

Disclosure in Democracy *

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Abstract

Using hand-collected data on political contributions from undisclosed sources, we document novel stylized facts on “dark money” and its role in elections and politician type. Over the past decade, dark money has become a major source of campaign financing and currently comprises the largest source of capital from special interest groups. Consistent with evading disclosure, dark money is spent just before an election and often transferred to other special interest groups. We show that dark money is more likely to support candidates in competitive races and in areas with reduced information environments, lower education, greater inequality, and less poverty. Exploiting variation in exposure to television advertisements, we find that candidates supported by dark money advertisements receive an increase in votes and are more likely to win elections. While politicians supported by dark money organizations are more likely to engage in the political process by voting for and sponsoring legislation aligned with business interests, they are also more likely to be subsequently voted out of office, suggesting that they may enact an agenda focused on their donors rather than their constituents. Taken together, our results provide the first systematic evidence on the rise and impact of dark money in U.S. congressional elections, contributing to the ongoing debate about disclosure requirements of political spending.

JEL Classification: D72, D73, H57, P16

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“Political speech is entitled to robust protection under the First Amendment.”

—Justice Clarence Thomas (U.S. Supreme Court opinion in *Citizens United v. FEC*)

“The Court’s ruling threatens to undermine the integrity of elected institutions across the Nation.”

—Justice John Paul Stevens (U.S. Supreme Court dissent in *Citizens United v. FEC*)

1 Introduction

Disclosure is a key component of a well-functioning democracy and electoral system. Information about capital provided to political campaigns allows citizens to select candidates who are more likely to support their interests, rather than those of special interest groups. Importantly, this aims to reduce favoritism and rent extraction by firms in developed (Faccio (2006)) and developing (Fisman (2001)) economies. Politically connected firms receive improved access to capital (Khwaja and Mian (2005)) and bailouts (Duchin and Sosyura (2012)), in addition to preferential treatment through government procurement (Brogaard, Denes, and Duchin (2021)).

Since the *Citizens United v. Federal Election Commission* decision in 2010, electoral support can be provided through undisclosed and unlimited conduits, which are often referred to as dark money. In this paper, we document the extent to which this undisclosed and growing source of political capital dominates other sources of contributions for politicians. We ask the following three questions about the role of dark money in the electoral system. First, do dark money contributions target particular elections and areas? Second, what is the impact of undisclosed capital on election outcomes? Third, does dark money influence the type of politicians elected? The answers to these questions are important to evaluate the consequences of reduced disclosures on electoral outcomes and elected representatives.

We collect data on contributions received by candidates in U.S. congressional elections

from 2008 to 2018. We identify dark money groups by hand-matching contributions data to groups organized as nonprofits through 501(c) organizations. This allows us to track contributions received by candidates in these elections from each type of special interest group. We link 118 dark money groups to data on contributions from the Federal Election Commission (FEC), in addition to data on election results. During our sample period, 3,502 candidates for U.S. Congress received contributions from dark money groups. These data are linked to ex-ante ratings on the competitiveness of election races provided by the *Cook Political Report* and ex-post margins of victory.

We start by systematically documenting five facts about political contributions through 501(c) groups, or dark money. First, there has been a dramatic rise in dark money contributions over the past decade. In 2008, candidates in U.S. congressional elections received \$23 million from dark money groups. Firms contributed about \$173 million to congressional candidates during this election cycle. Support from dark money groups strikingly increased to \$329 million in 2018, surpassing political spending by firms, labor groups, and trade associations. Proportionally, this represents a considerable rise from 7% of spending in 2008 to 47% in 2018.

Second, dark money is predominantly spent against a group's preferred candidate. Using detailed data on political contributions from the FEC, we can observe whether political capital is provided to support a candidate or used against another candidate. Contributions by firm, labor, and trade groups mainly support each group's preferred candidates. Conversely, contributions against a candidate largely occur through dark money groups. Additionally, the trend in dark money expenditures both against and for candidates has been rising over the past decade.

Third, political capital provided through special interest groups is timed just before elections, reducing its detection by citizens before voting. We supplement data on FEC contributions with data on political advertisements from the Federal Communications Commission (FCC). Compared to contributions by firm, labor, and trade political action

committees (PACs), dark money groups focus their contributions for and against candidates in the months immediately preceding the election. We report similar patterns using the high frequency advertisements by dark money groups from FCC data. Contributions closely timed with elections might be more effective in eluding detection by citizens and the media, in addition to increasing their potential impact on election outcomes.

Fourth, special interest groups frequently transfer capital through other 501(c) organizations. We gather data from annual filings by dark money groups. Each year, these groups submit a Form 990 to the IRS, which is publicly available. We hand-collect information on revenues, political contributions, and grants to other special interest groups provided on these forms. We construct networks of dark money groups based on reported grants and document substantial flows in capital from dark money groups to other special interest groups. Further, dark money groups in our sample received almost \$2 billion in 2008 to nearly \$4 billion in 2018. Consistent with evading detection by voters, these filings are generally available several months after elections occur.

Fifth, firms commonly contribute directly to dark money groups. We hand-collect data on political disclosures provided by S&P 500 firms in their annual reports. We find that about 20% of firms report contributions to these special interest groups, rising from \$40 million in 2010 to \$142 million in 2017. These contributions are only those publicly disclosed by firms and they could represent the tip of the iceberg of firm contributions to dark money groups. Similar to annual filings by dark money groups, these contributions are not usually observable prior to the elections. Overall, these facts document the importance of dark money in political campaigns and their dominance in U.S. congressional elections.

We next analyze the use of dark money in congressional elections. We incorporate two measures of election competition. First, we use an ex-ante measure of competitiveness from the *Cook Political Report*, which classifies elections into categories based on the likelihood for a candidate to win. Second, we incorporate an ex-post measure using the closeness of an election based on a margin of victory less than or equal to 5% relative to the runner-up. We

study dark money contributions along both the extensive and intensive margins.

Dark money contributions can provide support either for or against a particular candidate in an election. We find that dark money for a candidate in U.S. congressional elections is 31.1% to 37.1% more likely to flow to competitive elections. Additionally, the probability of dark money being used against a candidate jumps by 39.7% to 41.2% for competitive races. We also examine the intensive margin and find that dark money for a congressional candidate increases by 7.5% to 14.8% in competitive elections. We show that dark money against a candidate rises by 15.7% to 28.1% when an election is competitive. These specifications include election year fixed effects to absorb temporal variation and state fixed effects to capture local variation in the propensity to contribute to dark money groups. The results suggest that dark money targets elections where its impact could be more consequential.

We incorporate data on media coverage using newspaper circulation from UNC's *The Expanding News Desert Project*. Additionally, we add data on congressional district and state characteristics from the American Community Survey provided by the Census Bureau. We find that a one standard deviation increase in newspaper circulation is related to a 7.4% to 10.5% decline in dark money contributions. We also examine the characteristics of regions where candidates are backed by dark money. We show that dark money flows to elections where voters have lower educational attainment. Further, dark money increases in areas with greater inequality and is negatively related to the share of a region below the poverty line. Taken together, this suggests that dark money targets electorates that might be relatively more responsive to its spending.

Next, we study the role of dark money advertisement in elections. We exploit variation in exposure to these advertisements by using a narrow band around the borders of television media markets. We find that candidates supported by dark money advertising receive an increase in the number of votes. Our preferred specification compares voting precincts along the same media market border during the same election cycle and holds constant differences across districts. We show that a 10% increase in ads is related to a 1.8% increase in votes.

This result is robust to alternative bandwidths around media market boundaries, scaling dark money advertisements by the number of households with televisions, including other political advertisements, and aggregating precincts near borders. We also examine the effect of advertising by dark money groups on turnout and election outcomes. An increase in dark money advertising is related to an increase in turnout. However, the estimated effect is smaller than the increase in voting, suggesting that dark money ads reallocate votes from other candidates. Additionally, we show that candidates supported by dark money are more likely to win elections.

Our final set of analyses explores the type of politicians backed by dark money contributions. Special interest groups might direct capital to candidates who favor their agenda over the interests of voters. On the one hand, these candidates might exert more effort to enact the agenda of their donors. On the other hand, these politicians might be less willing to push legislation through Congress. We construct a measure of dark money support based on contributions for a politician and against their opponents. We find that politicians backed by dark money are significantly more likely to support and sponsor legislation aligned with business interests. Additionally, Congresspeople supported through dark money contributions are more likely to be assigned to budgetary or finance committees.

If politicians do not enact an agenda aligned with their constituents, they might be voted out of office. We evaluate the likelihood of reelection for politicians supported by dark money. The sample for these specifications is conditional on a politician rerunning for office. We find that politicians receiving support from dark money groups are significantly less likely to be reelected. In the strictest specification with election year and state fixed effects, we find that a 10% increase in dark money support decreases the probability of reelection by 1.1 percentage points. Taken together, these findings suggest that dark money-backed politicians effectively enact the agenda of their donors and voters are more likely to remove these politicians from office in the following election.

This paper provides three contributions to the literature. First, we contribute to the

literature on disclosure by politicians and government quality. Djankov et al. (2010) find that public disclosure is positively related to government quality and reduced corruption. Fisman, Schulz, and Vig (2014) examine disclosure by politicians in India and show that the asset growth of winners is higher compared to runners-up. Dyck, Moss, and Zingales (2013) document that profit-seeking newspapers inform voters.

Second, we add to a broader literature studying political influence and rent extraction by firms. Several papers find that value increases when firms become politically connected (Roberts (1990), Fisman (2001), Faccio (2006), Cooper, Gulen, and Ovtchinnikov (2010), Chen, Parsley, and Yang (2015), and Akey (2015)) and decreases when these connections are lost (Faccio and Parsley (2009)). There is also substantial evidence about the benefits received by connected firms, including better access to external capital (Johnson and Mitton (2003), Cull and Xu (2005), Dinç (2005), and Khwaja and Mian (2005)), a higher likelihood of being bailed out (Faccio, Masulis, and McConnell (2006) and Duchin and Sosyura (2012)), preferential access to government contracts (Goldman, Rocholl, and So (2013), Tahoun (2014), Schoenherr (2019), Brogaard, Denes, and Duchin (2021)), and less competition (Faccio and Zingales (2022)).

Third, our paper contributes to a recent literature examining political spending by special interest groups. Papers examining the effects of the *Citizens United v. FEC* decision focus on state elections. La Raja and Schaffner (2014) suggest that restrictions on political spending have limited effects. Klumpp, Mialon, and Williams (2016) and Abdul-Razzak, Prato, and Wolton (2020) find evidence that independent expenditures support the election of Republican candidates in U.S. state legislatures. Spencer and Wood (2014) show that an increase in independent expenditures is larger for state elections with previous bans on this type of spending. Bertrand et al. (2020) and Bertrand et al. (2021) highlight that nonprofit organizations are a channel for political influence. Akey et al. (2022) focus on state-level variation in campaign finance laws and find that dark money increased electoral competition along with a rise in wages and employment.

2 Dark Money: Undisclosed Political Contributions

2.1 Institutional Context

The Supreme Court decision *Citizens United v. Federal Election Commission* in January 2010 ruled that corporations and other groups can spend unlimited amounts on elections. The court specifically decided that a prohibition on independent expenditures by these organizations in the Bipartisan Campaign Reform Act of 2002 violated their First Amendment right to free speech. Independent expenditures are also permitted through “527” political groups, which is an organization based on Section 527 of the U.S. tax code. However, these groups are required to disclose their donors and political spending.

Following the 2010 ruling, a new channel for raising money and contributing to political campaigns emerged, with no disclosure of donors and no limits on political expenditures. Commonly referred to as *dark money*, these organizations are formed as 501(c) nonprofits at the Internal Revenue Service (IRS). 501(c) groups are not required to provide any information on their donors and only provide limited financial information in Form 990 filings at the IRS, which are publicly available though usually after elections. These organizations often transfer donations to related 527 groups, which denotes the 501(c) organization as the donor and effectively masks the ultimate capital provider. Many dark money groups are organized as 501(c)(4) groups, which are categorized as social welfare organizations and cannot be primarily engaged in political activity. This restriction can be satisfied by providing 50% of the group’s capital to other nonprofit organizations.

Dark money groups do not face limits on political spending that does not advocate for particular candidates (“soft money”), though they are limited in their spending to directly support specific candidates (“hard money”). Complex structures of dark money groups and transfers of political capital make it challenging (discussed in Section 4.4), and often impossible, for the electorate to identify dark money political spending before voting.

Other special interest groups, including firms, labor groups, and trade associations,

and individuals also contribute to candidates in U.S. federal elections. These political donations differ from dark money groups since these donors are disclosed and their political spending is reported to the FEC.¹ While much of the literature has studied these other special interest groups, comparatively little is known about the role of dark money.

Undisclosed donations and unlimited political contributions through dark money groups might hamper transparency in elections. Dark money groups could use political capital to support their preferred candidate or target negative spending towards their opponents. Negative campaigning is effective when it is deployed for a candidate by an unrelated party, which might include a dark money group (Fridkin and Kenney (2004) and Dowling and Wichowsky (2015)). These organizations can also deploy non-candidate issue ads, which are not reported to the FEC² and are not restricted in their use. The lack of transparency and limited regulation of issue ads can make it difficult for voters to discern who funds these ads. Dark money differs markedly from other types of political contributions and, consequently, it is crucial to study its role in elections and politicians backed by these undisclosed contributions.

2.2 Observing Dark Money

We identify dark money groups using independent expenditures provided by the FEC. First, we gather data on 527 organizations with at least \$1 million of independent expenditures during the 2008 to 2018 election cycles. Second, we manually search for each group in IRS tax filings of tax-exempt organizations.³ Third, we conduct extensive internet searches to determine if a 527 group is a related entity of a 501(c) organization.⁴ We consider a 501(c)

¹In Section 4.5, we show that firms often contribute to dark money groups. Additionally, labor and trade associations can be denoted as dark money groups if a 501(c) organization is linked to a related 527 group with at least \$1 million of independent expenditures during the 2008 to 2018 election cycles (see Section 2.2 for more details).

²The FEC requires disclosure of “electioneering communications.” Advertisements that do not expressly endorse a candidate are not considered these types of communications.

³The search is available publicly at: <https://apps.irs.gov/app/eos>. The database includes organizations that no longer exist or whose 501(c) status has been revoked.

⁴A dark money group’s name at the FEC might differ from its name in IRS filing.

organization to be a dark money group if there is a record of an associated organization at the IRS or based on internet searches. A dark money group can be linked to multiple 527 organizations. Appendix B provides two examples of dark money groups in our sample.

[Insert Figure 1 Here]

[Insert Table 1 Here]

We match 118 dark money groups to \$2.1 billion of independent expenditures by 527 groups from the 2008 to 2018 election cycles. Figure 1 plots the total dark money spending by U.S. elections for the Senate, House, and President. Panel A of Table 1 provides the values in this figure. Over the sample period, \$409.4 million is spent in Senate races, \$801.8 million for candidates for the House, and \$902.5 million on Presidential campaigns. Spending generally increased across all elections, and markedly rose for Presidential races. Panel B lists the number of candidates in each type of election supported by dark money. Our analyses focus on U.S. congressional races to examine the relation between dark money, elections, and politicians backed by undisclosed contributions.

[Insert Figure 2 Here]

By its nature, dark money is challenging to observe and link to candidates. We focus on independent expenditures provided by the FEC to trace dark money groups with their political contributions. We augment these data with Form 990 tax filings by dark money groups to estimate the extent of dark money in U.S. elections. These data are hand-collected and detailed in Section 3.1. Panel A of Figure 2 plots the cash inflows of these groups and includes the spending tracked in the FEC data. Revenues of dark money groups in our sample rise from about \$2 billion in 2008 to \$4 billion in 2018. About half of their revenue comes from contributions and grants and the other half is from program service revenue, investment income, and other revenue sources. The striking gap between the money raised by dark money groups and the spending in FEC data suggests that only the tip of the

iceberg is observed. Panel B shows annual cash outflows from dark money groups. These organizations provide substantial cash grants and grants to related organizations, which are increasing over time. Political spending by dark money groups and political expenditures by 501(c) organizations receiving donations from these groups, labeled as transfers of political spending, are a sizable share of these grants.

[Insert Figure 3 Here]

Last, Panel A of Figure 3 shows a map of dark money supporting candidates in U.S. congressional elections and Panel B maps dark money opposing these candidates.⁵ The shading for each panel is based on the quartile of dark money spending with darker shades denoting higher contributions. The figure shows that dark money for and against candidates tends to flow to similar locations. Colorado, Florida, Michigan, Missouri, Nevada, North Carolina, Ohio, and Pennsylvania received substantial amounts of dark money.

3 Data

This section describes the data on political contributions by dark money groups, their tax filings, and donations by firms (Section 3.1). We also detail the data on elections and electorate characteristics (Section 3.2), political advertisements (Section 3.3), and politicians (Section 3.4). Table 3 provides summary statistics for variables used in the analyses.

3.1 Political Contributions

We collect data on political contributions to candidates in U.S. congressional elections from the Federal Election Commission (FEC). The sample period is 2008 to 2018, which includes the election cycle immediately preceding the *Citizens United v. FEC* decision and

⁵This map includes congressional races because spending for Presidential elections cannot be linked to particular states.

subsequent election cycles. FEC political contributions allow us to track spending by special interest groups, comprising dark money, firm, labor, and trade groups.

We incorporate data on dark money groups by hand-collecting annual Form 990 filings.⁶ We gather data on revenues, political expenditures, and grants to other 501(c) organizations from each Form 990 filing for dark money groups in our sample. We also compile data on revenues and political expenditures of 501(c) organizations receiving grants from dark money groups. We use these data to examine transfers of political spending by dark money groups.

Donors to dark money groups are not disclosed by these organizations. We hand-collect data on disclosures by S&P 500 firms during our sample period to study the role of firm contributions as a capital provider for dark money groups. We manually search each firm’s website and the Internet Archive for information on annual reports of political disclosures. We gather the organization name, type, and donation amount from the available reports.

3.2 Elections

Data on the outcomes of U.S. congressional elections are obtained from the FEC. These data include the winner of elections from 2008 to 2018 and the votes received for each candidate at the district level. We also incorporate data on whether a candidate is an incumbent and the political party of a candidate. Additionally, we gather data on U.S. congressional elections at the precinct level from the MIT Election Data and Science Lab. These data provide information on precinct-level voting and turnout in 2016 and 2018.⁷

We use data from the *Cook Political Report* to measure the ex-ante competitiveness of each congressional election.⁸ The *Cook Political Report* is a nonpartisan political newsletter

⁶Form 990 filings are annual tax statements submitted to the IRS by 501(c) organizations and publicly available. We access these forms using ProPublica’s Nonprofit Explorer.

⁷Voting data at the precinct level are not available prior to 2016.

⁸We select the rating three months prior to the election date.

on U.S. elections and campaigns. Each election is rated as “Toss-Up,” “Lean,” “Likely,” or “Solid” for either Democrat or Republican. In the main specifications, we denote elections assigned “Toss-up” as competitive. We also examine the robustness of our results to a broader set of ratings.⁹ We denote elections as ex-post competitive if the margin of victory between the winning candidate and runner-up is less than five percent.

We incorporate additional data to examine electorate characteristics. First, we gather data on newspaper circulation from the UNC Hussman School of Journalism and Media’s *The Expanding News Desert Project*.¹⁰ The electorate in regions with fewer newspapers might be less informed about candidates and susceptible to influence by dark money spending. Prior evidence suggests that newspapers increase political participation (Gentzkow, Shapiro, and Sinkinson (2011)). Second, we use data from the American Community Survey (ACS) provided by the Census Bureau on educational attainment, inequality using the Gini index, and poverty. The data is available every five years by state for Senate elections and by congressional district for House elections. Accordingly, we gather data from 2010 and 2015, including total population.

3.3 Political Advertisements

To study the effect of dark money advertisements on voting, we gather data on political advertisements from the Federal Communications Commission (FCC). We search for ads in the FCC’s Public Inspection Files by each dark money group in our sample.¹¹ Since precinct-level voting data is available for the 2016 and 2018 election cycles, we focus on 2015 to 2018 for our searches. We use information on the designated market area (DMA), type of advertisement, and filing date.

⁹In 2018, 35 of 468 U.S. congressional elections are rated as “Toss-up,” 50 races as “Likely,” and 36 elections are “Lean.” The remaining races are rated as “Solid.”

¹⁰We thank them for providing detailed panel data on newspaper circulation.

¹¹Dark money groups frequently use different names to evade detection. We match dark money groups using their reported name in both Form 990 filings and in FEC committee data.

We map each precinct in our data to a DMA using ArcGIS.¹² Precinct maps are provided by the Voting and Election Science Team.¹³ For our empirical design on the effect of dark money advertisements (see Section 5.3.1 for details), we determine the closest bordering DMA and its distance in miles.¹⁴ We also incorporate data on other political advertisements from the Wesleyan Media Project.

Last, we supplement data on political contributions with information on non-candidate issue advertisements to provide additional evidence on the timing of dark money during the election cycle. For the analysis on timing, we use non-candidate issue advertisements because they do not explicitly endorse a candidate, are often used by dark money groups, and are not included in political data from the FEC and Form 990 filings.¹⁵ We match advertiser names to dark money groups in our sample. FCC data is available electronically starting in 2013.

3.4 Politicians

To evaluate the type of politicians backed by dark money, we collect data on the corpus of legislation by the U.S. Congress from 2007 to 2020 using Congress.gov. The data contain the text of 92,763 bills from introduction to enactment. We build a topic model using the text and as described in Appendix C. We use data from VoteView¹⁶ to observe the sponsorship of bills and any subsequent votes on these bills.

We also augment these data with information about membership on congressional committees.¹⁷ We define budgetary committees as the following memberships: House Com-

¹²The maps for DMAs are available at <https://github.com/simzou/nielsen-dma>.

¹³The data are available for 2016 at <https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/NH5S2I> and for 2018 at <https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/UBKYRU>.

¹⁴The distance is measured from the closest edge of the precinct to the nearest bordering DMA.

¹⁵We do not incorporate data on political advertisements that explicitly endorse a candidate because these contributions are captured in FEC data.

¹⁶Data on VoteView is available at: <https://www.voteview.com>.

¹⁷Data on committee membership are provided by Charles Stewart III at: http://web.mit.edu/17.251/www/data_page.html.

mittee on Appropriations, House Committee on Oversight and Reform, House Committee on Armed Services, House Committee on the Budget, House Committee on Transportation and Infrastructure, House Committee on Energy and Commerce, Senate Committee on Appropriations, Senate Committee on Homeland Security and Governmental Affairs, Senate Committee on the Budget, Senate Committee on Commerce, Science, and Transportation, and Senate Committee on Energy and Natural Resources. We classify finance committees as the following memberships: House Committee on Financial Services, House Committee on Energy and Commerce, House Committee on Small Business, Senate Committee on Finance, Senate Committee on Banking, Housing, and Urban Affairs, Senate Committee on Commerce, Science, and Transportation, and Senate Committee on Small Business and Entrepreneurship.¹⁸

4 Stylized Facts about Dark Money

This section presents five stylized facts about the role of undisclosed and unlimited political contributions in U.S. federal elections. First, political spending by dark money groups now comprises the largest share of contributions by special interest groups. Second, dark money is mostly spent against candidates in elections. Third, dark money contributions flow to candidates in the months immediately preceding elections. Fourth, dark money groups transfer capital through other dark money groups. Fifth, firms often provide contributions to dark money groups.

¹⁸The House Committee on Energy and Commerce and the Senate Committee on Commerce, Science, and Transportation are classified as both budgetary and finance committees based on their broad focus.

4.1 Fact 1: Dark money dominates political contributions from special interest groups

Special interest groups provide considerable political capital to candidates in U.S. federal elections. A large literature in finance and economics studies the role of contributions by firms using political action committees and lobbying activity. Since the *Citizens United v. FEC* ruling by the U.S. Supreme Court, 501(c) organizations can provide undisclosed and unlimited campaign contributions, accordingly termed as dark money groups. Yet little is known systematically about the size and relative share of dark money spending in U.S. federal elections.

Panel A of Figure 4 shows the level (in millions of dollars) of spending by special interest groups from election cycles in 2008 to 2018 for races in the U.S. Congress.¹⁹ Table A1 provides the corresponding values for this figure. Political contributions by dark money groups are negligible during the 2008 election cycle at \$23.1 million and markedly increased more than 14-fold to \$329.1 million in 2018.²⁰ Compared to other special interest groups, dark money spending has substantially increased, while political capital provided by firms, labor, and trade groups remains flat.

[Insert Figure 4 Here]

[Insert Table A1 Here]

Panel B provides the proportion of political spending by a special interest group (dark money, firm, labor, or trade) relative to the total contributions by all special interest groups in a particular election cycle. As a share of special interest group spending, firm, labor, and trade PACs are declining, while the percentage from dark money groups are rising. Dark money now represents the largest share of spending by a special interest group at 46.6% in

¹⁹Appendix Figure A1 shows the corresponding figure for all federal elections, including presidential elections. The patterns are similar and amplified during years with a presidential election.

²⁰Dark money groups are discussed in Section 2 and defined as 501(c) organizations spending at least \$1 million using independent expenditures in U.S. federal elections during election cycles from 2008 to 2018.

2018. Firm PACs decreased from 50.6% in 2008 to 30.2% in 2018. Overall, this provides evidence that dark money groups play a large role in providing political capital in U.S. congressional elections.

4.2 Fact 2: Dark money is primarily spent against candidates

Political spending can support a contributor's preferred candidate or be used to fund expenditures against the opponents in an election. A common example of spending against certain candidates in an election is advertisements attacking the opponent's campaign. Rather than highlighting the platform of a candidate, these attack ads draw attention to negative aspects of the contender. Using detailed data on the use of campaign contributions, we examine whether special interest groups focus their spending on a particular type of spending in U.S. congressional elections.

[Insert Figure 5 Here]

Figure 5 provides political spending by special interest groups for and against candidates. Panel A plots the level (in millions of dollars) of spending to support a group's preferred candidate and Panel B shows political capital spent against candidates. There are a few notable patterns from this figure. First, political contributions from dark money groups both for and against their preferred candidates have been rising substantially over the past decade. About two-thirds of dark money are spent against candidates and the remaining one-third is used to support candidates. Second, and importantly, political spending against candidates is overwhelmingly provided by dark money groups. Third, firm, labor, and trade groups mostly spend political contributions to support their preferred candidates. These characteristics of spending by special interest groups highlight that dark money often targets spending against candidates, differentiating it from other types of contributions by these types of groups.

4.3 Fact 3: Dark money flows to candidates just before elections

The first stylized fact shows that dark money represents a major share of political spending by special interest groups and the second stylized fact demonstrates that the political capital spent by dark money groups is often used against candidates. Potential concerns about the influence of spending by these groups could be mitigated if voters could observe whether and how dark money is spent prior to elections. Voters could incorporate the spending by dark money groups into their information set and evaluate its role on their election decisions.

We next investigate the timing of political contributions by special interest groups in U.S. congressional elections.²¹ Panel A of Figure 6 plots the monthly spending (in millions of dollars) by dark money, firm, labor, and trade groups. We show that spending captured in FEC data by firms is largely allocated throughout the election cycle. Political contributions by labor and trade PACs tick up in the months preceding an election. Relative to other special interest groups, dark money appears to primarily flow to candidates immediately preceding the elections. Spending by dark money groups is low during much of the election cycle and spikes substantially in October. The timing of spending by dark money groups arguably limits its detection by citizens and media prior to elections.

[Insert Figure 6 Here]

We provide additional evidence on the timing of dark money contributions using data from the FCC on political advertisements.²² We match dark money groups to the FCC advertisement data. Panel B shows the share of advertisements in each month during an election cycle. Using FCC advertisements, the pattern is remarkably similar to the FEC data and shows that a large share of advertisements by dark money groups is timed immediately before elections. This supports the notion that dark money flows might not be detected by voters.

²¹U.S. federal elections occur by law on the Tuesday following the first Monday in November on even years.

²²FCC data is available starting in 2013.

4.4 Fact 4: Dark money is commonly transferred to other special interest groups

Dark money groups are structured as 501(c) organizations. These organizations can engage in political activity, though the IRS states that it cannot be their primary activity.²³ Accordingly, dark money groups frequently provide contributions or grants to other dark money groups, eluding the restriction about primarily undertaking political activity. Transferring political capital to other groups also increases the likelihood that dark money contributions are not detected by voters, particularly prior to elections. Notably, capital contributed to these other organizations is not included in a dark money group’s political expenditures, though recipient organizations can use it for political spending.

[Insert Figure 7 Here]

We construct a directional network of dark money contributions using annual Form 990 filings by 501(c) organizations.²⁴ Using data on contributions and grants, we form directional nodes in Figure 7.²⁵ First, we show that clusters of dark money groups form in the network based on their interconnected contributions and grants. Second, the network highlights that there are considerable transfers of political contributions using dark money. In our sample of Form 990, contributions and grants transferred to other 501(c) organizations totaled \$3 billion. The node size in the figure indicates the total amount received by dark money groups. Connected organizations often receive large transfers from the central dark money group. Third, connections between nodes commonly occur between dark money groups aligned with business interests. Specifically, we define corporatist contributions by

²³For example, see <https://www.irs.gov/pub/irs-tege/eotopic103.pdf>, which states that “501(c)(4), (c)(5), and (c)(6) organizations may engage in political campaigns on behalf of or in opposition to candidates for public office provided that such intervention does not constitute the organization’s primary activity.”

²⁴Schedule I details the amounts of grants and other assistance provided to other organizations. Schedule R lists the grants and other assistance to related organizations.

²⁵We focus on dark money groups providing at least \$100 million to other 501(c) organizations during the same period. Further, we include dark money groups receiving at least \$100,000. These filters are only applied to visualize the network and based on its size. The network structure is similar if we do not apply these criteria.

a dark money group as the total contributions to politicians who voted for the passage of the Troubled Asset Relief Program (TARP), for the Tax Cuts and Jobs Act of 2017 (TCJA), or against the Coronavirus Aid, Relief, and Economic Security Act (CARES). These contributions are scaled by a dark money group’s total contributions to candidates during election cycles from 2008 to 2018. Nodes with darker shading denote larger corporatist contributions. Additionally, dark money groups often change their name and tax identifier after each election cycle.²⁶ Consistent with evading detection by voters, annual filings by dark money groups are usually available only several months after elections occur.

4.5 Fact 5: Firms often contribute to dark money groups

Dark money groups are not required to disclose their donors. Consequently, little is known about who contributes to dark money groups and how much particular donors provide. One potential source of funds for these groups is firms.²⁷ We hand-collect data on political disclosure by S&P 500 firms from 2010 to 2017. While disclosures are voluntary, these data provide a window into a capital provider for dark money groups.

[Insert Table 2 Here]

Table 2 lists the number of firms, number of contributions, and contribution amounts (in millions of dollars) from 2010 to 2017. During our sample period, 681 firms constitute the S&P 500 at some point and 129 firms report contributions to dark money groups, or 19% of these firms. The number of firms and the frequency of contributions increases by about five-fold from 2010 to 2017. We find that S&P 500 firms provided \$40 million in 2010, which increases to \$142 million in 2017. Since disclosures are voluntary, this could understate the extent of firm contributions to dark money groups.

²⁶An example is the large dark money group “Center to Protect Patient Rights,” which changed its name to “American Encore” in 2012 (see “An Encore for the Center to Protect Patient Right” at <https://www.opensecrets.org/news/2014/03/an-encore-for-the-center-to-protect-patient-rightstect-patient-right>).

²⁷Anecdotal evidence suggests that, in addition to firms, wealthy individuals often support dark money groups (Mayer (2017)).

Policymakers, including the U.S. Securities Exchange Commission (SEC), are considering proposals to mandate disclosure of political contributions. By providing capital to candidates in U.S. congressional elections through dark money groups, public firms are not required to disclose these contributions to investors and avoid campaign finance donation limits. Firms might use dark money groups to support issues that could garner unfavorable public attention. Taken together, this suggests that firms are donors to dark money groups and often provide sizable contributions.

5 Elections and Dark Money

This section studies the role of dark money in U.S. federal elections. Section 5.1 examines which elections are targeted by undisclosed and unlimited political contributions. Section 5.2 explores electorate characteristics of regions receiving dark money. Section 5.3 provides the empirical design to evaluate the effect of dark money advertisement on elections and the corresponding results.

5.1 Elections Targeted by Dark Money

We begin by studying the types of elections targeted by political contributions from 501(c) organizations, which are termed dark money. There are two key features of dark money groups: donors to these groups are undisclosed and their campaign contributions are unlimited. Consequently, political capital from dark money groups might flow to elections where it could have the largest marginal impact. Section 4.3 highlights that dark money is largely spent just prior to elections.

We use two measures of election competition. First, we gather data on ex-ante ratings of election competitiveness from the *Cook Political Report*. In the main specifications, we define elections with a rating of “Toss-up” as competitive and also examine robustness to alternative definitions. Second, we incorporate an ex-post measure based on the closeness of

elections using a margin of victory between the winner and runner-up of less than or equal to 5%. The dependent variables are dark money along the extensive margin using an indicator variable equaling one if a candidate receives dark money for or against her election and along the intensive margin using the natural log of one plus dark money spending. We examine dark money for and against candidates separately.

We estimate the following specification:

$$Y_{cest} = \alpha_s + \alpha_t + \beta \cdot Competition_{et} + \gamma \cdot X_{ct} + \varepsilon_{cest}, \quad (1)$$

where Y_{cest} is dark money spending on the extensive or intensive margin for candidate c for election e in state s during election cycle t . The sample for specifications in this section includes candidates in U.S. congressional elections during the 2008 to 2018 election cycles. For interpretability, we focus on candidates from the Democratic or Republican parties. $Competition_{et}$ measures ex-ante or ex-post competitiveness of a particular election and X_{ct} includes candidate characteristics. We include state fixed effects to capture local variation in the propensity to receive dark money contributions and election cycle fixed effects to absorb temporal variation. Standard errors are clustered at the election level.

[Insert Table 4 Here]

In Table 4, Panel A reports the association between the likelihood of receiving dark money and election competitiveness. In column 1, we find that dark money for a candidate in a U.S. congressional election is 37.1% more likely to flow to elections that are ex-ante competitive. Column 2 provides a similar estimate of 31.1% using ex-post competitiveness. Columns 3 and 4 examine the chance of dark money going against a candidate flowing to competitive elections and finds an increase of 39.7% to 41.2%. For candidate characteristics, we show that Democratic candidates are less likely to receive dark money spending targeted against their election and that incumbents are more likely to receive dark money both for and against their reelection.

Panel B explores the relation between dark money spending on the intensive margin and elections. Columns 1 and 2 find that dark money for a congressional candidate increases by 7.5% to 14.8%, on average, for competitive elections.²⁸ We show that dark money against a candidate rises by 15.7% to 28.1% when an election is competitive. Democratic candidates receive less dark money supporting their campaign and are relatively more targeted by dark money groups against their election. The relationship between dark money on the extensive margin and being an incumbent is economically negligible and statistically insignificant. In Table A2, we examine broader definitions of ex-ante competitive elections. The estimates tend to decline slightly, suggesting that dark money spending is usually allocated to the closest elections. Overall, these results highlight that dark money targets competitive elections where its impact could be more consequential.

5.2 Electorate Characteristics

We next turn to examining the characteristics of the electorate in areas targeted by dark money groups. These organizations might aim to contribute for or against candidates in elections where voters are less informed. We construct *Newspaper Circulation* to measure the number of newspapers circulated in a state per capita. We use data from Census' American Community Survey to measure the share of the population with a college degree or above (*Education*), the Gini index (*Inequality*), and the ratio of the population below the poverty line (*Poverty*). Each measure from the ACS can be linked to the state or congressional district of an election.²⁹

[Insert Table 5 Here]

Table 5 reports the results using equation (1) by augmenting it with the electorate characteristics. Panel A examines the extensive margin of dark money spending and Panel

²⁸When the outcome is a natural log, we report the exponentiated coefficient minus one.

²⁹The pairwise correlation of these four electorate characteristics is low except for education-poverty and inequality-poverty. This indicates that they generally capture different aspects of the electorate.

B studies the intensive margin. We find that a one standard deviation increase in newspaper circulation is related to a 7.7% to 11.1% decline in the likelihood of dark money contributions for or against candidates. The estimates are similar along the intensive margin. These specifications include competition measures and candidate characteristics. We also show that a one standard deviation increase in educational attainment is associated with a 0.9% to 1.3% decline in the probability of dark money flowing to an election and we report similar estimates along the intensive margin. We find that dark money spending increases for states or congressional districts with higher inequality, which could proxy for areas with more heterogeneity in voter preferences. Last, we show that dark money is negatively related to the share of a region below the poverty line, which is consistent with lower voter turnout in these areas. In sum, these findings suggest that dark money flows to elections where voters face reduced information environments, lower education, greater inequality, and less poverty.

5.3 Effect of Dark Money Advertisements

In this section, we study the effect of dark money advertisements on elections. Section 5.3.1 discusses the empirical design and Section 5.3.2 provides the results.

5.3.1 Empirical Design

A primary concern about the surge in dark money spending is its role in elections. Yet it is empirically challenging to identify the effect of political contributions by dark money groups. For example, particular groups might support candidates that are more likely to win. We exploit variation in exposure to dark money advertisements based on the borders of television media markets to examine the effect of dark money in elections.³⁰ Specifically, these media markets in the U.S. are defined as designated market areas (DMAs). We focus on a narrow band around DMA borders within a district to evaluate how dark money influences voting and turnout, in addition to its potential role in election outcomes.

³⁰The approach of using variation based on television media markets follows Gentzkow (2006) and others.

We construct a panel at the candidate-precinct-election cycle level. A voting precinct is the most granular geographic unit available for mapping to DMAs. We link each precinct to advertisements by dark money groups in the DMA where it is located. The FCC data on advertisements allows us to observe the advertiser. We determine the party supported by a dark money group based on the majority of its FEC contributions. We supplement these data with other political advertisements from the Wesleyan Media Project.

We estimate the following specification:

$$Y_{cdmpt} = \alpha_d + \alpha_m + \alpha_{bt} + \beta \cdot \text{Log Dark Money Ads}_{cmt} + \varepsilon_{cdmpt}, \quad (2)$$

where Y_{cdmpt} is the number of votes for candidate c in district d located in DMA m for precinct p during election cycle t . The sample for specifications in this section includes Democratic or Republican candidates in U.S. House elections during the 2016 and 2018 election cycles based on data availability. $\text{Log Dark Money Ads}_{cmt}$ is the log of one plus the number of advertisement filings for a candidate’s party in a DMA during a particular election cycle. We include district (α_d) and DMA (α_m) fixed effects. We also include fixed effects for each DMA border-pair during each election cycle, which we denote as α_{bt} . The baseline estimates focus on a 10-mile band around DMA borders. When the outcome is a count variable, we estimate the model using a Poisson regression.³¹ Standard errors are clustered at the DMA level.

5.3.2 Results

Table 6, Panel A, provides the results for the effect of dark money advertisements on the number of votes received by a candidate using equation (2). In column 1, we find that an increase in dark money advertisements is significantly related to an increase in the number of votes for a candidate. Accounting for time-invariant differences between DMAs

³¹For a discussion about using count variables, see Cohn, Liu, and Wardlaw (2022).

and absorbing temporal variation, a 10% increase in dark money advertising is associated with a 1.7% rise in votes for a candidate. Column 2 augments the specification with district fixed effects. We show that there continues to be a significant relation between dark money advertising and votes received by candidates. Column 3 adds fixed effects for each DMA border-pair and the estimate remains similar. Our preferred specification is column 4, which includes DMA, district, and DMA-pair \times election cycle fixed effects. We find that a 10% increase in dark money advertisements is significantly related to a 1.8% increase in the number of votes received by a candidate. This specification compares precincts along the same DMA border during the same election cycle and holds constant differences across districts. The estimate suggests that dark money advertisements increase votes for a group's preferred candidate. In the last column, we replace district fixed effects with precinct fixed effects and show that the relation is similar, both statistically and economically.

[Insert Table 6 Here]

Panel B provides several robustness tests. We vary the distance of a precinct to a border from 10 miles in Panel A to 5 miles in column 1 and 25 miles in column 2. We find that the relation between dark money advertisements and the number of votes received remains highly statistically significant and economically similar. In particular, a 10% increase in dark money ads is associated with a 1.9% increase in votes received. Next, there could be a concern about differences in households with televisions across DMAs. We define *Dark Money Ads Ratio* as the number of dark money advertisement filings relative to the number of households with televisions in a DMA. We show that an increase in the share of ads per households with televisions is significantly related to an increase in number of votes received. In column 4, we augment the preferred specification with candidate characteristics (*Democrat* and *Incumbent*) and the log of one plus the number of other advertisements in a DMA (*Log Other Ads*). We show that the results remains statistically and economically similar. Last, in column 5, we collapse the observations across precincts along the border

and continue to find that an increase in dark money advertisements is positively associated with the number of votes for a candidate.

Next, we examine turnout in precincts by estimating equation (2) at the precinct-election year level. We aggregate the candidate-precinct-election year panel by summing across candidates in a precinct for a particular election cycle. In column 1, we find that a 10% increase in dark money advertisements increases turnout by 1.1%. We include district fixed effects in column 2 and, additionally, DMA-pair fixed effects in column 3. The estimates remain highly statistically significant, though the magnitude attenuates. In column 4, we include DMA, district, and DMA-pair \times election cycle fixed effects. We show that a 10% increase in dark money advertisements is related to a 0.4% increase in turnout. This is smaller than the estimated effect on voting in column 4 of Table 6, Panel A, suggesting that dark money ads increase voting for a particular candidate by both increasing turnout and reallocating votes from other candidates. Column 5 adds other political ads and shows that the estimate remains the same.

[Insert Table 7 Here]

We conclude this section by exploring the role of dark money in election outcomes. While the previous results on voting and turnout focus on precincts along DMAs, the sample for these specifications is at the district-election year level. The outcome is an indicator variable equaling one if a candidate is the winner of an election in a particular election cycle. For these specifications, *Log Dark Money Ads* is the total dark money advertisement in a district's DMAs during a particular election cycle. Each regression includes district and election cycle fixed effects. In column 1, we find that dark money advertisements are significantly related to the likelihood of winning an election. Column 2 includes other political ads and shows that the estimate is similar. Column 3 adds candidate characteristics (*Democrat* and *Incumbent*) and finds that there continues to be a positive and significant association between dark money advertising and winning an election. In column 4, we incorporate other

political ads and candidate characteristics. The relation between dark money advertisements and winning an election remains positive, though it is economically smaller.

Taken together, this section provides evidence that dark money groups play a role in U.S. federal elections. Dark money groups target competitive election races, which is consistent with campaigns where these contributions might be more influential. Undisclosed political contributions also flow to areas with less information and voters with lower education, heightened inequality, and less poverty. Last, and importantly, dark money advertising appears to increase the number of votes that a candidate receives. While turnout also increases, the effect is relatively smaller and suggests that dark money also influences which candidates voters support. Additionally, we find that dark money advertising appears to increase the likelihood of winning an election. As policymakers consider implementing additional disclosure of political spending, these findings highlight their potential importance.

6 Politicians Supported by Dark Money

This section examines politicians in the U.S. Congress elected with the assistance of political contributions that are undisclosed and unlimited. First, we use the corpus of bills during the sample period to evaluate the voting and sponsorship of legislation by dark-money backed politicians (Section 6.1). Next, we explore the committee membership of politicians supported by dark money (Section 6.2). Last, we study the reelection of politicians in the U.S. Congress who were supported by dark money contributions (Section 6.3).

6.1 Legislation

Politicians who are elected to office with the support of dark money could differ from elected officials not backed by these special interest groups. Dark-money backed politicians might enact an agenda that is aligned with the donors to dark money groups over the interests of their constituents. It is critical to understand whether the pool of politicians changes with

the rise of dark money political contributions.

We construct a measure of dark money support for a politician in the U.S. Congress based on contributions that she received for her campaign and against her opponents, which we term *Dark Money Supporting*. We estimate the following specification:

$$Y_{pct} = \alpha_{c \times t} + \beta \cdot \text{Dark Money Supporting}_{pt} + \varepsilon_{pct}, \quad (3)$$

where Y_{pst} is political activity in Congress for politician p from chamber s during congressional session t . We define dark money supporting along the extensive margin as $\mathbb{1}(\text{Dark Money Supporting})$ and on the intensive margin as $\text{Log Dark Money Supporting}$, which is the log of one plus *Dark Money Supporting*. Since the sample for elections is election cycles from 2008 to 2018 and based on data availability, the sample period for specifications in this section is from 2010 to 2018. We include chamber \times election cycle fixed effects to differences in legislative activity for chamber (House or Senate) for each congressional session. Standard errors are clustered at the politician level.

[Insert Table 8 Here]

Table 8 provides the results related to legislation. In Panel A, we evaluate the legislative activity of dark-money backed politicians. In column 1, we find that politicians receiving dark money during their campaigns are more likely to support legislation based on the number of bills voted for during a particular congressional session. This represents a 4.9% increase in the number of bills supported. Column 2 includes an indicator if a politician is a Democrat and shows that the estimate is similar along the extensive margin. Columns 3 and 4 repeat these specifications along the intensive margin. We continue to find a significant relation between receiving dark money and the number of bills supported.

Panel B evaluates the types of bills supported by politicians receiving dark money contributions. While the previous results suggest increased support for legislation, it does not distinguish between the type of bills supported. For the next two panels, we develop a topic

model to classify every bill as a particular topic and assign these topics to categories proxying for business interests. Appendix C provides extensive details about the implementation of the topic model. We define *Percentage of Corporatist Bills Supported* as the share of bills related to business interests (corporatist) supported by a politician in a particular congressional session. Column 1 reports that dark-money backed politicians are 5.6 percentage points more likely to support corporatist bills. We again find similar estimates including an indicator for Democrat in column 2. Along the extensive margin of dark money in columns 3 and 4, we find that a 10% increase in dark money supporting a politician’s campaign is related to a 7.0 to 7.9 percentage point increase in the share of bills supported with business interests.

Panel C examines sponsorship of legislation related to business interests. We define $\mathbb{1}(\textit{Sponsor Corporatist Bills})$ as an indicator variable equaling one if a politician sponsors a corporatist bill in a particular congressional session. Columns 1 and 2 show that there is no effect along the extensive margin of dark money support. In columns 3 and 4, we find that there is a significant association between the amount of dark money support a politician receives during her campaign and sponsorship of bills aligned with business interests. Taken together, the results in this section suggest that dark-money backed politicians actively support legislation, particularly those aligned with business interests, and tend to support corporatist bills.

6.2 Committee Membership

Politicians in the U.S. Congress are assigned to committees. This provides politicians with an influential role on those issues allocated to a particular committee. Candidates receiving the backing of dark money might be assigned to committees that are aligned with their donors. In this section, we focus on membership to committees with budgetary oversight and membership on committees with monitoring the financial system. We focus on membership by the majority party since these politicians generally have more influence than those in the minority. We use equation (3) for these analyses.

[Insert Table 9 Here]

Table 9 provides the results on committee membership. In Panel A, we examine membership on a budgetary committee. Across columns 1 to 3, we find that a 10% increase in dark money is related to a 2.7% to 3.0% increase in the likelihood of being assigned to a budgetary committee. The specifications include chamber fixed effects (column 1), election cycle fixed effects (column 2), and chamber \times election cycle fixed effects (column 3). In Panel B, we explore membership on a finance committee. We also find a significant increase in the likelihood of being on a finance committee when a politician is backed by dark money. In sum, dark-money backed candidates are positioned on committees that might be particularly aligned with donors to dark money groups.

6.3 Reelection

If politicians do not enact policies aligned with citizens from their region, then they might be voted out of office during the next election. The previous analyses provide suggestive evidence that dark-money backed politicians might take actions that differ from the preferences of the median voter in their region. We evaluate the relation between the probability of being reelected and dark money support during the previous election. We focus on those politicians who rerun for the same office.

[Insert Table 10 Here]

Table 10 reports the results. In column 1, we find that a 10% increase in dark money supporting a politician in the previous election decreases her chance of reelection by 1.1 percentage points. Column 2 includes state fixed effects and column 3 also has election cycle fixed effects. We show that a similar increase in dark money is associated with a 0.9 to 1.1 percentage points decrease in the chance of being reelected. Overall, the findings in this section are consistent with dark money altering the pool of politicians being elected to the U.S. Congress.

7 Conclusion

In the decade following the *Citizens United vs. Federal Election Commission* decision, undisclosed and unlimited spending from special interest groups has poured into U.S. federal elections. We provide the first systematic evidence on the role of dark money in elections and the pool of politicians entering the U.S. Congress.

We document five stylized facts of dark money. First, dark money organizations represent the prevalent special interest group. Second, political contributions by dark money groups are primarily spent against candidates. Third, dark money is deployed just before elections. Fourth, political capital from dark money groups is frequently transferred to other special interest groups, potentially evading detection by voters. Fifth, firms often donate to dark money groups.

We study the role of dark money in U.S. congressional elections. We find that dark money is allocated to competitive races. Further, these political contributions are spent in areas with fewer newspapers and less educational attainment. Exploiting variation in television media markets, we find that dark money advertisements increase votes for a group's preferred candidate. While turnout also rises, the effect is smaller compared to the increase in votes. Politicians elected to federal office with the support of dark money are more likely to support and sponsor legislation aligned with corporate interests. Accordingly, these politicians appear to enact an agenda aligned with their donors and are less likely to be reelected.

Policymakers frequently consider proposals to increase transparency in U.S. elections. The For the People Act proposed providing more information to voters about donors to dark money groups. Our results highlight the role of undisclosed political contributions in U.S. elections and the potential importance of more transparency.

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Figure 1: Dark Money in U.S. Federal Elections

This figure plots the amount of dark money spent by election cycle in U.S. federal elections for the Senate, House, and President. Dark money groups are defined as 501(c) organizations spending at least \$1 million using independent expenditures in U.S. federal elections during election cycles from 2008 to 2018.

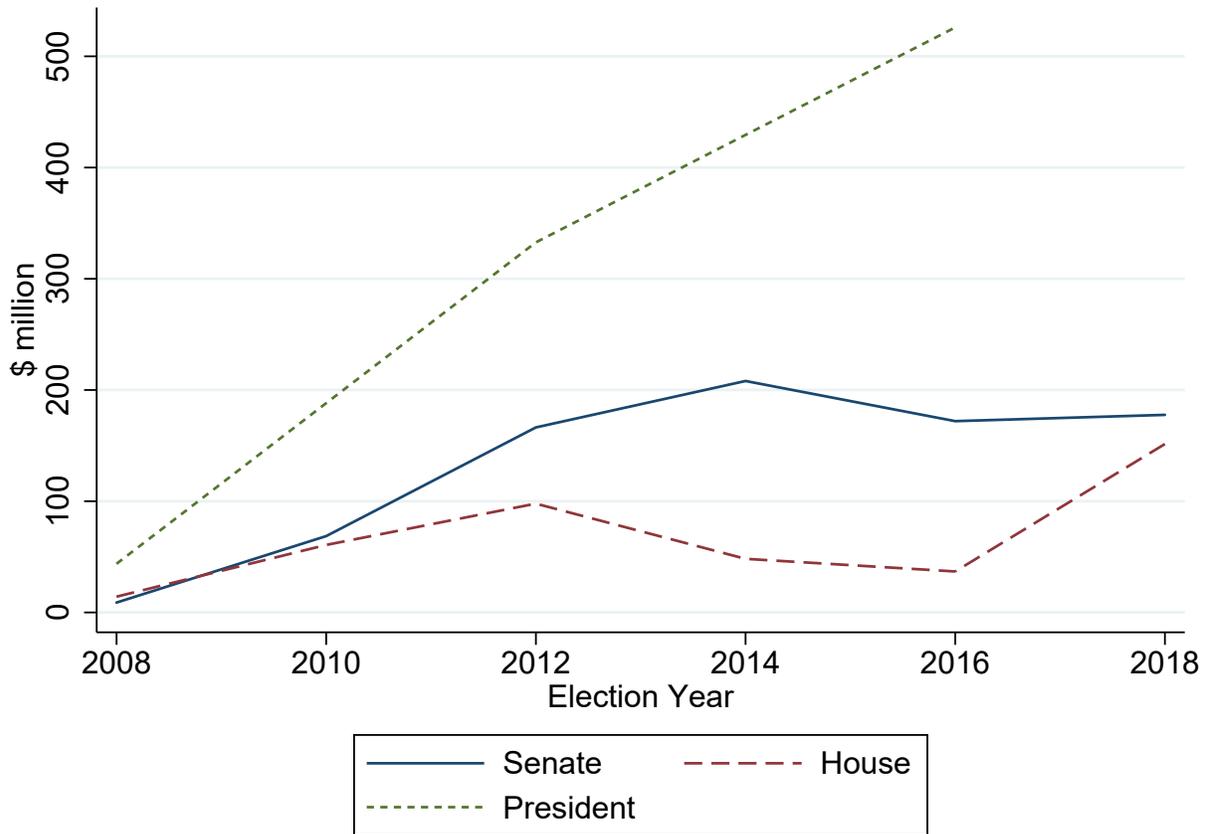
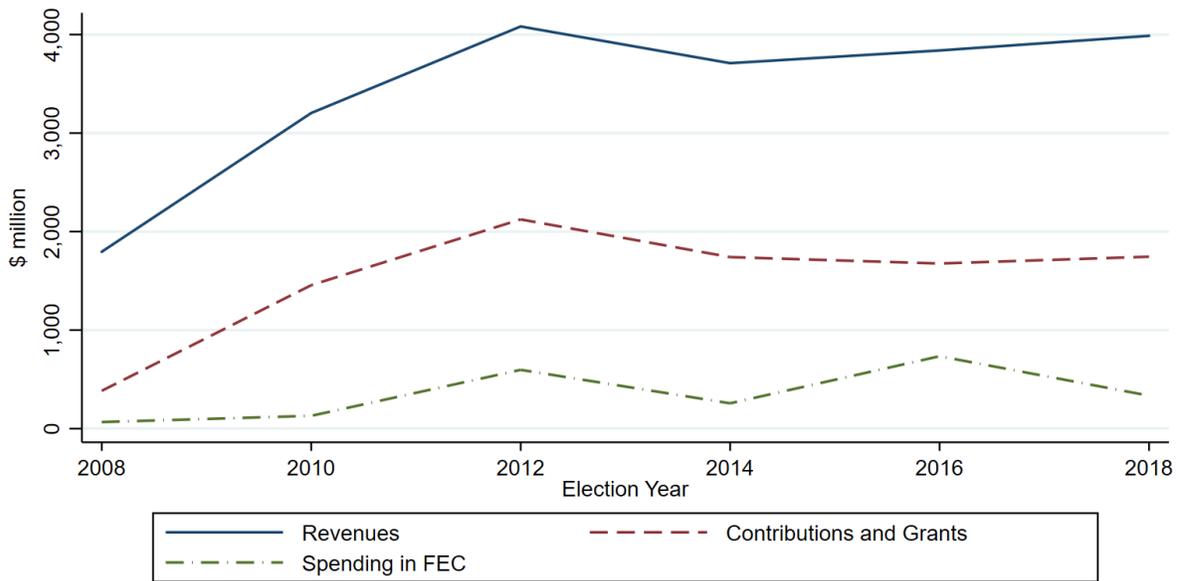


Figure 2: Cash Flows for Dark Money Groups using IRS Filings

This figure provides the inflows and outflows of dark money groups using hand-collected data from annual Form 990 filings at the IRS. Dark money groups are defined as 501(c) organizations spending at least \$1 million using independent expenditures in U.S. federal elections during election cycles from 2008 to 2018. Panel A shows the inflows to dark money groups and Panel B plots the outflows from these organizations. All data are from Form 990 filings except *Spending in FEC*, which is based on independent expenditures in FEC data.

Panel A: Inflows



Panel B: Outflows

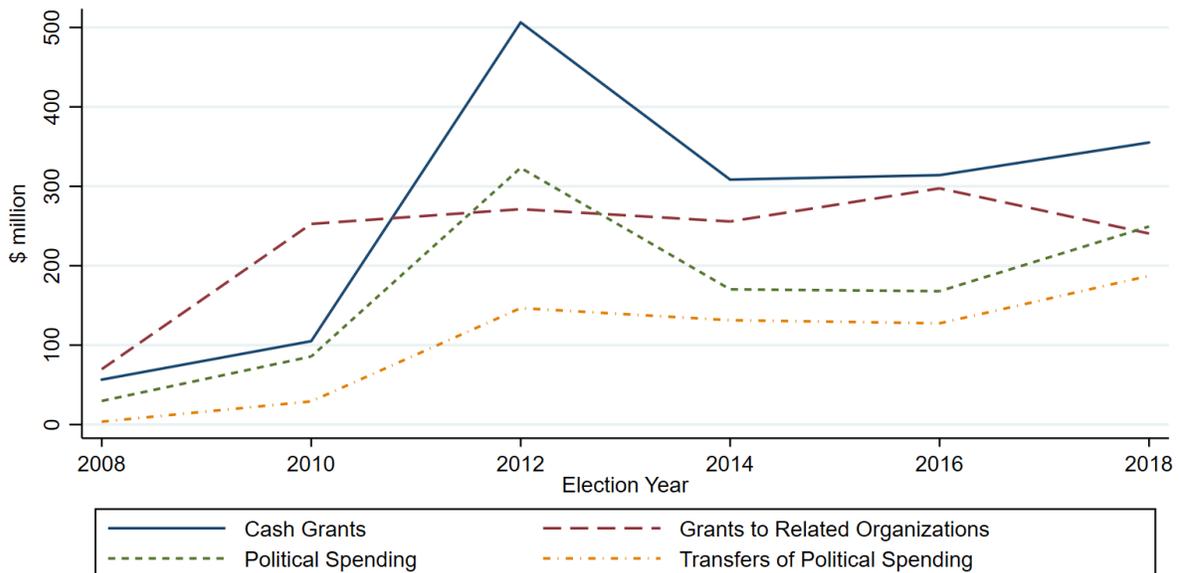
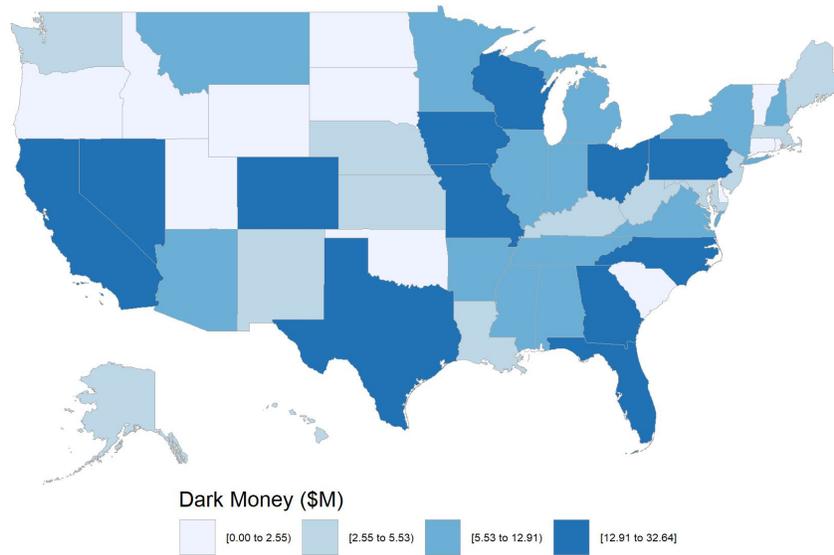


Figure 3: Geography of Dark Money

This figure shows the geographic distribution of dark money spending in U.S. federal elections by state. Panel A maps dark money spending for candidates in U.S. federal elections and Panel B provides dark money contributions against candidates in these elections. Dark money groups are defined as 501(c) organizations spending at least \$1 million using independent expenditures in U.S. federal elections during election cycles from 2008 to 2018. The shading for each panel is based on the quartile of dark money spending with darker shades denoting higher contributions.

Panel A: Dark Money For Candidates



Panel B: Dark Money Against Candidates

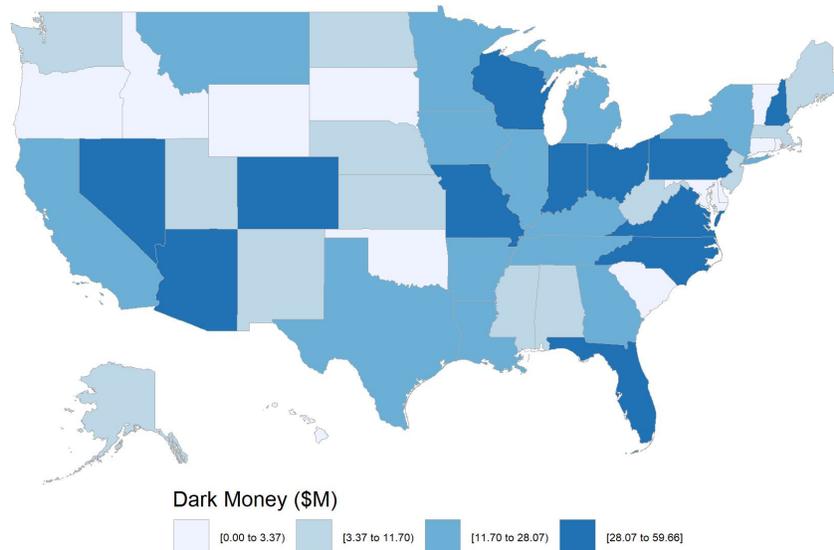
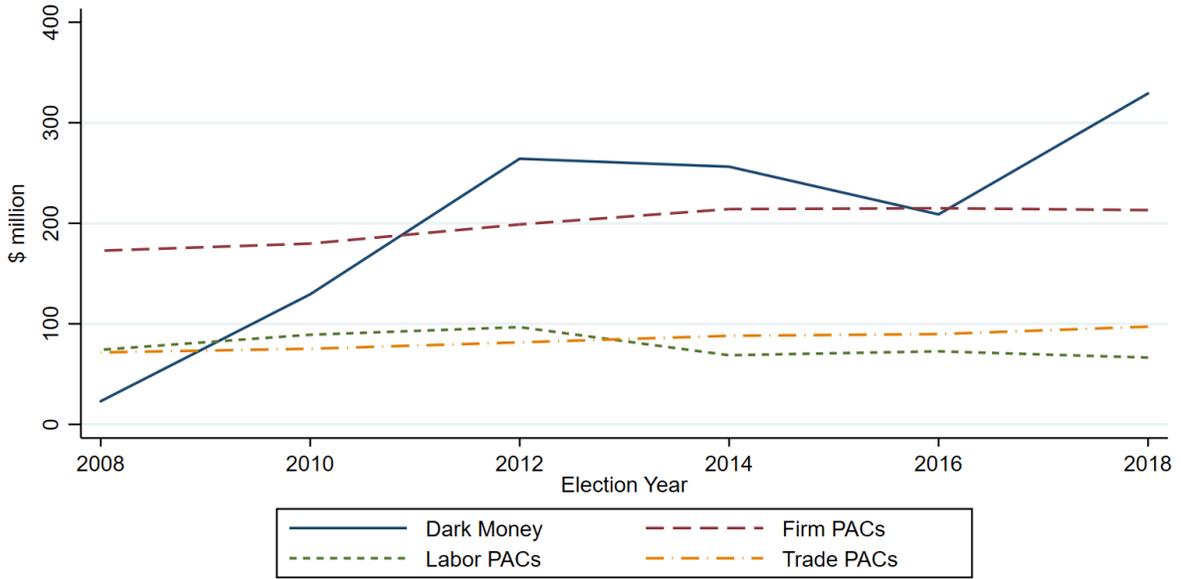


Figure 4: Relative Dark Money Spending

This figure compares spending in U.S. congressional elections by dark money groups with other special interest groups, including firm, labor, and trade political action committees. Panel A plots the level of spending for each group in an election cycle and Panel B shows the proportion of spending by a group in a particular election cycle. Dark money groups are defined as 501(c) organizations spending at least \$1 million using independent expenditures in U.S. federal elections during election cycles from 2008 to 2018. Firm, labor, and trade groups are determined by organization type in FEC data and those not classified as dark money groups.

Panel A: Levels



Panel B: Proportion

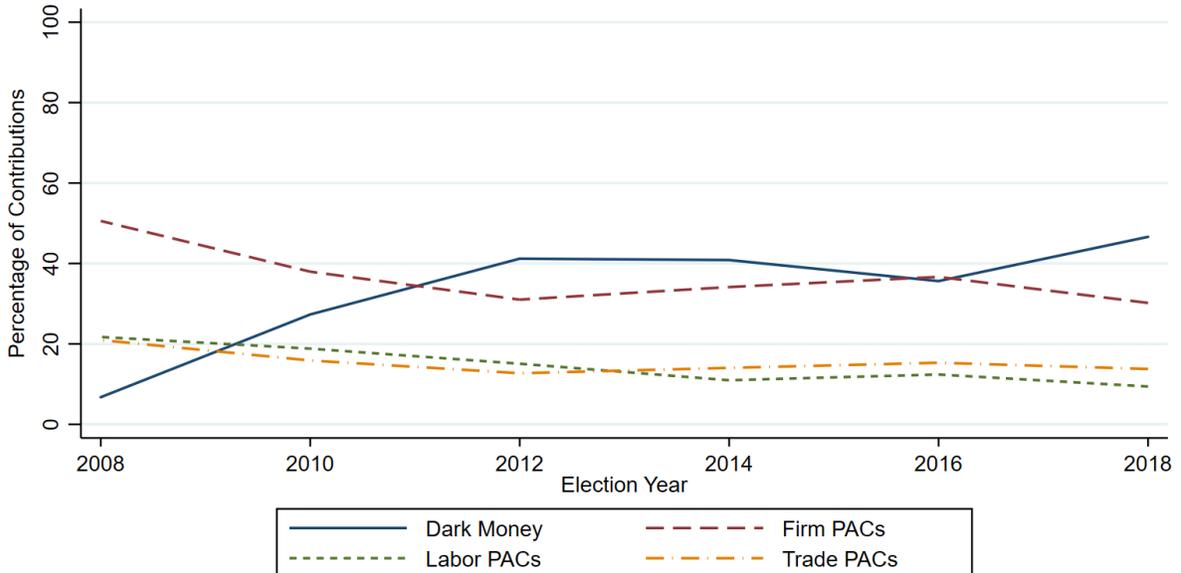
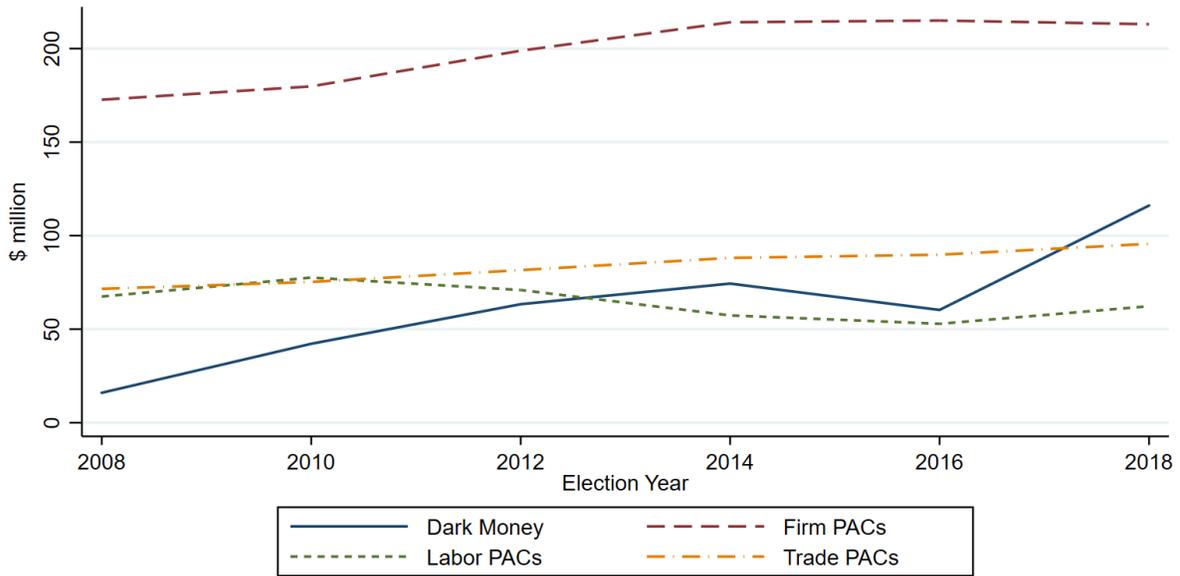


Figure 5: Dark Money and Candidate Support

This figure plots spending by special interest groups based on candidate support in U.S. congressional elections. Panel A shows political contributions for candidates and Panel B provides spending against candidates. Dark money groups are defined as 501(c) organizations spending at least \$1 million using independent expenditures in U.S. federal elections during election cycles from 2008 to 2018. Firm, labor, and trade groups are determined by organization type in FEC data and those not classified as dark money groups.

Panel A: Spending For Candidates



Panel B: Spending Against Candidates

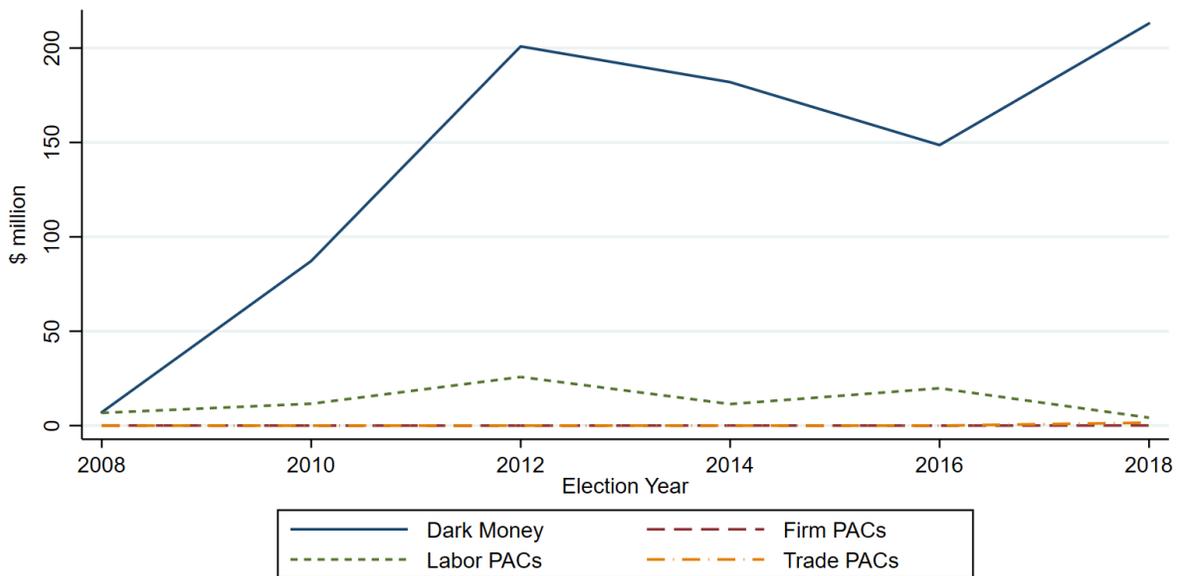
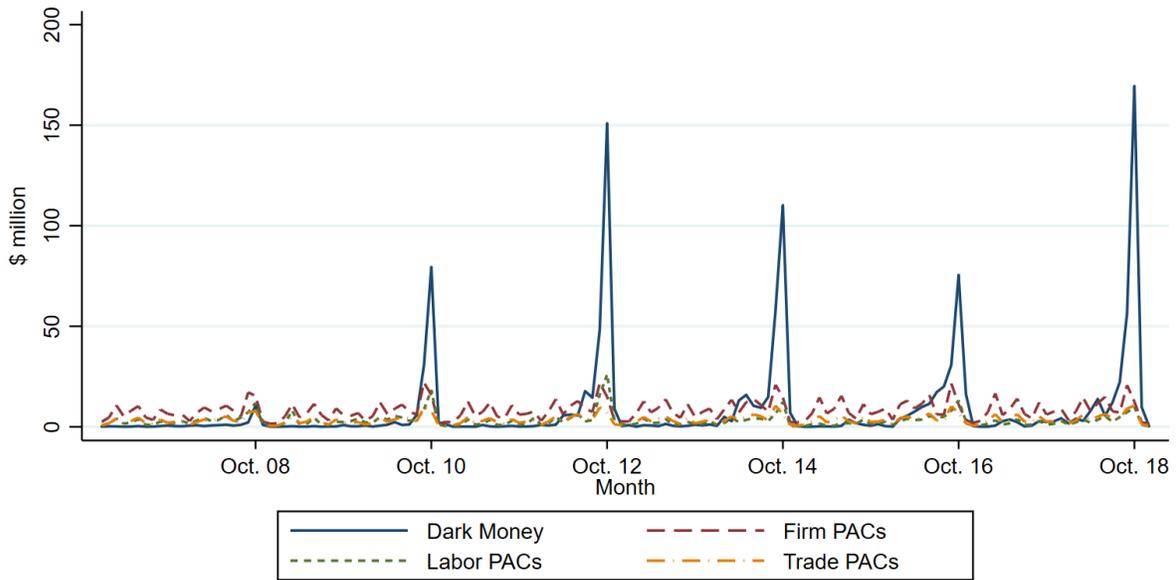


Figure 6: Timing of Dark Money

This figure compares the timing of dark money during the election cycle for U.S. congressional elections. Panel A plots dark money spending based on FEC data and Panel B shows non-candidate issue advertisements using FCC data. Dark money groups are defined as 501(c) organizations spending at least \$1 million using independent expenditures in U.S. federal elections during election cycles from 2008 to 2018.

Panel A: FEC Spending



Panel B: FCC Advertisements

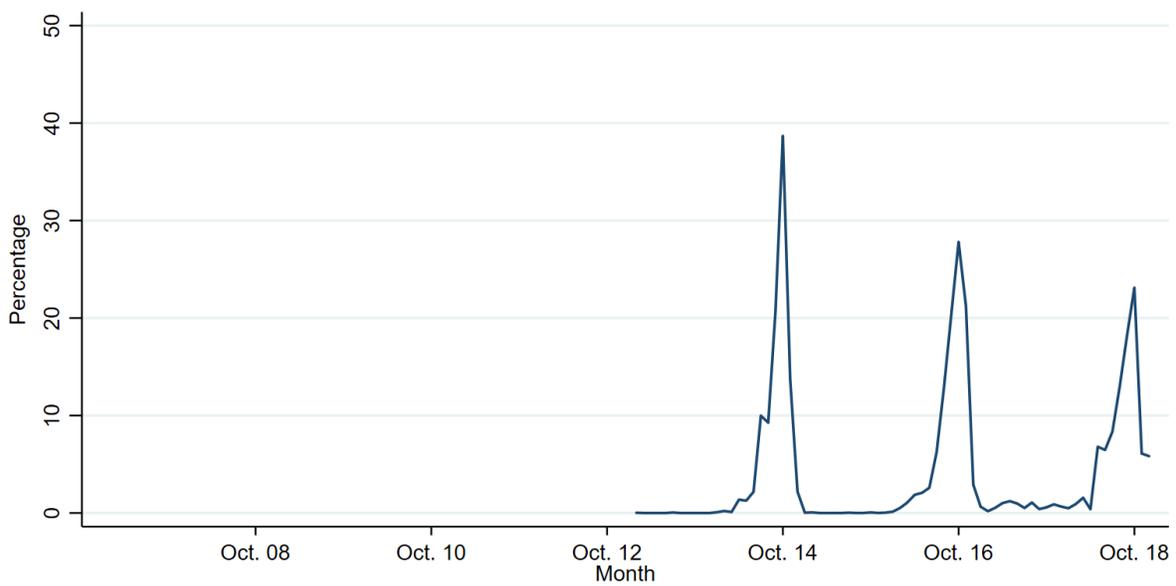


Figure 7: Transfers of Dark Money

This figure shows transfers of capital from dark money groups to other 501(c) organizations. Dark money groups are defined as 501(c) organizations spending at least \$1 million using independent expenditures in U.S. federal elections during election cycles from 2008 to 2018. The directional network includes dark money groups sending at least \$100,000 to other 501(c) organizations during election cycles from 2008 to 2018. Directional arrows denote capital flowing between dark money groups. The size of a node indicates the total amount received by a 501(c) organization from dark money groups. Corporatist contributions by a dark money group are defined as the total contributions to politicians who voted for the passage of the Troubled Asset Relief Program (TARP), for the Tax Cuts and Jobs Act of 2017 (TCJA), or against the Coronavirus Aid, Relief, and Economic Security Act (CARES). These contributions are scaled by a dark money group's total contributions to candidates during election cycles from 2008 to 2018.

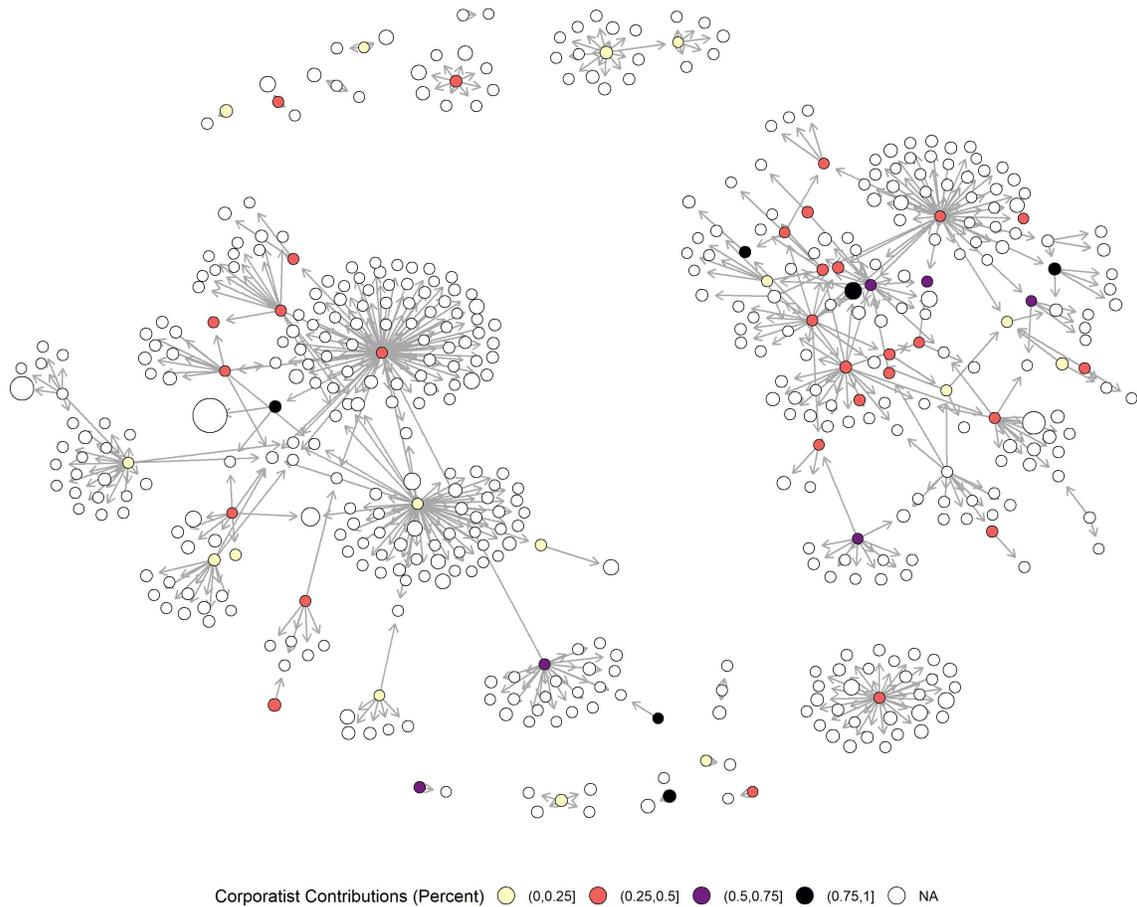


Table 1: Dark Money

This table details dark money spending by election cycle in U.S. federal elections for the Senate, House, and President. Panel A shows capital spent by dark money groups by election type and Panel B lists the number of candidates in U.S. federal elections receiving dark money contributions for or against their candidacy. Dark money groups are defined as 501(c) organizations spending at least \$1 million using independent expenditures in U.S. federal elections during election cycles from 2008 to 2018.

Panel A: Elections

Election Year	Senate (\$ million)	House (\$ million)	President (\$ million)
2008	8.9	14.2	43.8
2010	68.7	60.7	
2012	166.4	97.9	332.7
2014	208.1	48.2	
2016	172.0	36.9	526.0
2018	177.7	151.5	

Panel B: Candidates

Election Year	Senate	House	President
2008	99	591	13
2010	123	647	
2012	121	627	9
2014	129	598	
2016	107	577	19
2018	137	750	

Table 2: Firm Contributions

This table details political contributions by S&P 500 firms to special interest groups from 2010 to 2017. Number of firms counts the number of S&P 500 firms contributing to special interest groups in a particular year. Number of contributions counts the number of contributions by S&P 500 firms contributing to special interest groups in a particular year. Contribution amount is the total reported contributions in a particular year.

Year	Number of Firms	Number of Contributions	Contribution Amount (\$ million)
2010	17	228	40.0
2011	30	612	48.9
2012	45	1,261	92.6
2013	53	1,481	89.0
2014	68	1,196	95.4
2015	89	1,456	140.6
2016	101	1,648	152.6
2017	83	1,400	141.9

Table 3: Summary Statistics

This table provides summary statistics for the data in the analyses. *Dark Money Against* is contributions by dark money groups against candidates. *Dark Money For* is contributions by dark money groups to support candidates. *Democrat* is an indicator variable equaling one if a candidate is registered as a Democrat. *Education* is the share of the population with a college degree or above. *Ex-ante Competition* is an indicator variable equaling one if the rating from the *Cook Political Report* is “Toss-up.” *Ex-post Competition* is an indicator variable equaling one if the margin of victory is less than 5%. *Incumbent* is an indicator variable equaling one if the candidate previously held the office of the election. *Inequality* is the Gini index. *Newspaper Circulation* is the number of newspapers circulated in a state per capita. *Poverty* is the share of the population below the poverty line. *Reelected* is an indicator variable equaling one if a politician in the U.S. Congress is reelected. *Dark Money Supporting* is contributions by dark money groups for the politician or against their opponents in the previous election. *Margin of Victory* is the difference between the vote share for the winning politician minus the vote share for the runner-up in the previous election. Appendix A provides additional information on variable definitions.

Variable	Number of observations	Mean	Median	Standard deviation
Dark Money Against	5,587	0.057	0.000	0.264
Dark Money For	5,587	0.040	0.003	0.150
Dark Money Supporting	1,840	0.062	0.007	0.200
Democrat	5,587	0.495	0.000	0.500
Education	5,587	0.458	0.460	0.062
Ex-ante Competition	5,587	0.052	0.000	0.223
Ex-ante Competition	5,587	0.081	0.000	0.274
Incumbent	5,587	0.440	0.000	0.496
Individual	5,587	0.445	0.321	0.521
Inequality	5,587	0.455	0.452	0.030
Log Dark Money Ads	52,017	5.110	6.671	3.366
Margin of Victory	1,840	0.318	0.288	0.207
Member of a Budgetary Committee	2,965	0.359	0.000	0.618
Member of a Finance Committee	2,965	0.150	0.000	0.385
Newspaper Circulation	5,587	5.482	3.798	4.818
Number of Bills Supported	2,975	269.852	269.000	167.683
Number of Votes	52,017	250.605	151.000	346.672
Other Against	5,587	0.009	0.000	0.082
Other For	5,587	0.238	0.154	0.273
Percentage of Corporatist Bills Supported	2,975	87.778	96.429	15.223
$\mathbb{1}$ (Sponsor Corporatist Bills)	2,975	0.927	1.000	0.067
Poverty	5,587	0.149	0.142	0.055
Reelected	1,840	0.928	1.000	0.258
Turnout	24,679	527.731	393.000	564.643
Winner	1,075	0.431	0.000	0.495

Table 4: Elections Targeted by Dark Money

This table studies the characteristics of elections receiving dark money contributions. Panel A evaluates dark money along the extensive margin as the dependent variable and Panel B explores dark money along the intensive margin using the log of one plus dark money contributions for or against candidates in U.S. congressional elections. Ex-ante *Competition* is an indicator variable equaling one if the rating from the *Cook Political Report* is “Toss-up.” Ex-post *Competition* is an indicator variable equaling one if the margin of victory is less than 5%. *Democrat* is an indicator variable equaling one if a candidate is registered as a Democrat. *Incumbent* is an indicator variable equaling one if the candidate previously held the office of the election. Each observation is a candidate-election cycle. All specifications include state and election cycle fixed effects. Standard errors are reported in parentheses and clustered at the election level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A: Extensive Margin

Dependent variable	1(Dark Money)			
	For		Against	
	(1)	(2)	(3)	(4)
Competition	0.371*** (0.020)	0.311*** (0.017)	0.412*** (0.026)	0.397*** (0.025)
Democrat	-0.006 (0.010)	-0.005 (0.010)	-0.025*** (0.008)	-0.025*** (0.008)
Incumbent	0.621*** (0.009)	0.621*** (0.010)	0.095*** (0.009)	0.096*** (0.008)
Competition measure	Ex-ante	Ex-post	Ex-ante	Ex-post
State FE	Yes	Yes	Yes	Yes
Election cycle FE	Yes	Yes	Yes	Yes
Observations	5,587	5,587	5,587	5,587
Adjusted R^2	0.451	0.452	0.201	0.225

Panel B: Intensive Margin

Dependent variable	Log Dark Money			
	For		Against	
	(1)	(2)	(3)	(4)
Competition	0.072*** (0.012)	0.138*** (0.019)	0.146*** (0.020)	0.248*** (0.031)
Democrat	-0.014*** (0.003)	-0.013*** (0.003)	0.023*** (0.005)	0.023*** (0.005)
Incumbent	0.000 (0.003)	0.002 (0.003)	0.006 (0.006)	0.008 (0.006)
Competition measure	Ex-ante	Ex-post	Ex-ante	Ex-post
State FE	Yes	Yes	Yes	Yes
Election cycle FE	Yes	Yes	Yes	Yes
Observations	5,587	5,587	5,587	5,587
Adjusted R^2	0.052	0.101	0.063	0.111

Table 5: Electorate Targeting

This table examines the characteristics of the electorate targeted by dark money contributions. Panel A evaluates dark money along the extensive margin as the dependent variable and Panel B explores dark money along the intensive margin using the log of one plus dark money contributions for or against candidates in U.S. congressional elections. *Newspaper Circulation* is the number of newspapers circulated in a state per capita. *Education* is the share of the population with a college degree or above. *Inequality* is the Gini index. *Poverty* is the share of the population below the poverty line. *Competition*, *Democrat*, and *Incumbent* are defined in Appendix A. Each observation is a candidate-election cycle. Standard errors are reported in parentheses and clustered at the election level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A: Extensive Margin

Dependent variable	$\mathbb{1}(\text{Dark Money})$			
	For		Against	
	(1)	(2)	(3)	(4)
Newspaper Circulation	-0.017*** (0.003)	-0.016*** (0.003)	-0.023*** (0.005)	-0.021*** (0.004)
Education	-0.169*** (0.054)	-0.152*** (0.054)	-0.212** (0.085)	-0.182** (0.088)
Inequality	0.332*** (0.078)	0.338*** (0.080)	0.411*** (0.146)	0.420*** (0.152)
Poverty	-0.295*** (0.057)	-0.259*** (0.059)	-0.322*** (0.105)	-0.262** (0.106)
Competition measure	Ex-ante	Ex-post	Ex-ante	Ex-post
State FE	Yes	Yes	Yes	Yes
Election cycle FE	Yes	Yes	Yes	Yes
Candidate controls	Yes	Yes	Yes	Yes
Observations	5,587	5,587	5,587	5,587
Adjusted R^2	0.089	0.134	0.083	0.129

Table 5 (continued)
Panel B: Intensive Margin

Dependent variable	Log Dark Money			
	For		Against	
	(1)	(2)	(3)	(4)
Newspaper Circulation	-0.016 ^{***} (0.003)	-0.014 ^{***} (0.003)	-0.017 ^{***} (0.004)	-0.015 ^{***} (0.004)
Education	-0.666 ^{***} (0.170)	-0.635 ^{***} (0.163)	-0.623 ^{***} (0.160)	-0.581 ^{***} (0.154)
Inequality	0.437 [*] (0.243)	0.431 [*] (0.243)	0.434 [*] (0.237)	0.432 [*] (0.233)
Poverty	-1.240 ^{***} (0.198)	-1.230 ^{***} (0.197)	-1.059 ^{***} (0.188)	-1.024 ^{***} (0.186)
Competition measure	Ex-ante	Ex-post	Ex-ante	Ex-post
State FE	Yes	Yes	Yes	Yes
Election cycle FE	Yes	Yes	Yes	Yes
Candidate controls	Yes	Yes	Yes	Yes
Observations	5,587	5,587	5,587	5,587
Adjusted R^2	0.459	0.459	0.213	0.235

Table 6: Effect of Dark Money on Voting

This table studies the effect of dark money advertising on voting. Panel A provides the baseline results and Panel B examines robustness tests. The dependent variable in each specification is the number of votes that a candidate receives. *Log Dark Money Ads* is the log of one plus the number of dark money advertisement filings in a DMA. *Dark Money Ads Ratio* is the number of dark money advertisement filings relative to the number of households with televisions in a DMA. *Log Other Ads* is the log of one plus the number of other advertisements in a DMA. *Democrat* and *Incumbent* are defined in Appendix A. The unit of observation is at the candidate-precinct-election cycle level. All models are estimated using a Poisson regression. Standard errors are reported in parentheses and clustered at the DMA level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A: Voting

Dependent variable	Number of Votes				
	(1)	(2)	(3)	(4)	(5)
Log Dark Money Ads	0.180*** (0.037)	0.163*** (0.037)	0.164*** (0.037)	0.191*** (0.046)	0.212*** (0.055)
Distance to border	10 miles				
DMA FE	Yes	Yes	Yes	Yes	Yes
Election cycle FE	Yes	Yes	Yes	No	No
District FE	No	Yes	Yes	Yes	No
DMA-Pair FE	No	No	Yes	No	No
DMA-Pair \times Election cycle FE	No	No	No	Yes	Yes
Precinct FE	No	No	No	No	Yes
Voting level	Precinct	Precinct	Precinct	Precinct	Precinct
Observations	52,017	52,017	52,017	52,017	45,648
Pseudo R^2	0.253	0.322	0.355	0.379	0.651

Table 6 (continued)
Panel B: Robustness

Dependent variable	Number of Votes				
	(1)	(2)	(3)	(4)	(5)
Log Dark Money Ads	0.195 ^{***} (0.049)	0.201 ^{***} (0.049)		0.134 ^{***} (0.039)	0.409 ^{***} (0.113)
Dark Money Ads Ratio			0.039 [*] (0.022)		
Democrat				0.088 [*] (0.053)	
Incumbent				0.898 ^{***} (0.060)	
Log Other Ads				0.014 ^{***} (0.004)	
Distance to border	5 miles	25 miles	10 miles	10 miles	10 miles
DMA FE	Yes	Yes	Yes	Yes	Yes
DMA-Pair \times Election cycle FE	Yes	Yes	Yes	Yes	Yes
District FE	Yes	Yes	Yes	Yes	Yes
Voting level	Precinct	Precinct	Precinct	Precinct	Border
Observations	27,665	125,840	52,017	52,017	4,638
Pseudo R^2	0.399	0.386	0.360	0.480	0.742

Table 7: Turnout and Election Outcomes

This table examines the effect of dark money advertising on turnout and election outcomes. Panel A provides the results for turnout and Panel B evaluates election outcomes. *Turnout* is a count of the number of votes in a precinct for a particular election cycle. $\mathbb{1}(Winner)$ is an indicator variable equaling one if a politician wins a district for a particular election cycle. *Log Dark Money Ads* is the log of one plus the number of dark money advertisement filings in a DMA. *Log Other Ads* is the log of one plus the number of other advertisements in a DMA. *Democrat* and *Incumbent* are defined in Appendix A. The unit of observation is at the precinct-election cycle level in Panel A and district-election cycle level in Panel B. Models are estimated using a Poisson regression in Panel A and using OLS in Panel B. Standard errors are reported in parentheses and clustered at the DMA level in Panel A and at the district level in Panel B. ^{***}, ^{**}, and ^{*} denote significance at 1%, 5%, and 10%, respectively.

Panel A: Turnout

Dependent variable	Turnout				
	(1)	(2)	(3)	(4)	(5)
Log Dark Money Ads	0.114 ^{***} (0.016)	0.050 ^{***} (0.018)	0.055 ^{***} (0.018)	0.041 ^{***} (0.014)	0.041 ^{***} (0.014)
Log Other Ads					0.012 ^{***} (0.004)
Distance to border	10 miles				
DMA FE	Yes	Yes	Yes	Yes	Yes
Election cycle FE	Yes	Yes	Yes	No	No
District FE	No	Yes	Yes	Yes	Yes
DMA-Pair FE	No	No	Yes	No	No
DMA-Pair \times Election cycle FE	No	No	No	Yes	Yes
Voting level	Precinct	Precinct	Precinct	Precinct	Precinct
Observations	24,679	24,679	24,679	24,679	24,679
Pseudo R^2	0.290	0.399	0.450	0.461	0.461

Table 7 (continued)
Panel B: Election Outcomes

Dependent variable	$\mathbb{1}(\text{Winner})$			
	(1)	(2)	(3)	(4)
Log Dark Money Ads	0.027 ^{***} (0.002)	0.028 ^{***} (0.002)	0.008 ^{***} (0.002)	0.008 ^{***} (0.002)
Log Other Ads		-0.006 ^{**} (0.003)		0.001 (0.002)
Democrat			0.043 [*] (0.025)	0.043 [*] (0.025)
Incumbent			0.845 ^{***} (0.021)	0.845 ^{***} (0.021)
District FE	Yes	Yes	Yes	Yes
Election cycle FE	Yes	Yes	Yes	Yes
Voting level	District	District	District	District
Observations	1,075	1,075	1,075	1,075
R^2	0.141	0.142	0.686	0.686

Table 8: Legislation

This table studies the legislative activity of politicians backed by dark money in the U.S. Congress. Panel A evaluates legislative activity by politicians, Panel B examines support of business interests, Panel C explores legislative sponsorship of business interests. *Dark Money Supporting* is contributions by dark money groups for the politician or against their opponents in the previous election. For log transformations, we use the log of one plus dark money contributions. *Number of Bills Supported* is a count of the number of bills that a politician votes for in a particular election cycle. *Percentage of Corporatist Bills Supported* is the share of bills supported by a politician in a particular congressional session, where a bill is designated as corporatist if its legislative topic is classified as Budget, Economics & Taxation, Energy, Environment, & Natural Resources, Financial Services/Housing, or Technology, Transportation, & Infrastructure. $\mathbf{1}(\text{Sponsor Corporatist Bills})$ is an indicator variable equaling one if a politician sponsors a corporatist bill in a particular congressional session. *Democrat* is an indicator variable equaling one if a candidate is registered as a Democrat. Models are estimated using a Poisson regression in Panel A and using OLS in Panels B and C. Standard errors are reported in parentheses and clustered at the politician level. ^{***}, ^{**}, and ^{*} denote significance at 1%, 5%, and 10%, respectively.

Panel A: Legislative Activity

Dependent variable	Number of Bills Supported			
	(1)	(2)	(3)	(4)
$\mathbf{1}(\text{Dark Money Supporting})$	0.048 ^{**} (0.024)	0.044 [*] (0.024)		
Log Dark Money Supporting			0.011 ^{***} (0.002)	0.009 ^{***} (0.002)
Democrat		-0.075 ^{***} (0.008)		-0.076 ^{***} (0.008)
Chamber \times Election cycle FE	Yes	Yes	Yes	Yes
Observations	2,975	2,975	2,975	2,975
Pseudo R^2	0.848	0.851	0.849	0.852

Panel B: Support of Business Interests

Dependent Variable	Percentage of Corporatist Bills Supported			
	(1)	(2)	(3)	(4)
$\mathbf{1}(\text{Dark Money Supporting})$	5.595 ^{**} (2.219)	5.027 ^{**} (2.187)		
Log Dark Money Supporting			0.826 ^{***} (0.159)	0.733 ^{***} (0.158)
Democrat		-5.445 ^{***} (0.516)		-5.247 ^{***} (0.514)
Chamber \times Election cycle FE	Yes	Yes	Yes	Yes
Observations	2,975	2,975	2,975	2,975
Adjusted R^2	0.061	0.091	0.071	0.098

Table 8 (continued)
 Panel C: Legislative Sponsorship of Business Interests

Dependent Variable	$\mathbb{1}(\text{Sponsor Corporatist Bills})$			
	(1)	(2)	(3)	(4)
$\mathbb{1}(\text{Dark Money Supporting})$	0.047 (0.036)	0.047 (0.036)		
Log Dark Money Supporting			0.006** (0.003)	0.006** (0.003)
Democrat		0.005 (0.013)		0.006 (0.013)
Chamber \times Election cycle FE	Yes	Yes	Yes	Yes
Observations	2,975	2,975	2,975	2,975
Adjusted R^2	0.019	0.019	0.020	0.020

Table 9: Committee Membership

This table explores committee membership of dark money-backed politicians in the U.S. Congress. Panel A evaluates budgetary committee membership and Panel B evaluates finance committee membership. *Log Dark Money Supporting* is the log of one plus contributions by dark money groups for the politician or against their opponents in the previous election. Budgetary committees include all committees with budgetary oversight in the U.S. House or Senate. Finance committees include all committees with oversight of the financial system in the U.S. House or Senate. For both committees, we focus on membership by the majority party. Standard errors are reported in parentheses and clustered at the politician level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A: Budgetary Committee Membership

Dependent Variable	Member of a Budgetary Committee		
	(1)	(2)	(3)
Log Dark Money Supporting	0.315*** (0.118)	0.294*** (0.109)	0.285*** (0.108)
Chamber FE	Yes	No	No
Election cycle FE	No	Yes	No
Chamber \times Election cycle FE	No	No	Yes
Observations	2,965	2,965	2,965
Adjusted R^2	0.022	0.120	0.134

Panel B: Finance Committee Membership

Dependent Variable	Member of a Finance Committee		
	(1)	(2)	(3)
Log Dark Money Supporting	0.225** (0.091)	0.294*** (0.087)	0.265*** (0.084)
Chamber FE	Yes	No	No
Election cycle FE	No	Yes	No
Chamber \times Election cycle FE	No	No	Yes
Observations	2,965	2,965	2,965
Adjusted R^2	0.038	0.066	0.103

Table 10: Reelection of Dark Money-Backed Politicians

This table examines the relationship between dark money contributions and reelection. *Log Dark Money Supporting* is the log of one plus contributions by dark money groups for the politician or against their opponents in the previous election. Dark money groups are defined as 501(c) organizations spending at least \$1 million using independent expenditures in U.S. federal elections during election cycles from 2008 to 2018. *Reelected* is an indicator variable equaling one if a politician in the U.S. Congress is reelected. *Margin of Victory* is the difference between the vote share for the winning politician minus the vote share for the runner-up in the previous election. Appendix A provides additional information on variable definitions. The sample includes politicians rerunning for the same office in the U.S. Congress. Each observation is a politician-election cycle. Standard errors are reported in parentheses and clustered at the election level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Dependent variable	Reelected		
	(1)	(2)	(3)
Log Dark Money Supporting	-0.120** (0.051)	-0.094** (0.048)	-0.118** (0.047)
Margin of Victory	0.261*** (0.032)	0.267*** (0.034)	0.271*** (0.033)
State FE	No	Yes	Yes
Election cycle FE	No	No	Yes
Observations	1,840	1,840	1,840
Adjusted R^2	0.063	0.085	0.110

Appendix A Variable Definitions

This appendix provides variable definitions used in the analysis.

- *Budget Committee* is an indicator variable equaling one if a politician is assigned to a budget committee during a particular congressional session.
- *Dark Money Ads Ratio* is the number of dark money advertisement filings relative to the number of households with televisions in a DMA.
- *Dark Money Against* is contributions by dark money groups against candidates.
- *Dark Money For* is contributions by dark money groups to support candidates.
- *Dark Money Supporting* is contributions by dark money groups for the politician or against their opponents in the previous election.
- *Democrat* is an indicator variable equaling one if a candidate is registered as a Democrat.
- *Education* is the share of the population with a college degree or above.
- *Ex-ante Competition* is an indicator variable equaling one if the rating from the *Cook Political Report* is “Toss-up.”
- *Ex-post Competition* is an indicator variable equaling one if the margin of victory is less than 5%.
- *Incumbent* is an indicator variable equaling one if the candidate previously held the office of the election.
- *Inequality* is the Gini index.
- *Log Dark Money Ads* is the log of one plus the number of dark money advertisement filings in a DMA.
- *Log Other Ads* is the log of one plus the number of other advertisements in a DMA.
- *Margin of Victory* is the difference between the vote share for the winning politician minus the vote share for the runner-up in the previous election.

- *Member of a Budgetary Committee* is an indicator variable equaling one if a politician is a member of a committee with budgetary oversight in the U.S. House or Senate.
- *Member of a Finance Committee* is an indicator variable equaling one if a politician is a member of a committee with oversight of the financial system in the U.S. House or Senate.
- *Newspaper Circulation* is the number of newspapers circulated in a state per capita.
- *Number of Bills Supported* is a count of the number of bills that a politician votes for in a particular election cycle.
- *Number of Votes* is the number of votes a candidate receives in a precinct.
- *Percentage of Corporatist Bills Supported* is the share of corporatist bills supported by a politician in a particular congressional session, where a bill is designated as corporatist if its legislative topic is classified as Budget, Economics & Taxation, Energy, Environment, & Natural Resources, Financial Services/Housing, or Technology, Transportation, & Infrastructure.
- *Poverty* is the share of the population below the poverty line.
- *Reelected* is an indicator variable equaling one if a politician in the U.S. Congress is reelected.
- $\mathbb{1}(\text{Sponsor Corporatist Bills})$ is an indicator variable equaling one if a politician sponsors a corporatist bill in a particular congressional session.
- *Turnout* is a count of the number of votes in a precinct for a particular election cycle.
- $\mathbb{1}(\text{Winner})$ is an indicator variable equaling one if a politician wins a district for a particular election cycle.

Appendix B Examples of Dark Money Groups

This appendix provides two examples of dark money groups. First, *Crossroads Grassroots Policy Strategy* contributed a total of \$112.6 million in independent expenditures during the 2008 to 2018 election cycles. Using the IRS website, we search for the organization name and identify a potential match as EIN 27-2753378. Each matched organization is checked by comparing the listed headquarter locations and affiliates, such as board members, key employees, and associated organizations in Form 990 filings with the FEC data. For *Crossroads Grassroots Policy Strategy*, we use its Form 990 filing for the 501(c) organization to ensure that it matches to the group in the FEC data.

Second, *Women Vote!* contributed \$60.2 million in independent expenditures during the 2008 to 2018 election cycles. Using the IRS searcher, we do not find a match to this group when we closely review the Form 990 filings of potential matches. When we search for and examine the organization’s website, we observe that this group is a subsidiary of the 501(c) *Emily’s Choice* with EIN 52-1391360. We validate that this is a match by comparing relevant information, such as the website provided in the Form 990 filing.

Appendix C Topic Model for Legislation

This appendix details the classification of legislative topics. We use Latent Dirichlet Allocation (LDA) to identify bill topics. LDA treats each bill as a mixture of topics and each topic as a mixture of words, allowing bills to overlap in terms of content. To implement the topic model, we collect the text of legislation in the U.S. Congress for congressional sessions 110 to 116, which occurred from January 4, 2007 to January 3, 2021. This results in a total corpus of 92,763 bills ranging from introduction to enacted into law. After tokenizing the bills, we remove administrative headings, stop words,³² and state names or abbreviations. In addition, we stem words³³ to collapse words to a common root.

Given the size of the tokenized bills and computational constraints, we randomly sampled 10% of total legislation from each congressional cycle, chamber, and forms of con-

³²Using the **R** package `tidytext`.

³³Accessed in **R** via the `SnowballC` package.

gressional action (bills, joint resolutions, concurrent legislation, and simple resolutions) to fit the topic model. We use four common methodologies³⁴ to identify the optimal number of topics,³⁵ that provide classification accuracy and the number of topics present in the hold-out. The extremum of each methodology is constructed by bootstrapping individual topic models using a sequence of 25 to 150 topics with each successive iteration increasing by 25 topics.

Figure A2 provides the diagnostics for the topic model. We use Panel A to determine the optimal number of topics. The metrics converge at approximately 125 topics, which we use as the number of topics for the legislative analyses. In Panel B, we compare the absolute difference term-frequency across the sample and hold-out. We do not find sizable differences in relative term frequencies across election cycles, suggesting that the model fit on the sample produces representative word-topic probabilities and document-topic probabilities when the sample posterior distribution is applied to the larger hold-out.

For interpretability of the topic model, we collapse the 125 topics into 14 legislative categories. We broadly follow the standing committees in the House and Senate. The 14 legislative categories include: Agriculture; Energy, Environment, & Natural Resources; Budget; Education & Labor; Public Health; Financial Services/Housing; Foreign Relations; Homeland Security & Intelligence; Judiciary; Rules, Ethics, & Administration; Technology, Transportation, & Infrastructure; Armed Services & Veterans' Affairs; Economics & Taxation; and Other. We assign the legislative category of a bill using the largest ten word-topic probabilities for each topic and the largest document-topic probability. This is more precise than simply using committees since it relies on the underlying text to determine a bill's optimal fit with a legislative category. We assign bills as corporatist if their legislative topic is classified as Budget, Economics & Taxation, Energy, Environment, & Natural Resources, Financial Services/Housing, or Technology, Transportation, & Infrastructure.

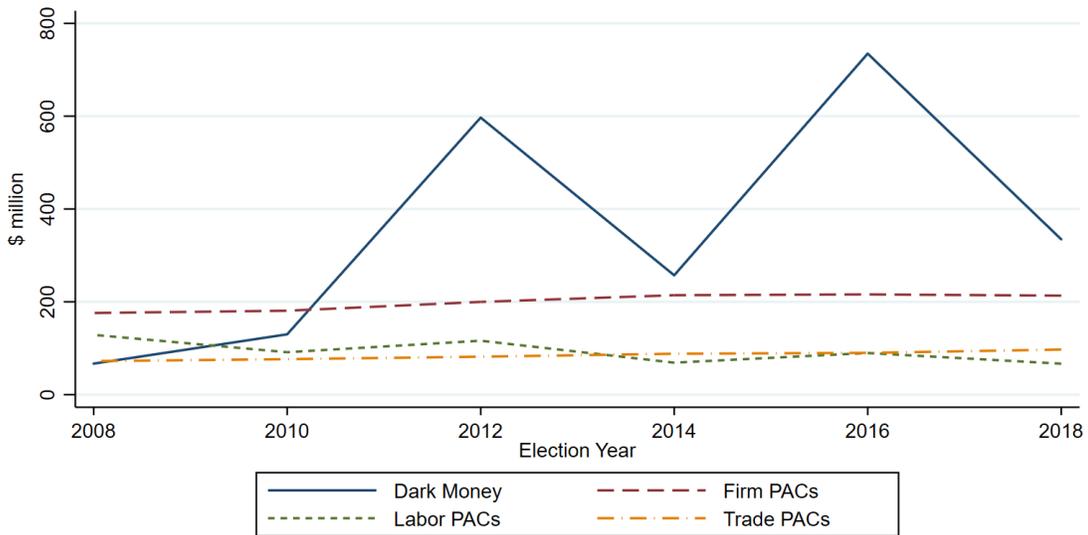
³⁴See Arun et al. (2010), Cao et al. (2009), Deveaud, SanJuan, and Bellot (2014), and Griffiths and Steyvers (2004) for detailed discussion of each methodology.

³⁵Using the **R** package `ldatuning`.

Figure A1: Relative Dark Money Spending in U.S. Federal Elections

This figure compares spending in U.S. federal elections, including presidential elections, by dark money groups with other special interest groups, including firms, labor, and trade political action committees. Panel A plots the level of spending for each group in an election cycle and Panel B shows the proportion of spending by a group in a particular election cycle. Dark money groups are defined as 501(c) organizations spending at least \$1 million using independent expenditures in U.S. federal elections during election cycles from 2008 to 2018. Firms, labor, and trade groups are determined by organization type in FEC data and those not classified as dark money groups.

Panel A: Levels



Panel B: Proportion

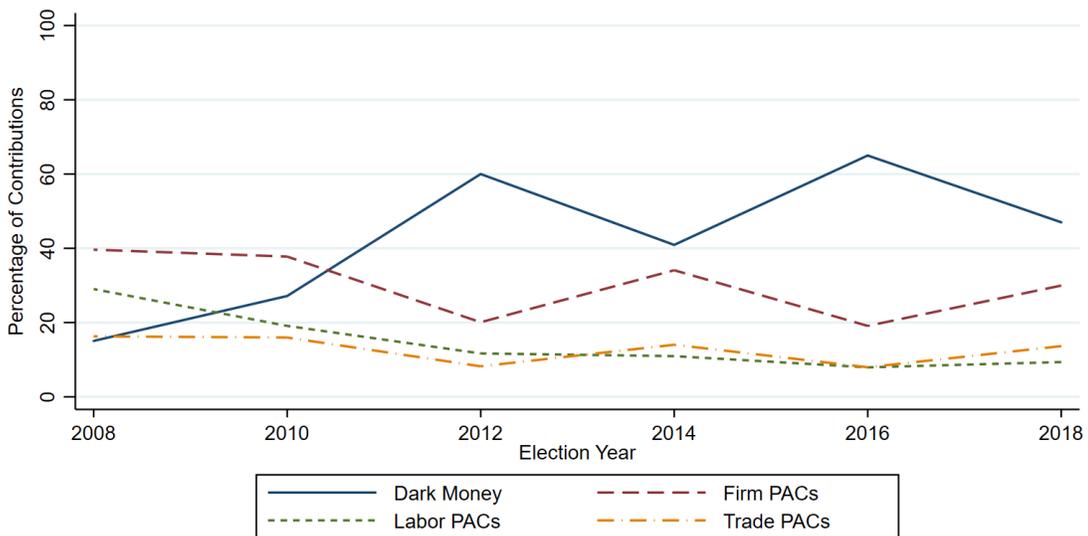
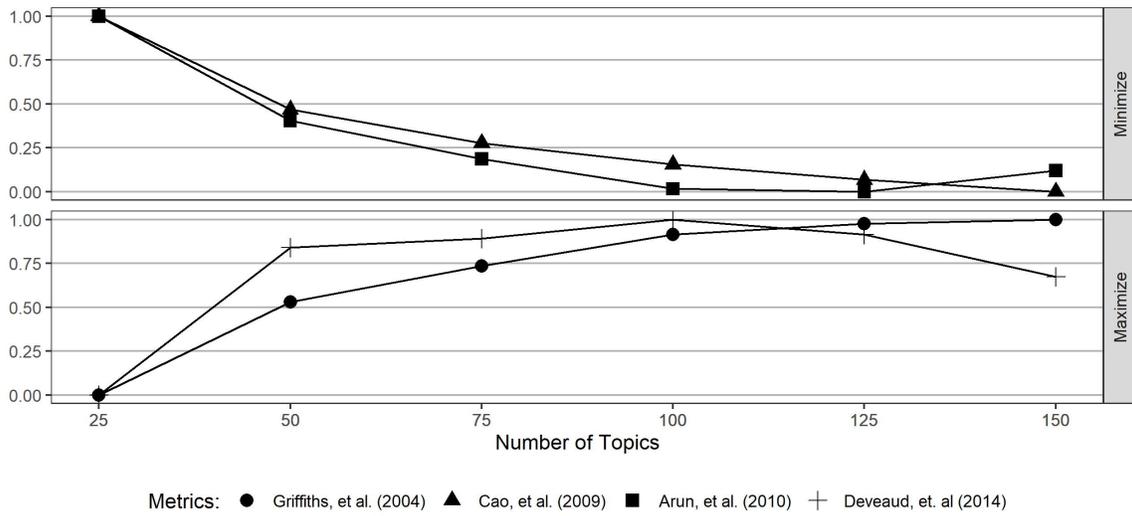


Figure A2: Topic Model Diagnostics

This figure shows diagnostics for the Latent Dirichlet Allocation (LDA) model detailed in Appendix C. Panel A compares four alternative metrics to determine the optimal number of topics. We train multiple LDAs varying the number of topics and calculate each metric to determine the relevant extrema for each method. In determining the optimal number of topics, we search for maxima based on Griffiths and Steyvers (2004) and Deveaud, SanJuan, and Bellot (2014) and minima based on Cao et al. (2009) and Arun et al. (2010). Panel B provides the difference in term frequencies between the sample and hold-out relative to the hold-out for each congressional cycle.

Panel A: Optimal Number of Topics



Panel B: Difference in Term Frequencies for Sample and Hold-Out

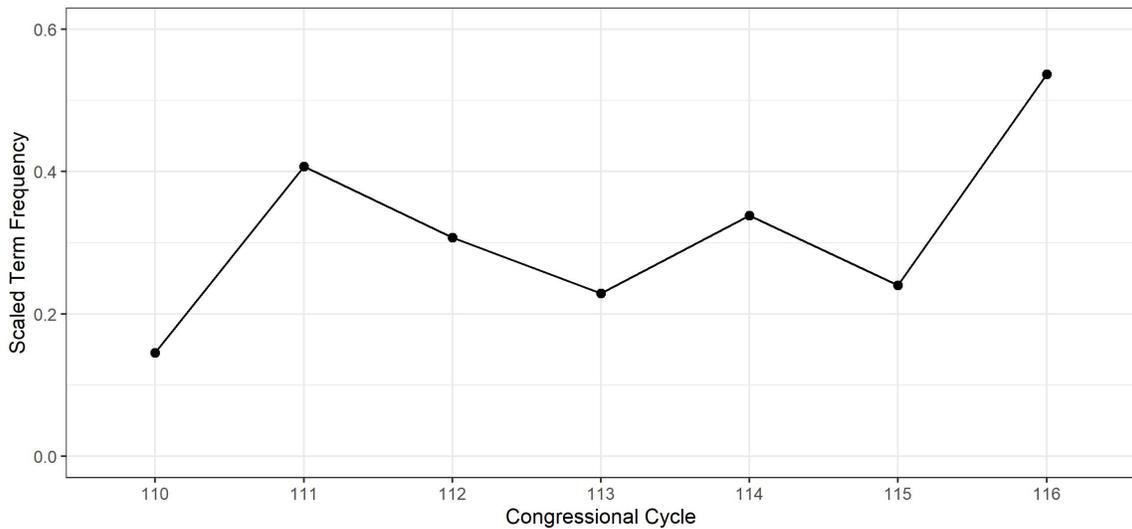


Table A1: Dark Money and Other Special Interest Groups

This table compares spending in U.S. congressional elections by dark money groups with other special interest groups, including firms, labor, and trade political action committees. Panel A provides the level of spending for each group in an election cycle and Panel B shows the proportion of spending by a group in a particular election cycle. Dark money groups are defined as 501(c) organizations spending at least \$1 million using independent expenditures in U.S. federal elections during election cycles from 2008 to 2018. Firms, labor, and trade groups are determined by organization type in FEC data and those not classified as dark money groups.

Panel A: Levels

Election Year	Dark Money (\$ million)	Firms PACs (\$ million)	Labor PACs (\$ million)	Trade PACs (\$ million)
2008	23.1	172.7	74.2	71.6
2010	129.4	179.8	89.2	75.3
2012	264.2	198.9	96.7	81.6
2014	256.3	214.1	68.8	88.1
2016	208.9	215.0	72.7	89.8
2018	329.1	213.1	66.5	97.2

Panel B: Proportions

Election Year	Dark Money (percent)	Firms PACs (percent)	Labor PACs (percent)	Trade PACs (percent)
2008	6.7	50.6	21.7	21.0
2010	27.3	38.0	18.8	15.9
2012	41.2	31.0	15.1	12.7
2014	40.9	34.1	11.0	14.0
2016	35.6	36.7	12.4	15.3
2018	46.6	30.2	9.4	13.8

Table A2: Robustness for Elections Targeted by Dark Money

This table studies the characteristics of elections receiving dark money contributions. Panel A evaluates dark money along the extensive margin as the dependent variable and Panel B explores dark money along the intensive margin using the natural log of dark money contributions for or against candidates in U.S. congressional elections. Ex-ante *Competition* is an indicator variable equaling one if the rating from the *Cook Political Report* is “Lean, Toss-up” or “Likely, Lean, Toss-up.” *Democrat* is an indicator variable equaling one if a candidate is registered as a Democrat. *Incumbent* is an indicator variable equaling one if the candidate previously held the office of the election. Each observation is a candidate-election cycle. All specifications include state and election cycle fixed effects. Standard errors are reported in parentheses and clustered at the election level. ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

Panel A: Extensive Margin				
Dependent variable	1(Dark Money)			
	For		Against	
	(1)	(2)	(3)	(4)
Competition	0.397*** (0.013)	0.388*** (0.012)	0.416*** (0.019)	0.316*** (0.016)
Democrat	-0.005 (0.010)	-0.005 (0.010)	-0.025*** (0.008)	-0.025*** (0.008)
Incumbent	0.628*** (0.009)	0.636*** (0.009)	0.102*** (0.008)	0.106*** (0.008)
Competition measure	Lean Toss-up	Likely, Lean, Toss-up	Lean, Toss-up	Likely, Lean, Toss-up
State FE	Yes	Yes	Yes	Yes
Election cycle FE	Yes	Yes	Yes	Yes
Observations	5,587	5,587	5,587	5,587
Adjusted R^2	0.487	0.515	0.266	0.249

Table A2 (continued)
Panel B: Intensive Margin

Dependent variable	Log(Dark Money)			
	For		Against	
	(1)	(2)	(3)	(4)
Competition	0.061*** (0.009)	0.036*** (0.007)	0.130*** (0.014)	0.073*** (0.011)
Democrat	-0.013*** (0.003)	-0.013*** (0.003)	0.023*** (0.005)	0.023*** (0.005)
Incumbent	0.001 (0.003)	0.001 (0.003)	0.008 (0.006)	0.008 (0.006)
Competition measure	Lean, Toss-up	Likely, Lean, Toss-up	Lean, Toss-up	Likely, Lean, Toss-up
State FE	Yes	Yes	Yes	Yes
Election cycle FE	Yes	Yes	Yes	Yes
Observations	5,587	5,587	5,587	5,587
Adjusted R^2	0.057	0.049	0.071	0.059