The Effectiveness of House Campaign Expenditures in an Age of Outside Spending and Dark Money Dominance

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After the Supreme Court's ruling in *Citizens United,* Super PACs and 501c social welfare organizations rapidly became dominant spenders in federal elections through the use of unlimited independent expenditures. Consequently, the financial clout of many of these groups greatly exceeds the fundraising and spending capacity of the average House campaign, especially in the case of non-incumbents. What remains unclear is the extent to which the expenditures of these groups help rather than hurt the candidate's prospects (Farrar-Meyers and Skinner 2012; Herrnson 2012). In a series of two-stage models, I investigate whether outside spending in the 2012 and 2014 congressional elections impacted the relationship between campaign spending and non-incumbent candidates' electoral competitiveness. I also test the effects of dark money on this relationship using media reports to identify races with dark money financing. I uncover significant disruptive effects associated with dark money whereas I find independent spending against the opposition candidate by Super PACs and PACs minimally decreases the marginal effectiveness of the non-incumbent campaign's expenditures. Dark money expenditures also cause campaigns to spend more in competitive races than they would otherwise. I explore the implications of these findings for future assessments of outside spending in elections.

The Supreme Court's ruling in *Citizen United* (558 U.S. 310, 2010) in favor of independent expenditure only groups fundamentally altered the financial power dynamics of federal elections. Super PACs and 501c organizations have become the dominant spenders in federal elections thanks to their ability to raise and spend unlimited amounts of money as long as they keep their operations independent from federal campaigns and political parties (Smith and Powell 2013). 501c groups have the added advantage of keeping their donors anonymous leading these organizations to be dubbed "dark money groups" by the media and citizen watchdog organizations (Taylor and Holman 2010; Smith and Powell 2013). Super PACs spent $345 million (Open Secrets 2014) and 501c organizations spent more than $218 million in the 2014 election (Choma 2014). Congressional campaigns cannot hope to attain similar spending power as a consequence of the restrictions on the amount of money they are permitted to raise from individual donors, political action committees, and political parties under the remaining components of campaign finance law. Not only do the fundraising restrictions hold them back but, unlike Super PACs and 501C organizations, campaigns must also devote considerable time and energy to a host of activities beyond fundraising, such as voter registration and outreach, campaign events, policy research and promotion, and media relations (Herrnson 2012; Smidt and Christenson 2012). Despite this glaring power imbalance, the direct impact that expenditures by Super PACs and 501c organizations have on the ability of campaigns to maintain their own spending influence in the race remains unknown.

This study represents a preliminary effort to determine whether spending by dark money groups in particular places strains on campaign resources by forcing campaigns to spend more than they would in the absence of dark money expenditures and/or by diminishing the effectiveness of the money the campaign spends in the race. I find House campaigns face significant challenges when dark money expenditures are made in the race. In competitive congressional races in which dark money expenditures are made, campaigns end up spending more overall and specifically more on advertising than they would otherwise. Additionally, dark money decreases the effectiveness of each dollar the campaign spends. Interestingly, independent expenditures against the candidate's opponent only minimally damped the effectiveness of campaign spending and independent expenditures in support of the candidate did not significantly affect the effectiveness of the campaign's expenditures in any way.

Non-incumbent candidates already face substantial hurdles ranging from incumbency advantage to the start-up costs of forming a campaign, which make it highly unlikely they will win the election (Herrson 2012). Although data limitations lead to a blunt assessment of the influence of dark money in this study, the results suggest the activities of dark money groups may make it harder for campaigns to wage their own battles. While further testing needs to be done to suss out the full effects of dark money engagement in elections, any indication that the campaigns of non-incumbents are negatively affected by their involvement merits attention. As discussed below, from the outset candidate campaigns must operate in accordance with their own set of campaign finance regulations effectively placing them on unequal footing with dark money organizations and Super PACs. If these groups, as the results of this study suggest, are not helping non-incumbents to improve their prospects, then they become de facto competitors for voters' attention and they are not the valuable allies some scholars believe them to be (La Raja 2014; Skinner 2005; Skinner and Farrar-Myers 2012; Herrnson 2012; Christenson and Smidt 2014).

Dark Money, Candidate Spending, and Electoral Competitiveness

Citizens United paved the way for the rise of both Super PACs and 501c organizations by striking down portions of the Bi-Partisan Campaign Finance Reform Act of 2002 (BCRA) which banned corporations and unions from making expenditures to support or oppose candidates in federal elections even when those expenditures were made independently from candidate campaigns (Potter 2005; Malbin 2006; Smith and Powell 2013). These groups hold many fundraising advantages relative to candidate campaigns. While many of them make expenditures to support or oppose particular federal candidates using loopholes in the law, their advertising and voter outreach efforts may drown out similar efforts by money-strapped campaigns. As a consequence, election activities by outside groups might hinder campaigns' efforts to connect with voters and fundraising inequalities may further exacerbate the challenges facing campaigns in an electoral environment dominated by interest group spending.

While some political scientists theorize that these groups, particularly Super PACs, serve as allies by lodging a "shadow campaign" in support of the candidate (La Raja 2014; Skinner 2005; Skinner and Farrar-Myers 2012; Herrnson 2012; Christenson and Smidt 2014), here I explore the alternative hypothesis that independent expenditures and dark money funded independent expenditures disrupt the campaigns' efforts to influence the outcome of the race. First, I describe the fundraising advantages of Super PACs and 501c organizations in comparison to candidate campaigns. Next I review studies addressing the effectiveness of different types of expenditures in relation to candidate success on the one hand and the effectiveness of candidate expenditures in relation to candidate success on the other.

Super PACs must register with the U.S. Federal Election Commission (FEC) and are subject to disclosure requirements under BCRA that were upheld by the Supreme Court (Smith and Powell 2013). 501(c) organizations, which include groups such as unions, professional associations, and social welfare organizations, are not usually required to report as long as their primary purpose is issue advocacy and not candidate-focused advocacy in federal elections (Taylor and Holman 2010; Smith and Powell 2013). However, both of these groups are supposed to report contributions that are used for electioneering communications featuring a candidate and which air close to the election (Public Citizen 2013). Super PACs and 501c groups quickly found ways to get around this requirement by producing issue ads. They further leveraged a FEC revised rule on disclosure, which only required these groups to report donors who earmarked their contributions for electioneering communications (Public Citizen 2013). Since almost no donors earmark their contributions in this way, donors' identities remain secret more often than not. A final way donors' identities can be kept anonymous is for 501c organizations and Super PACs to contribute to other Super PACs. Super PACs are required to report their contributions to the FEC but if the money is from another independent expenditure only group they only need to report the name of the group and not the donors who initially contributed the money (Marziani 2012). By funneling money through a series of non-profits or Super PACs, donors remain completely anonymous (Marziani 2012). Donors have been quick to take advantage of these options. Between 2008 and 2010, anonymous donations more than doubled (Maguire 2012) and they increased tenfold between 2010 and 2014 (Kroll 2014). In contrast, candidate campaigns must report all of their contributions and expenditures to the FEC. Not only is this timing consuming but also campaigns must pay higher compliance costs than many of these groups thanks to their high reporting burden.

With respect to fundraising, Super PACs and 501c organizations can raise and spend unlimited amounts of money as long as the expenditures are made without coordination with a candidate campaign or with a political party (Smith and Powell 2013). In contrast, candidate campaigns must collect contributions from individual donors, political action committees, and parties at legally proscribed amounts under BCRA. For example, in 2012, a campaign could collect $2,600 from a single individual donor per election or $5,200 for the entire election cycle (FEC 2014). A Super PAC or 501c group could approach the same donor and ask for $150,000 donation. Clearly, to raise equivalent amounts of money the campaign would have to approach many more donors than these groups. Non-incumbent campaigns in particular face significant fundraising hurdles and organizational start-up costs placing them even further behind the fundraising curve (Herrnson 2008, 2012; Biersack and Wilcox 1993; Krasno, Green, & Cowden, 1994). If campaigns cannot hope to compete as financial equals against these groups, the next question is whether the expenditures made by Super PACs and 501c organizations help or hinder or have no effect on the expenditures campaigns are able to make in the race. If interest group spending helps the candidate's chances or if it does not impact spending by the campaign, perhaps concerns about financial inequalities do not matter.

There are good reasons to believe the type of expenditure as well as its source makes a difference in terms whether the expenditure helps or hurts the candidate's competitiveness. In the case of expenditures that are made by party organizations, there is evidence suggesting coordinated expenditures greatly improve non-incumbents' chances of winning much more so than independent expenditures (Baker 2015a). Between 1992 and 2012, the parties made an average of $78,600 in independent expenditures after Labor Day giving challengers a predicted 0.1% increase in their vote margins whereas the same of amount of direct and coordinated dollars provided a predicted 9.9% gain in the margin of an average challenger (Baker 2015a). Although several studies of Super PACs suggest they may be taking over some of the roles of party organizations by implementing shadow campaigns in support of particular candidates and by contributing in ways that support party seat-maximization goals (Herrson 2012; Dwyre and Kolodny 2014; Braz and Dwyre 2014; Farrar-Myers and Skinner 2012), there are challenges inherent in the form of support they provide that prevent them from fully assuming the role of a campaign ally. Without the ability to coordinate, duplication and errors in the information presented in advertisements are more likely. Since Super PACs, non-connected PACs making independent expenditures, and 501c organizations cannot legally coordinate with campaigns, the effectiveness of their spending might not be very helpful or it might be detrimental.

Additionally, studies of PACs, political parties, and several studies of political advertising suggest the identity of the entity providing support to the candidate matters because it signals to others that the candidate is competitive and may provide voters with more information about the candidate's positions and credibility (Baker 2015b; Iyengar and Valentino 2000). If the group providing independent support is not easily recognizable and does not have an established reputation in the way that a party organization or a larger membership organization, such as the Sierra Club or National Riffle Association has, then it is not clear that any indirect benefits would go to the campaign as a consequence of a particular Super PAC or 501c organization's independent support. The ability of voters to use the groups' identity as a shortcut for information about the candidate is short-changed (see Lupia, 1994; Lupia & McCubbins, 1998; Popkin, 1991; Sniderman, Brody, & Tetlock, 1991). On the other hand, anonymous advertising by Super PACs and 501c organization may also enable the campaign to escape the backlash effects uncovered for negative ads (Merritt, 1984; Sonner, 1998; Jasperson and Fan, 2002). Dowling and Wichowsky (2013) find the attacked candidate receives more support when the ad discloses the identity of donors. Still, avoiding a backlash effect is not the same as gaining vote shares from an advertisement. In other words, the benefits of having a well-known group endorse and openly support the campaign (see Baker 2015b on interest group endorsements) likely outweigh the costs that are avoided by having ambiguous groups engage in negative campaigning on behalf of the campaign. Thus, it is still not clear that independent support from ambiguously named groups would provide any direct gains.

The major reason why spending by dark money groups and Super PACs likely diminishes the ability of campaigns to use their resources effectively is the electorate reaches its saturation point sooner when more entities are engaged in advertising. While very few studies of political advertising address advertising clutter, research on psychology and marketing generally suggests greater advertising clutter leads to lower recall of each advertisement (Ha and McCann 2008). While the degree to which recall can be affected varies by the advertising medium and other features of the ad itself (Elliot and Speck 1998; Ha and McCann 2008), clutter seems to have a greater number of negative than positive effects. In fact, many studies now investigate ad avoidance by consumers across all mediums (see Speck and Elliott 1997; Baek and Morimoto 2012). If advertising clutter by Super PACs and 501c organizations leads to ad avoidance by voters or voter fatigue from over saturation, then the campaign's own advertising expenditures might be less effective.

A final reason why dark money and independent expenditures might undermine spending by congressional campaigns is that the relationship between campaign spending and non-incumbent's success is potentially fragile. No consensus exists about the effectiveness of House incumbents' expenditures (Stratmann 2005) and although a larger number of studies suggest challengers' spending does increase challengers' vote shares (Abramowitz 1991; Jacobson 1990, 1985, 1978; Ansolabehere and Geber 1994; Kenny and McBurnett 1994; Stratmann 2005), the relationship maybe subject to diminishing marginal returns as a consequence many factors.[1] Adding to the fragility of the relationship, non-incumbent candidates already face considerable odds against their likelihood of success including heavy start-up costs associated with establishing a campaign organization and particularly a fundraising base (Biersack, Herrnson, and Wilcox, 1993; Herrnson, 2008, 2012; Krasno, Green, and Cowden, 1994). As a consequence, it is likely that dark money expenditures and perhaps even independent expenditures by reporting Super PACs lead non-incumbent campaigns to spend more money and easily decrease the effectiveness of each dollar spent by the campaign. In short, expenditures by these groups, both those that report and those that do not, are expected to increase the campaign's costs and vulnerability to failure.

Data and Methods

The degree to which expenditures by dark money groups interfere with the efforts of congressional campaigns to use their own expenditures to connect with voters and establish their own presence in the election has never been tested. In an initial set of regression models I investigate whether spending by dark money groups leads non-incumbent House campaigns to spend more money overall and whether it also causes those campaigns to spend more money directly on advertising regardless of the competitiveness of the race. In a second set of regression models, I test whether spending by dark money groups decreases the effectiveness of campaign spending. I then compare the impact of spending by dark money groups to spending by interest groups who made reported independent expenditures.

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[1] In Senate races, incumbents spending is thought to increase vote shares but not at the same marginal rate as challengers' spending (Grier 1989; Stratmann 2005).

[2] See Appendix for a discussion of the types of line-item expenses that are included in the advertising totals.

[3] Some groups, such as the Sunlight Foundation, offered estimates of dark money spending by race but different media reports contained different estimates so this was not a reliable way to measure the degree of dark money

In the first set of models the dependent variables respectively are the total disbursements made by the congressional campaign and the total amount of money the campaign spent on advertising. In the candidate summary files 2012-2014, the U.S. Federal Election Commission (FEC) provides disbursement totals for each campaign for the election cycle. Advertising expenditures are calculated using the FEC's operating expenditure files from 2012 and 2014. Since campaigns do not consistently apply the numeric codes provided by the FEC to categorize expenditures, these files were reviewed on a line-item basis using the descriptions of each expenditure reported by each campaign. Expenditures that did not relate to advertising were deleted.[2] Any expenditures relating to all forms of advertising, such as signage materials and website development, are included in the total advertising costs. Both dependent variables are placed in thousand of dollars.

A final important variable in this set of models as well as the second set is a dummy variable indicating races in which dark money groups made expenditures. Lexus Nexus searches of major newspapers and Google searches for the 2012 and 2014 election cycles were performed to find media accounts of dark money activity in specific congressional races. Some watchdog groups, such as the Sunlight Foundation and the Brennan Center, also produced lists of races or analyses of specific races in which dark money groups were actively involved. Exact dollar totals could not be calculated due to the fact that dark money by definition does not get reported to the FEC.[3] It is also not reported to the Internal Revenue Service in such a way that expenditures on behalf of or against particular candidates can be identified. However, using multiple media sources it was possible to confirm which races featured expenditures by dark money groups.

[2] See Appendix for a discussion of the types of line-item expenses that are included in the advertising totals.

[3] Some groups, such as the Sunlight Foundation, offered estimates of dark money spending by race but different media reports contained different estimates so this was not a reliable way to measure the degree of dark money expenditures.

Races falling into this category are coded 1, 0 otherwise. In the first set of models I split the sample using this variable to determine how much more money the campaigns spent in total and how much they spent specifically on advertising when these groups were also making expenditures.

A number of control variables that predict campaign expenditures are also added to these two models. The Rothenberg Political Report's ratings of congressional race competitiveness are included in all of the models as a dummy variable. Competitive races are coded 1, 0 otherwise (*Competitive*). Dummy variables indicating whether the candidate has experience in elected office (*Experienced Candidate*) or not, and whether the candidate is a Republican or not, are also included (*Republica*n). The Democratic share of the two-party presidential vote is added as a measure of district ideology (*Democratic Pres Vote Share*). The total expenditures of the opposition candidate in thousands of dollars is added because of its likely impact on not only what the challenger or second open seat candidate spends but also because of its influence on the likelihood of electoral success (as measured in the second set of models discussed below). The last variable in the models is a dummy indicating whether the contest is for an open-set or not. Finally, I cluster the error terms to avoid artificially inflating the coefficients due to the presence of some of the same candidates from one election cycle to the next in the sample.

Whereas the first set of models evaluates the direct costs to campaigns that arise from concurrent spending by dark money groups in the election, the second set of models evaluates the extent to which dark money expenditures decrease the effectiveness of the expenditures the campaigns make to generate support in the district. The same control variables that are included in the first set of models are utilized again in the second set. However, the dependent variable consists of the residuals from a regression of the vote margin the candidate received on the campaign's total disbursements in thousands of dollars. In order to compare the effects of dark money with the impact of reported independent spending in the race, a second model uses the same dependent variable but employs the total independent expenditures for and against[4] the candidate in thousands of dollars as the primary independent variables in the analysis. The 2012 and 2014 election cycles are analyzed together in a pooled model with clustering of the standard errors by candidate id.

Dark Money and Campaign Spending

The results of the first set of models can be viewed in Tables 1 and 2. On average, in a competitive election, congressional campaigns spend $62,000 more in total disbursements if dark money groups are also making expenditures than they would in a competitive election without dark money involvement (see Table 1). Similarly, on average, in a competitive election, campaigns will spend $70,000 more on advertising when dark money groups are involved in the election (see Table 2). These added costs represent a major burden for the average House campaign. In the 2012 and 2014 election cycles, the median for total campaign receipts among non-incumbents was $192,675.

In the next model testing the impact of dark money on the relationship between the non-incumbent candidate's vote margin and campaign disbursements in thousands of dollars, the strains on congressional campaigns are also apparent. In Table 3, the residuals are 9.4 units larger when dark money groups are making expenditures in the race. The standard deviation for the residuals overall variance is 13.4. Thus, the increase is considerable in terms of magnitude.

[4] The FEC associates independent expenditures spent against the candidate with the candidate's identification number rather than with their opponent's identification number. I rearranged the data so that independent expenditures for and those against the candidate's opponent—both of which arguably help the candidate's chances of success—are associated with the candidate's identification number.

The fact that the spread of the residuals is greater in dark money elections suggests the effectiveness of the campaign expenditures declines when dark money groups make their own expenditures in the election. Moreover, this is not simply due to the competitiveness of the race. Among competitive races, candidates spend more when dark money is part of the picture.

In order to better understand whether dark money has specific negative effects on the impact of campaign expenditures, I include an analysis of the effects of independent spending by reporting interest groups in the 2012 and 2014 election cycles on the residual variance between vote margin and campaign expenditures (see Table 4). Independent expenditures in support of (i.e. *for*) the candidate do not significantly impact the relationship between the candidate's vote margin and the campaign's expenditures. Conversely, independent expenditures against the candidate's opponent do increase the residuals for campaign disbursements and vote margin by 0.004 for every thousand dollars made by interest groups against the candidate's opponent. Unlike dark money expenditures, independent expenditures are confined to the most competitive races. The 75th percentile for outside group's independent expenditures was just $12,247 whereas the maximum was $5.3 million. The median independent expenditure against the candidate's opponent was $0 and the mean was $246,091. Only the candidates experiencing the greatest amount of independent spending against their opponents are likely to see the effectiveness of their own campaign's expenditures decline to the same degree as the predicted decline in effectiveness when dark money groups are making expenditures in the race.

The Disruptive Effects of Dark Money

The results suggest non-incumbent campaigns face additional strains on their resources when dark money organizations are involved in the election. They face higher overall costs and advertising costs amounting to almost a quarter of what 50 percent of the House campaigns in 2012 and 2014 are typically able to raise in terms of campaign receipts. In their study of toss-up races in 2014, the Brennan Center determined for every $4 in expenditures made by the campaign, outside spending groups spent more than a dollar more (Vandewalker and Famighetti 2014). Additionally, they estimate 86 percent of the outside group expenditures were made by dark money organizations (Vandewalker and Famighetti 2014). To make matters worse, the results presented here suggest the expenditures the campaigns make are less effective than they would be without dark money organizations spending money to influence the outcome of the election. Higher costs and decreased effectiveness together mean that in order to have the same impact in an election with dark money, campaigns have to make it into in a higher fundraising quintile. Given the difficulties non-incumbent campaigns have in gaining fundraising momentum and establishing a campaign organization (Biersack, Herrnson, & Wilcox, 1993; Herrnson, 2008, 2012; Krasno, Green, & Cowden, 1994; Smidt and Christenson 2012), dark money expenditures in the race pose a significant burden and potential liability for many non-incumbent campaigns. Additionally, the results suggest that dark money groups are not playing the role of campaign allies in these elections.

The results also support the idea that the source of the expenditure matters. While dark money was by the far the most disruptive, independent expenditures made against the candidate's opponent only very minimally decreased the effectiveness of the campaign's overall expenditures. Additionally, independent expenditures made in support of the candidate did not significantly impact the effectiveness of campaign expenditures. Although further testing of these effects will help disentangle why they might have different impacts, it is possible that independent expenditures that are made by Super PACs and PACs might be "functionally coordinated” with the campaign (Farrar-Myers and Skinner 2012). Previous studies suggest Super PACs in particular have engaged in “functionally coordinated” activities such as mirroring the advertisements candidate campaigns produce themselves (Farrar-Myers and Skinner 2012). Additionally, Braz and Dwyre (2015) find Super PACs spent money in the same races targeted by the political parties thus paralleling their activities. Either of these factors could dampen any negative effects independent expenditures against the candidate’s opponent might have on campaign spending. Nonetheless, the effect that is uncovered is still negative suggesting that if such alliances are being forged between campaigns and Super PACS and/or non-connected PACs making independent expenditures, they are not very effective. In other words, a “functionally coordinated” alliance might be reasonably expected to boost the effectiveness of campaign spending rather than dampen it because independent spending by interest groups could either “allow campaigns to concentrate their resources elsewhere” or help supplement targeted expenditures made by the campaign thereby amplifying their effects (Christenson and Smidt 2014). However, the results suggest otherwise.

Independent expenditures by dark money organizations and reporting Super PACs and non-connected PACs with soft money accounts were primarily spent on advertising in the 2012 and 2014 election cycles (Maguire 2014; Blumenthal 2014). As suggested earlier, the reason negative effects are uncovered for both dark money and independent expenditures against the candidate’s opponent could be that the increase in the number of entities making ads has created a cluttered environment. Ad clutter makes it more difficult for consumers to recall the specifics of each ad (Ha and McCann 2008). In a saturated advertising environment, voters may have difficulty identifying let alone remembering the advertisements that are specifically produced by candidate campaigns. Additionally, less identifiable groups may make it harder for voters to use information shortcuts to gain information about the respective candidates. High demands for attention may also lead voters to engage in ad avoidance (see Speck and Elliott 1997; Baek and Morimoto 2012). Thus, even groups seeking to act as allies could negatively impact the effectiveness of campaign expenditures. Moreover, by driving up the costs of a particular election, expenditures by all interest groups force campaigns to spend more than they would otherwise.

Despite an interesting set of findings, this study does suffer from the limitations inherent in any study of dark money. It is not possible to know how much dark money was spent in each of the races included in the sample. Additionally, it was not possible to differentiate between candidates who might have benefitted by dark money expenditures and those who might have incurred additional costs. While the fact that dark money drives up the total costs of election is not altogether surprising, what is surprising is that dark money groups did not restrict their expenditures to competitive toss-up races (see Table 5). This suggests the effects that are uncovered are not solely attributable to the competitiveness of the race. In contrast, independent expenditures were almost exclusively made in competitive races. This difference lends further credibility to what is admittedly a blunt analysis of dark money influence and it also supports the notion that dark money groups may have a broader set of goals than PACs and Super PACs. At the very least, the results suggest dark money has distinctive effects that appear to generate additional costs for resource constrained non-incumbent campaigns.

Table 1: Total Disbursements in Competitive and Dark Money Races		
VARIABLES	No Dark	Dark
Competitive Race	928.6****(133.7)	990.3****(250.2)
Experienced Candidate	263.6****(70.69)	-13.78 (196.5)
Dem Prez Vote Share	0.978 (3.314)	-12.34(11.87)
Republican	7.127 (105.3)	95.99 (225.8)
Opposition Disbursements	0.075** (0.030)	0.252* (0.134)
Open Seat	574.2****(111.4)	431.0*(257.2)
Year 2014	-74.18 (58.00)	-71.94 (223.1)
Constant	132.1 (136.6)	1329.4** (645.99)
Number of Observations	581	130
R-Squared	0.241	0.226

Note: Standard errors in parentheses; All monies in thousands of dollars;
****p<0.001 *** p<0.01 **p<0.05*p<0.10

Table 2: Advertising Disbursements in Competitive and Dark Money Races		
VARIABLES	No Dark	Dark
Competitive Race	609.2****(99.33)	679.6****(178.7)
Experienced Candidate	143.94***(44.27)	-2.394 (135.1)
Dem Prez Vote Share	0.387 (1.965)	7.451(8.284)
Republican	7.237 (65.97)	-237.96 (155.1)
Opposition Disbursements	0.0446**(0.022)	0.089(0.092)
Open Seat	327.9****(75.50)	193.2 (178.7)
Year 2014	-28.79 (38.33)	-24.58 (160.6)
Constant	41.82 (82.41)	196.9 (448.1)
Number of Observations	581	130
R-Squared	0.216	0.202

Note: Standard errors in parentheses; All monies in thousands of dollars;
****p<0.001 *** p<0.01 **p<0.05*p<0.10

Table 3: Dark Money's Effect on Residuals of Vote Margin and Campaign Spending	
Dark Money	9.429****(1.602)
Competitive Race	12.82****(1.719)
Experienced Candidate	2.794***(0.910)
Dem Prez Vote Share	0.005(0.040)
Republican	0.325(1.260)
Opposition Disbursements	0.001***(0.0004)
Open Seat	6.452****(1.299)
Year 2014	-0.584(0.806)
Constant	-27.67****(1.699)
Number of Observations	711
R-Squared	0.394

Note: Standard errors in parentheses; All monies in thousands of dollars; ****p<0.001 *** p<0.01 **p<0.05*p<0.10

Table 4: Independent Expenditures' Effect on Residuals of Vote Margin and Campaign Spending	
Independent Expenditures Supporting Candidate	0.002 (0.003)
Independent Expenditures Against Opponent	0.004***(0.001)
Competitive Race	11.526****(1.615)
Experienced Candidate	2.901***(0.888)
Dem Prez Vote Share	0.016 (0.041)
Republican	-0.0202 (1.290)
Opposition Disbursements	0.001***(0.0003)
Open Seat	7.391****(1.279)
Year 2014	-0.0401(0.802)
Constant	-27.55****(1.647)
Number of Observations	711
R-Squared	0.391

Note: Standard errors in parentheses; All monies in thousands of dollars; ****p<0.001 *** p<0.01 **p<0.05*p<0.10

Table 5: Dark Money Spending by Competitive Race		
	Competitive Race	Uncompetitive Race
No Dark Money	596	31
Dark Money Expenditure	71	60

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Appendix

Candidate Operating Expenditure Files 2012 and 2014

Advertising disbursements labeled as such by the campaign are retained in the file unless an error is immediately apparent. For example, a fundraising cost that is incorrectly labeled an advertising cost by the campaign would be deleted from the file. General operating costs, such as telephone and internet services, are not included in the advertising totals. Wages are only included if they paid for consulting specifically relate advertising. Entries that were clearly not related to advertising were deleted. They included line-items such as: rent for the campaign headquarters, checked baggage fees, office supplies, entertainment at campaign events, and catering. The most complicated category to evaluate fell under the heading dubbed “campaign materials.” While some materials clearly related to advertising, such as materials to build signs and materials to make buttons, entries without clear labels were deleted as this category appeared to be treated as a catchall category for many non-advertising related expenditures, such as office computers, printers, and office supplies. Finally, invitations to non-fundraising events are included in the advertising totals but invitations and supplies for fundraising events are considered fundraising costs and are not included in the advertising totals.