of observing behavior that fits under both the consumption and access-oriented model of political donors. Most often, the literature assumes that political donors have monolithic a mono-

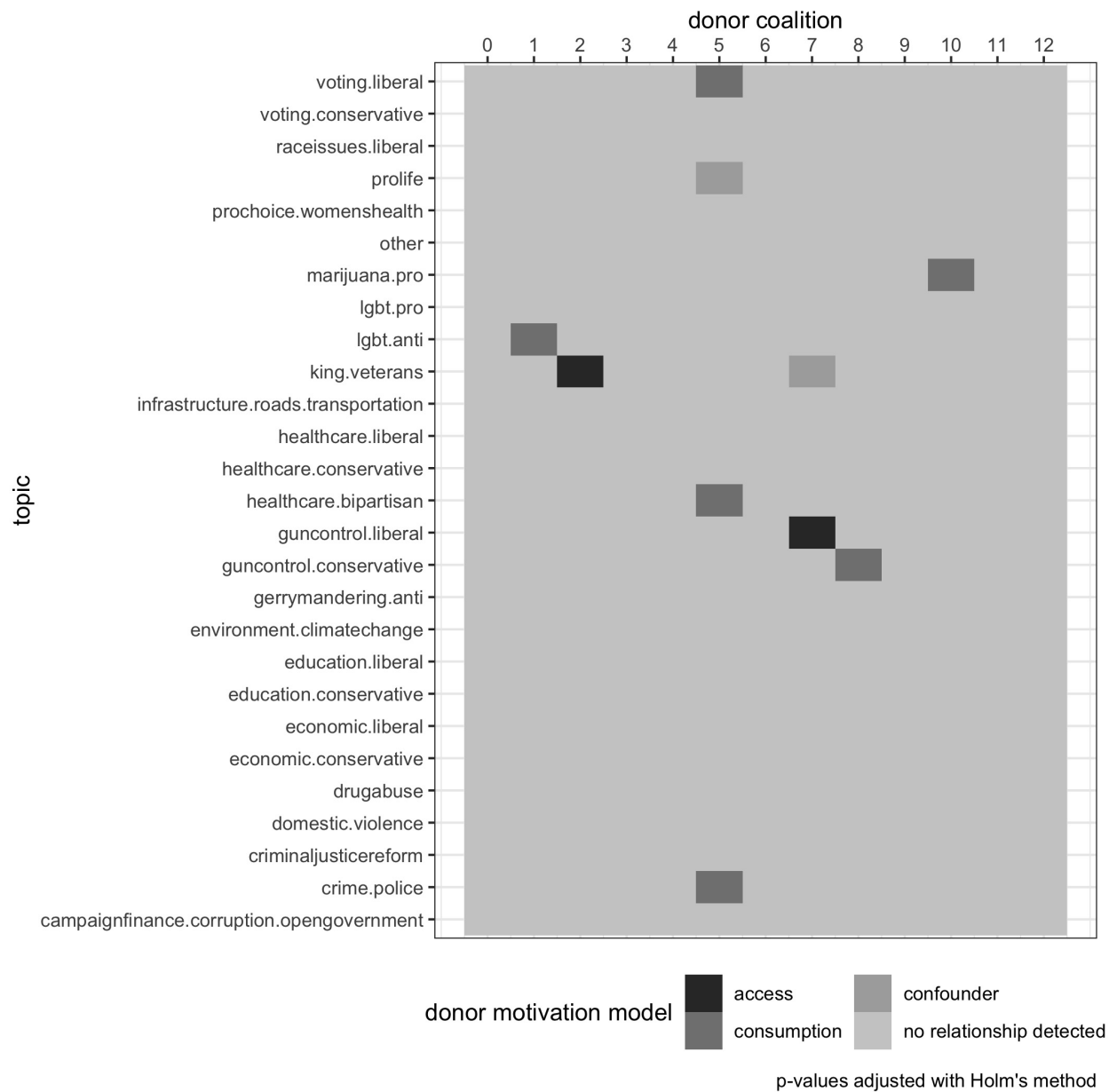


Figure 1: Donor Motivation Models

lithic psychological process that motivate them. However, the clear breakdown of different coalitions exhibiting behavior that falls into different models, and distinct behavior in relation to unique policy issues, suggests that latent coalitions of political donors are strategic actors with unique motivations. One empirical next step is to quantify potential confounders for donor clusters that don't fit under either model, such as geographic proximity or competitiveness of the races contributed to.

## References

Adams, Brian E. 2007. "Fundraising Coalitions in Open Seat Mayoral Elections." *Journal of Urban Affairs* 29 (5): 481–99. <https://doi.org/10.1111/j.1467-9906.2007.00361.x>.

Akey, Pat. 2015. "Valuing Changes in Political Networks: Evidence from Campaign Contributions to Close Congressional Elections." *The Review of Financial Studies* 28 (11): 3188–3223. <https://doi.org/10.1093/rfs/hhv035>.

Albert, Zachary, and Raymond La Raja. 2020. "Small Dollar Donors and the Evolving Democratic Party." *APSA Preprints*.

Ansolabehere, Stephen, John M. de Figueiredo, and James M. Snyder. 2003. "Why Is There so Little Money in U.s. Politics." *Journal of Economic Perspectives* 17 (1): 105–30.

Arbour, Brian. 2020. "Tiny Donations, Big Impact: How Small-Dollar Donors Are Eroding the Power of Party Insiders." *Society* 57: 496–506.

Baker, Anne. 2020a. "Policies, Profits, Networks, or Duty?: Donors' Motivations for Contributing to Parties and Interest Groups." *The Social Science Journal* 0 (0): 1–16. <https://doi.org/10.1080/03623319.2020.1727224>.

———. 2020b. "The Partisan and Policy Motivations of Political Donors Seeking Surrogate Representation in House Elections." *Political Behavior* 42 (4): 1035–54. <https://doi.org/10.1007/s11109-019-09531-2>.

Barber, Michael. 2016. "Donation Motivations: Testing Theories of Access and Ideology." *Political Research Quarterly* 69 (1): 148–59.

Barber, Michael J., Brandice Canes-Wrone, and Sharece Thrower. 2017. "Ideologically Sophisticated Donors: Which Candidates Do Individual Contributors Finance?" *American Journal of Political Science* 61 (2): 271–88. <https://doi.org/https://doi.org/10.1111/ajps.12275>.

Barbera, Pablo, Andrew Geisler, and Wouter van Atteveldt. 2017. *Rfacebook*. <https://cran.r-project.org/web/packages/Rfacebook/Rfacebook.pdf>.

Bastos, Marco T., Dan Mercea, and Arthur Charpentier. 2015. "Tents, Tweets, and Events: The Interplay Between Ongoing Protests and Social Media." *Journal of Communication* 65 (2): 320–50. <https://doi.org/10.1111/jcom.12145>.

Butler, Daniel M., and David W. Nickerson. 2011. "Can Learning Constituency Opinion Affect How Legislators Vote? Results from a Field Experiment." *Quarterly Journal of Political Science* 6: 55–83.

Canes-Wrone, Brandice, and Nathan Gibson. 2019. "Does Money Buy Congressional Love? Individual Donors and Legislative Voting." *Congress & the Presidency* 46 (1): 1–27. <https://doi.org/10.1080/07343469.2018.1518965>.

Chester, Jeff, and Kathryn C. Montgomery. 2017. "The Role of Digital Marketing in Political Campaigns." *Internet Policy Review* 6 (4): 1–20. <https://doi.org/10.14763/2017.4.773>.

Choma, Russ, and Kara Voght. 2020. "Small-Dollar Donors Powered the 2020 Race. Then the Pandemic Happened." *Mother Jones*, April.

Cooper, Michael J., Huseyin Gulen, and Alexei V. Ovtchinnikov. 2010. "Corporate Political Contributions and Stock Returns." *The Journal of Finance* 65 (2): 687–724. <https://doi.org/https://doi.org/10.1111/j.1540-6261.2009.01548.x>.

Ensley, Michael J. 2009. "Individual Campaign Contributions and Candidate Ideology." *Public Choice* 138 (1/2): 221–38. <http://www.jstor.org/stable/40270840>.

Fellowes, Matthew C., and Patrick J. Wolf. 2004. "Funding Mechanisms and Policy Instruments: How Business Campaign Contributions Influence Congressional Votes."

*Political Research Quarterly* 57 (2): 315–24.

Fouirnaies, Alexander. 2018. "When Are Agenda Setters Valuable?" *American Journal of Political Science* 62 (1): 176–91. <https://doi.org/https://doi.org/10.1111/ajps.12316>.

Fouirnaies, Alexander, and Andrew Hall. 2015. "The Exposure Theory of Access: Why Some Firms Seek More Access to Incumbents Than Others." *SSRN Electronic Journal*, January. <https://doi.org/10.2139/ssrn.2652361>.

Francia, Peter L., John C. Green, Paul S. Herrnson, Lynda W. Powell, and and Clyde Wilcox. 2003. *The Financiers of Congressional Elections*. New York, NY: Columbia University Press.

Freelon, D, C McIlwain, and M Clark. 2018. "Quantifying the Power and Consequences of Social Media Protest." *New Media & Society* 20 (3): 990–1011. <https://doi.org/10.1177/1461444816676646>.

Gordon, Sanford C., Catherine Hafer, and Dimitri Landa. 2007. "Consumption or Investment? On Motivations for Political Giving." *The Journal of Politics* 69 (4): 1057–72.

Grenzke, Janet M. 1989. "PACs and the Congressional Supermarket: The Currency Is Complex." *American Journal of Political Science* 33 (1): 1–24. <http://www.jstor.org/stable/2111251>.

Hall, Richard L., and Frank W. Wayman. 1990. "Buying Time: Moneyed Interests and the Mobilization of Bias in Congressional Committees." *American Political Science Review* 84 (3): 797–820. <https://doi.org/10.2307/1962767>.

Heberlig, Eric, and Bruce Larson. 2020. "Gender and Small Contributions: Fundraising by the Democratic Freshman Class of 2018 in the 2020 Election." *Society* 57: 534–39. <https://doi.org/https://doi.org/10.1007/s12115-020-00528-w>.

Heerwig, Jennifer A. 2016. "Donations and Dependence: Individual Contributor Strategies in House Elections." *Social Science Research* 60: 181–98. <https://doi.org/https://doi.org/10.1016/j.ssresearch.2016.06.001>.

Herndon, James F. 1982. "Access, Record, and Competition as Influences on Interest

Group Contributions to Congressional Campaigns." *The Journal of Politics* 44 (4): 996–1019.

Hill, Seth J., and Gregory A. Huber. 2017. "Representativeness and Motivations of the Contemporary Donorate: Results from Merged Survey and Administrative Records." *Political Behavior* 39 (1): 3–29. <https://doi.org/10.1007/s11109-016-9343-y>.

Kalla, Joshua L., and David E. Broockman. 2016. "Campaign Contributions Facilitate Access to Congressional Officials: A Randomized Field Experiment." *American Journal of Political Science* 60 (3): 545–58. <https://doi.org/https://doi.org/10.1111/ajps.12180>.

Kearney, Michael W. 2019. "Rtweet: Collecting and Analyzing Twitter Data." *Journal of Open Source Software* 4 (42): 1829. <https://doi.org/10.21105/joss.01829>.

Kreiss, Daniel, and Shannon C. McGregor. 2018. "Technology Firms Shape Political Communication: The Work of Microsoft, Facebook, Twitter, and Google with Campaigns During the 2016 U.s. Presidential Cycle." *Political Communication* 35 (2): 155–77. <https://doi.org/10.1080/10584609.2017.1364814>.

Langbein, Laura I. 1986. "Money and Access: Some Empirical Evidence." *The Journal of Politics* 40 (4): 1052–62.

Lukito, Josephine. 2020. "Coordinating a Multi-Platform Disinformation Campaign: Internet Research Agency Activity on Three U.s. Social Media Platforms, 2015 to 2017." *Political Communication* 37 (2): 238–55. <https://doi.org/10.1080/10584609.2019.1661889>.

Milbrath, Lester W. 1958. "The Political Party Activity of Washington Lobbyists." *The Journal of Politics* 20 (2): 339–52.

Nickerson, David W., and Todd Rogers. 2014. "Political Campaigns and Big Data." *Journal of Economic Perspectives* 28 (2): 51–74. <https://doi.org/10.1257/jep.28.2.51>.

Park, J., H. Leung, and K. Ma. 2017. "Information Fusion of Stock Prices and Sentiment in Social Media Using Granger Causality." In *2017 Ieee International Conference on Multisensor Fusion and Integration for Intelligent Systems (Mfi)*, 614–19. <https://doi.org/10.1109/MFI.2017.8170390>.



Roscoe, Douglas D., and Shannon Jenkins. 2005. "A Meta-Analysis of Campaign Contributions' Impact on Roll Call Voting\*." *Social Science Quarterly* 86 (1): 52–68. <https://doi.org/https://doi.org/10.1111/j.0038-4941.2005.00290.x>.

Wayman, Frank Whelon. 1985. "Arms Control and Strategic Arms Voting in the U.S. Senate: Patterns of Change, 1967-1983." *The Journal of Conflict Resolution* 29 (2): 225–51. <http://www.jstor.org/stable/174100>.

Welch, W. P. 1980. "The Allocation of Political Monies: Economic Interest Groups." *Public Choice* 35 (1): 97–120. <https://doi.org/10.1007/BF00154752>.

Wright, John R. 1985. "PACs, Contributions, and Roll Calls: An Organizational Perspective." *American Political Science Review* 79 (2): 400–414. <https://doi.org/10.2307/1956656>.