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THE INFLUENCE OF CAMPAIGN EXPENDITURES ON VIRGINIA HOUSE OF DELEGATES ELECTORAL SUCCESS

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ABSTRACT

For decades economists and political scientists have sought to identify variables that influence the electoral success of public officials. Most of the existing literature focuses on the determinants of federal elections. This study examines elections to the Virginia House of Delegates and finds that campaign expenditures, incumbency status, party affiliation, and district voting tendencies all are significant predictors of electoral success. Additionally, this study finds that the returns to campaign expenditures, in terms of the additional votes that they generate, vary based on incumbency, party affiliation, number of opponents in the race, and over time.

INTRODUCTION

Every year Virginia households are inundated with campaign literature, television ads and radio spots. With state legislative elections taking place in odd-years and federal elections occurring in the years in between, Virginians are given the opportunity to vote every November. With this 'perpetual' election cycle, newspaper headlines and talk shows saturate their audiences with analyst predictions and most significantly, the up-to-date quarterly FEC and state financial disclosure reports. The emphasis of these broadcasts is placed specifically on those candidates earning record-breaking sums or their counterparts revealing appalling contribution numbers. These financial figures gain enormous attention, underscoring the importance that the media and the public places on candidate fundraising. This paper will estimate the influence that campaign expenditures have on Virginia House of Delegates election outcomes, examining the 2001, 2003, and 2005 state legislature races.

With its unique off-year state legislative election cycle, Virginia voters are constantly subjected to media reports on campaign financing. For example, prior to the most recent 2007 election, the *Richmond Times Dispatch* published numerous stories concerning the state legislative races and the enormous sums being raise by candidates. A featured article in the September 19th issues titled, "Money for Senate Race Flowing into Candidates," highlights the record-breaking fundraising of a northern Virginia Senate contest, citing it to be the most expensive state legislative race ever. Similarly, the article "GOP Holds Overall Fundraising Edge," written immediately after the June financial figures were released, discusses the strong financial showing among Republican candidates at that time. These articles, like many others, emphasize the recurrent trend of enormous campaign contributions being raised in Virginia Senate and House of Delegates races. The total amount of campaign funds raised in Virginia for the 2007 state legislative races (House and Senate) was approximately \$33 million (\$16.7M Democrats; \$15.2M Republicans; \$1.1M 3rd Party). Only four other states spent more money on state legislative races over the 2006 to 2007 election cycles (California, \$91.7M; Texas, \$65.5M; Pennsylvania, \$50.7M; and Illinois, \$38.9M), according to the National Institute on Money in State Politics. The average total state-wide expenditure on state legislative races over these two years was approximately \$13.6 million. The fact that individual candidates continually bring in such tremendous sums indicates that they, like the media, perceive campaign funds as essential for electoral success.

The conventional wisdom among both pundits and politicians is that the more candidates spend, the more they benefit. Along with this observation is the belief that campaign expenditures for both incumbents and challengers exhibit diminishing marginal returns, and that the returns to campaign expenditures vary by party and incumbency status. These beliefs are largely supported in studies of national office holders, and are likely at the root of these perceptions; however, there has been little empirical analysis of state legislative elections. This paper will examine the effect of campaign expenditures on vote percentage in elections for the Virginia House of Delegates, controlling for a number of other observable characteristics that may influence voting outcomes. Specifically, this paper will test the hypotheses that: (1) campaign expenditures have a positive impact on vote shares; (2) that there are diminishing returns to campaign expenditures; (3) that the returns to campaign expenditures are greatest for third party, non-incumbent candidates, who benefit the most from increases in advertising and exposure that usually accompanies campaign expenditures. The variables controlled for in this paper include incumbency, terms served, the opposition's district level party strength, party status and opponent's expenditures. Furthermore, this paper tests for variation in the effects of campaign expenditures on vote shares by incumbency status and party affiliation. Additionally, the following analyses will test for differences in the effect of these variables in two candidate versus three or more candidate races, and in changes in these effects across election years.

The following section of the paper briefly discusses the most relevant studies from the literature on campaign financing, followed in section III by a description of the data; section IV presents the empirical results, and section V concludes the paper with a discussion of the implications of this analysis.

LITERATURE REVIEW

Recent studies investigating the importance of fundraising have been discussed in a variety of papers and scholarly articles. A number of these studies focus on how the sources and uses of these funds are operationalized to influence election outcomes. In related studies, Coates (2004), and Houser and Stratmann (2008) conclude that voters are swayed by the sources of a candidate's funds, such that voters are less likely to elect a candidate that they perceive as being funded by special interest groups. On the uses side of the equation, Abrajano and Morton (2004) examine when candidates choose to advertise differences in substance (i.e. policy differences) with their opponents versus differences in leadership style. They find that the closer the candidate's positions are to the median voter the more likely the candidate will emphasize substance, while candidates' whose position are further from the center will emphasize style.

A number of studies have complemented those above by estimating the returns to campaign financing. In particular, there is substantial agreement that campaign expenditures exhibit diminishing marginal returns (Houser and Stratmann (2008), Stratmann (2004), and Gierzynski and Breaux (1993)). Additionally, there is evidence to support the claim that while incumbents enjoy an electoral advantage, increases in incumbent campaign expenditures yield lower increases in the vote percentage won. The lower (or in some cases zero) incumbent returns to campaign expenditures is supported by studies by Moon (2006), Levitt (1994), Thomas (1989), Ragsdale and Cook (1987), and Feldman and Jondrow (1984).

The importance of campaign expenditures on election outcomes has been substantiated across a spectrum of local, state, and national elections. Nagle and Leighley (1992) investigate the role of campaign expenditures in presidential elections. They find that spending in presidential elections was higher in states where the race was expected to be closer and where the outcome was pivotal to the overall election. They conclude that campaign expenditures have a positive and significant effect on the percentage of the vote received in these states.

The majority of empirical campaign expenditure studies seem to focus on US House of Representative or national races (Epstein and Franck (2007), Moon (2006), Medvic (2001), Palda and Palda (1998), and Levitt (1994)). This is likely due to the availability of data, the number of observations (large number of races, office holders, and candidates), and variation in the variables of interest. Some of these studies conclude that campaign expenditures have little to no effect on election outcomes (Levitt (1994), Palda and Palda (1998)). This general conclusion is qualified, however, by noting that challengers often receive an increase in voting shares from campaign expenditures, while incumbents do not (Milyo (2001)). On the other hand, most studies of US Senate races conclude that there is a positive and significant return to incumbents' campaign expenditures (Abramowitz (1988), Grier (1989), and Moon (2006)). In short, there is little overall consensus regarding the influence of campaign expenditures on congressional elections.

Other studies have focused on the effect of campaign financing on state level elections. These studies concluded that spending does affect gubernatorial election outcomes (Calcagno and Westley (2005), Partin (2002)), and that finance rules have differential effects across party lines in influencing election outcomes (Milyo, Primo, and Groseclose (2002)). Daniel and Lott (1997) and Besley and Case (2002) investigate determinants of state legislature elections, with Daniel and Lott (1997) finding that campaign fundraising in California state legislative races has declined as a result of term limits initiated in 1990, and that more incumbents are being unseated.

To our knowledge there has been little empirical investigation into the relationships between vote shares and campaign expenditures for state legislative races. This study will fill this void by examining the effects of campaign expenditures on contested Virginia House of Delegates races, with a special emphasis on examining the modifying effects of incumbency and party affiliation on the returns to campaign expenditures.

DATA

The data in this analysis comes from the 2001, 2003 and 2005 contested House of Delegates elections gathered from the Virginia State Board of Elections and the Virginia Public Access Project (VPAP). Both provide up-to-date records of election results as well as the appropriate financial disclosure data. By law, each candidate is required to publish their campaign expenditures each election cycle. Included in VPAP's financial reports are incumbency status and candidate tenure (number of terms served). Table 1 illustrates the party breakdown for the 2001, 2003 and 2005 election cycles. Five party labels are included; however, the Green, Independent and Libertarian party labels are aggregated and considered 'third-party' for the purpose of this paper. Although the number of candidates and contested elections changes drastically from cycle to cycle, the average campaign expenditures for both Democrats and Republicans have steadily increased. The average Democratic campaign expenditure has increased from \$80,583 in 2001 to \$188,218 in 2005, a 134 percent rise. This compares to an 88 percent increase in Republican expenditures from \$100,084 in 2001 to \$187,747 in 2005. Overall, 314 total candidates are examined in 145 contested elections.

A candidate's own campaign expenditures are rather self-explanatory. Summary measures presented in Table 2 reveal that expenditures ranged from zero to \$580,788, with an average campaign expenditure of \$116,159. Opponents' campaign expenditures are the total amount of expenditures by all of a candidate's opponents, which is why the maximum and average opponent expenditure is greater than one's own expenditures. The maximum amount spent by opponents is \$783,683 and the average is \$144,306.

If a candidate is running only against a Democratic opponent, then that candidate's opponent's district lean index is calculated by averaging the percentage of voters from that district who voted for the Democratic gubernatorial candidate in the 1997, 2001, and 2005 gubernatorial races. If a candidate is running only against a Republican, then the opponent's district lean is just the average of the percentage of voters from that district who voted for the Republican gubernatorial candidate in those same election years. If a (third party) candidate is running against both a Republican and a Democrat then that candidate's opponents' district lean is the sum of the average Republican and Democratic vote shares in the three gubernatorial elections. The district lean index is meant to measure the prevailing voter opposition within their district to a candidate's political affiliation. One potential problem in seeking to create an individualized district lean index is the redistricting that occurred in Virginia in 2001. The National Committee for an Effective Congress, however, effectively corrects for this by calibrating election results by precinct. The minimum opponent's district lean is 22.1; the maximum is 100 (a third-party candidate running against a Democrat and a Republican in a district where the third party gubernatorial candidate received virtually no votes), with a mean of 53.372.

Contested election results prior to 2001 were not considered in this analysis for two reasons. The first potential difficulty stemmed from redistricting that occurred in 2001. Along with significant shifts in the geographical make-up of the districts, several had demographic shifts that would severally bias the results. Secondly, 2001 is the first year party identification was placed on the ballot with the candidate's name. This allows for party status to be considered in the model.

The following section of the paper discusses the estimates of these variables on election results to the Virginia House of Delegates.

Table 1: Summary Measures

Number of Candidates

Election Year	Democrat	Green	Indepe-ndent	Libertarian	Republican	Total Candi-dates	Total Cont-ested Elections
2001	54	1	14	6	55	130	59
2003	34	0	10	0	34	78	37
2005	44	1	14	4	43	106	49
Total	132	2	38	10	132	314	145

Avg. Campaign Expenditures

Election Year	Democrat	Green	Independent	Libertarian	Republican
2001	$80,583	$2,068	$38,976	$1,582	$100,084
2003	$117,979	$0	$11,629	$0	$137,629
2005	$188,218	$747	$46,132	$9,043	$187,747

Avg. Vote Percentage

Election Year	Democrat	Green	Independent	Libertarian	Republican
2001	46.87	3.00	24.29	4.17	54.54
2003	44.88	0.00	27.66	0.00	55.24
2005	54.78	1.30	20.26	12.85	50.04

Table 2: Summary Measures

	Mean	Minimum	Maximum
Vote Percentage	46.161	.5	84.0
Expenditures	$116,159	$0.00	$580,788
Opponents' Expenditures	$144,306	$0.00	$783,683
Number of Candidates	2.29	2	5
Terms Served	1.53	0	21
Opponents' District Lean	53.372	22.2	100.0
Dummy Variables			
Republican	.42	0	1
Democrat	.42	0	1
Third Party	.16	0	1
Incumbent	.34	0	1

REGRESSION RESULTS

We regress the percentage of votes received by each candidate for the Virginia House of Delegates against the number of terms served, dummy variables for incumbency and party affiliation, campaign expenditures and its quadratic, the opponents' campaign expenditures, and the opponents' district lean (see Table 3, specification (1)). We include a quadratic in campaign expenditures to test our hypothesis that there are diminishing marginal returns to expenditures. Additionally, we include both the incumbency dummy variable and the number of terms served to test if there is both a discrete jump in the vote percentage for incumbents and an incremental benefit from serving additional terms in office. Before turning to the campaign expenditure effect it is interesting to note that incumbents receive an 8.9 percentage point advantage over challengers, and that each additional term served increases this advantage by almost .7 percentage points. Similarly, Republican and Democratic affiliated candidates benefit from a 9.052 and 6.539 percentage point advantage over third party candidates, respectively. Furthermore, it is not surprising to find that the greater the district lean against a candidate the smaller the expected votes received. For example, a Democrat running in a heavily leaning Republican district receives significantly fewer votes than would a Republican running in the same district. All of the above results are statistically significant at the 99 percent level of significance.

Turning to the variable of primary interest to this analysis, campaign expenditures exhibit a statistically significant positive impact on the percentage of votes received. For the purpose of this paper, expenditures are defined as all campaign activities paid and accounted for specifically from the candidate's campaign committee. We find that an increase in campaign expenditures has a positive and statistically significant effect on the percentage of votes received. Additionally, we find diminishing marginal returns to additional campaign expenditures such that as expenditures increase the additional gains in percentage of votes received decline. Evaluated at campaign expenditures of $150,000, each additional $10,000 of expenditures increases the percentage of votes received by approximately one third of a percentage point, at the margin. This result confirms Gierzynski and Breaux's (1993) conclusion that campaign expenditures exhibit a positive influence on vote percentage. Furthermore, opponent expenditures were also found to provide a small, but statistically significant impact with $10,000 of opponent spending leading to a percentage vote decrease of .164 percent for the candidate.

In order to further investigate the type of campaign expenditures that influence vote percentage, we interacted expenditures with party and incumbency status (see Table 3, specification (2)). By utilizing an incumbent-challenger binomial and creating an interaction with candidate expenditures, we are able to test for possible differences in the impact of campaign expenditures by incumbency status. For every $10,000 spent by incumbent delegates, they receive an increase in the percentage of votes received by approximately .738 (ignoring the relatively minor quadratic effect for simplicity of presentation, the incumbency effect equals 1.211-.473). This effect differs substantially from the gains that are achieved by challenger expenditures. Third party challengers are afforded a 1.211 percentage point increase for every $10,000 spent. This represents a return on campaign expenditures of almost 65 percent more per $10,000 than incumbents receive.

In evaluating the significance of incumbency, we define the incumbent advantage as the additional electoral support gained by a candidate due to his or her incumbency status (Cox and Morgenstern (1995)). These activities include franking privileges, increased visibility through voter contact, legislative accomplishments to campaign on and a fundraising base already in place.

With a breadth of institutional knowledge, campaign experience and name recognition, incumbency affords candidates an initial 16.971 percentage point cushion. To examine this effect more closely, Graph 1 illustrates expenditures versus vote percentage between incumbents and challengers. By breaking down expenditures into $50,000 increments, the incumbency effect is quite visible. Although the initial incumbency advantage is hard to observe because the lack of incumbent spending less than $50,000, a major explanation for the preliminary gap between the incumbent and challenger curve can be attributed directly to incumbency status and not campaign expenditures.

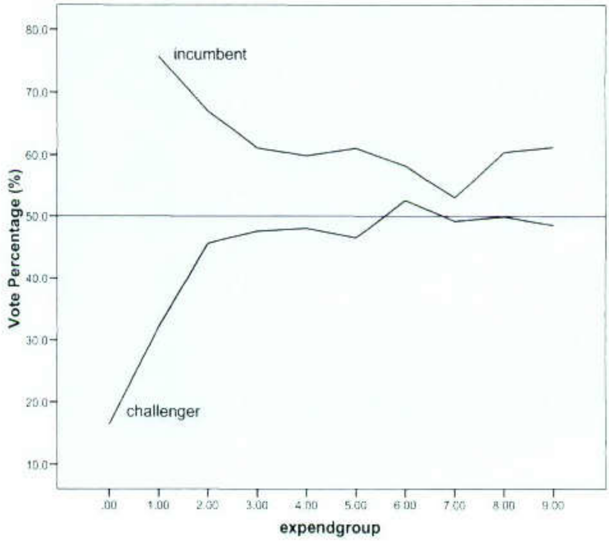
Table 3: Regression Results:
Dependent Variable is the Percentage of Votes Won

	Specification (1)		Specification (2)	
Constant	62.539***		59.871***	
	(3.370)		(3.246)	
Terms Served	.681***	.113	.569***	.095
	(.200)		(.183)	
Incumbent	8.934***	.224	16.971***	.426
	(1.433)		(1.934)	
Expenditures	.631***	.377	1.211***	.724
	(.119)		(.189)	
Expenditures-squared	-.009***	-.239	-.003	-.080
	(.003)		(.003)	
Opponent's Expenditure	-.164***	-.121	-.182***	-.134
	(.043)		(.041)	
Republican	9.052***	.236	13.757***	.359
	(1.744)		(1.902)	
Democrat	6.539***	.171	8.047***	.210
	(1.742)		(1.862)	
Opponents' District Lean	-.555***	-.463	-.504***	-.420
	(.043)		(.041)	
Incumbent Expenditure			-.473***	-.246
			(.094)	
Republican Expenditure			-.800***	-.415
			(.197)	
Democrat Expenditure			-.589***	-.307
			(.191)	
Number of Observations	314		314	
R-Squared	.817		.852	

Note: *** indicates significant at the 1 percent level, ** at the 5 percent level, * at the 10 percent level. Standardized coefficients are presented in the right hand column of each specification.

According to Graph 1, the first \$100,000 a challenger spends provides the greatest marginal gains in percentage votes. These initial expenditures offer challengers the ability to gain name recognition, credibility among the public and the media and the resources to persuade voters. Challenger expenditures also illustrate diminishing marginal returns coinciding with the findings of Gierzynski and Breaux (1993). Confirmed by the -.003 expenditures squared coefficient, challenger expenditures begin to gain marginally less per dollar after \$100,000 is spent.

Graph 1: Incumbent Expenditures and Mean Vote Percentage



Although incumbents enjoy an initial 16.971 percentage vote lead, at only two levels is the marginal percentage of vote won for incumbent expenditures greater than the challengers. This occurs for incumbent expenditures between \$200,000 and \$250,000 and over \$350,000. Overall, the graph is consistent with the findings of Glantz, Abramowitz and Burkart (1976), who suggest an inverse relationship between challenger expenditures and incumbent margin of victory. Graph 1 demonstrates that as challenger expenditures increase, the percentage by which an incumbent wins decreases, however, I find a small widening of the margins when both candidates have spent between \$200,000 and \$250,000 and above \$350,000.

The incumbency advantage allows candidates an initial electoral cushion, however, longevity in office also allows for a statistically significant influence. As specification (2) in Table 2 demonstrates, incumbents gain a .569 percent increase in total vote percentage per terms served. Length in office provides incumbents with numerous legislative and electoral tools needed to succeed on the campaign trail. Seniority status in committees allows for more district-specific projects and influence in passing individual legislation. With this legislative clout comes fundraising advantages including money from special-interest groups and political action committees. Electorally, delegates serving in office longer are able to sustain high levels of name identification and will have unique insights into campaigning in their respective districts.

Along with incumbency status and tenure, several exogenous factors influence the electorate, including the partisan lean of the district toward a candidate's opponents. The opponents' district lean variable attempts to measure the party voting tendency of a district. For a Democrat, the opponents' district lean is the average percentage of the district's voters who voted for the Republican gubernatorial candidate in the 1997, 2001, and 2005 elections; for a Republican it is the average percentage who voted for the Democratic gubernatorial candidate in these elections; for a third-party candidate running just against a Democrat it is the average percentage who voted for the Democratic gubernatorial candidate in these elections; for a third-party candidate running just against a Republican it is the average percentage who voted Republican in these elections; and, for a third party candidate running against both a Republican and a Democrat it is the sum of the average percentage who voted Democrat or Republican in these races. A one percentage point increase in the opponents' district lean reduces a candidate's vote share by approximately half a percentage point, ceteris paribus.

An alternative measure of district lean utilized presidential, senatorial, and gubernatorial election results, while another used just gubernatorial and the most recent senatorial election. Both alternative measures of district lean produced qualitatively similar results to the measure outlined above. This was not surprising as the correlation coefficients across these three measures of district lean were never lower than .988, suggesting that district level partisan voting patterns are quite consistent across elections and offices. (These tests of robustness are not shown, but are available from the author upon request.)

Not only is the partisan lean of a district significant, but also the party label of each candidate him or herself. With 50 third-party candidates running for the Virginia House of Delegates during 2001, 2003 and 2005, they significantly impact the traditional two-party electoral process. When analyzing the impact of the Democrat and Republican Party labels on third-party candidates, Republicans are afforded an initial 13.757 percentage lead while Democrats benefit from an 8.047 vote percentage increase. When considering party label expenditures on third-party candidates, Republican expenditures provide a .411 percent increase per \$10,000 (1.211-.800). Similarly, Democratic candidate expenditures garner .622 percent of the vote per \$10,000 (1.211-.589). These findings demonstrate important strengths among the two parties against third-party candidates. The Republican Party label itself provides a larger initial percentage vote advantage compared to the Democratic Party label, while Democratic candidate expenditures provide a greater percentage of vote gains versus Republican expenditures, and third-party candidates benefit the most from additional campaign expenditures.

To further examine party expenditure effects, Graph 2 displays the five party's expenditures against mean vote percentage. The Green party can not be identified due to its small sample size and low levels of expenditures. Although the Libertarian expenditures are illustrated, the line disappears at \$50,000 because of the lack of significant spending on behalf of Libertarian candidates. The peculiarities of Independent candidate expenditures can be attributed to the small number of candidates and the bias of a few incumbent independent delegates who have raised tremendous sums of money compared to other Independent candidates. The two major party candidate expenditures demonstrate similar trends in their effectiveness of dollars spent per vote percentage. For Democrats and Republicans the marginal gains are greatest in the first \$100,000 spent with diminishing returns to marginal expenditures at higher levels of spending.

Graph 2: Party Expenditures and Mean Vote Percentage

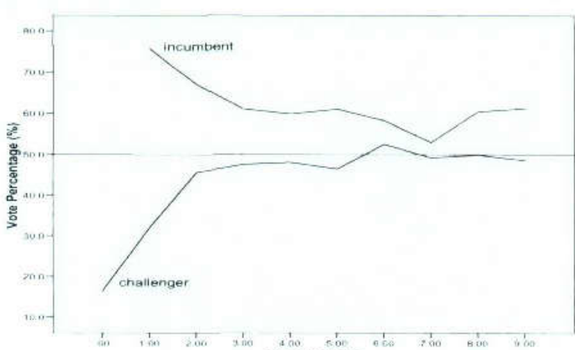


Table 4 presents separate regression analyses by the presence of a third party candidate in the election. advantage, but the returns to terms served become insignificant. All other results appear qualitatively similar to those found in Table 3.

Table 4: Regression Results by presence of a third party candidate
Dependent Variable is the Percentage of Votes Won

	No 3rd Party Candidate		3rd Party Candidate	
Constant	86.3222***		45.696***	
	(3.095)		(4.603)	
Terms Served	-.142	.027	.667**	.108
	(.218)		(.304)	
Incumbent	9.808***	.353	25.954***	.479
	(1.924)		(3.967)	
Expenditures	.517***	.439	1.267**	.534
	(.117)		(.277)	
Expenditures-squared	-.002	.098	-.005	-.073
	(.003)		(.008)	
Opponent's Expenditure	-.374***	.317	-.112*	-.079
	(.043)		(.059)	
Republican	-		16.527***	.299
			(3.351)	
Democrat	-4.638***	.173	7.361**	.133
	(1.338)		(3.416)	
Opponents' District Lean	-.756***	.586	-.382***	-.382
	(.047)		(.062)	
Incumbent Expenditure	-.278***	.223	-.578***	-.176
	(.092)		(.199)	
Republican Expenditure			-.943***	-.302
			(.267)	
Democrat Expenditure	.145*	.113	-.514***	-.176
	(.082)		(.273)	
Number of Observations	203		111	
R-Squared	.832		.899	

Note: *** indicates significant at the 1 percent level, ** at the 5 percent level, * at the 10 percent level. Standardized coefficients are resented in the right hand column of each specification.

Republicans have an edge over Democrats of approximately 4.6 percentage points, while Democrats enjoy greater returns to campaign expenditures. Similarly, incumbents receive lower returns to additional expenditures than challengers. Overall, the returns to campaign expenditures are lower when focusing on just two party candidate races. This is not surprising given our earlier finding that third party candidates have higher returns than major party candidates.

Column (2) of Table 4 presents the results for elections with three or more candidates running. Here incumbents enjoy an enormous 25.95 percentage point advantage, and a significant .667 returns to terms served. While incumbents enjoy an initial advantage over challengers in these three party races, the returns to third party challenger expenditures are significantly higher than for incumbents and major party candidates. In these highly contested races with three or more candidates, it appears that campaign expenditures play an even more important role in determining election results than in two candidate contests. For third party challengers each additional \$10,000 in campaign expenditures increases their vote share by approximately 1.3 percentage points. This is in contrast with a .7 increase for third party incumbents, and .3 increase for Republican challengers, and a .75 increase for Democratic challengers. In fact, the returns to campaign expenditures in three party races are estimated to be a negative .254 for Republican incumbents (1.267-.943-.578). It appears that third party candidates have the most to gain from campaign expenditures, and that Republican incumbents gain the least.

As an additional test of our conclusions, we ran separate regressions for each of the three (2001, 2003, and 2005) election years (Table 5). This allows the coefficients on each of the regressors to vary over time. Across all three elections we find that incumbents enjoy a statistically significant increase in the vote share relative to challengers. Additionally, while there are positive returns to the number of terms served across all elections, only in 2003 is it statistically significant. Opponents' district lean is also significant in all three elections, and the magnitude of the effect is increasing over time. This suggests that it is becoming harder for an opposition candidate to run in a partisan district. On the other hand, both the Republican and Democratic advantage over third party candidates declined from 2001 to 2005. In 2001, Republicans and Democrats benefited from a 19.7 and 16.3 advantage over third party candidates, respectively. By 2005, these advantages were reduced to only 4.9 and 5.7 percentage points. It is interesting to note that in 2001 Republicans had a 3.4 percentage point edge over their Democratic rivals, but that in 2005 it was the Democrats who had a .8 percentage point edge over the Republicans. The political landscape had clearly shifted over the four years, with Republicans losing 7 seats in the House of Delegates.

Table 5: Regression Results by year of election: Dependent Variable is the Percentage of Votes Won

	2001		2003		2005	
Constant	41.986***		56.610***		68.603***	
	(4.706)		(6.499)		(5.189)	
Terms Served	.432	.063	.942***	.215	.282	.042
	(.332)		(.331)		(.300)	
Incumbent	23.870***	.575	9.680*	.278	17.382***	.420
	(3.629)		(4.985)		(2.747)	
Expenditures ($10,000)	3.158***	1.073	1.873**	1.077	.681***	.511
	(.443)		(.738)		(.198)	
Expenditures--squared ($10,000)	-.027*	-.205	-.011	-.203	-.004	-.133
	(.015)		(.010)		(.003)	
Opponent's Expenditure ($10,000)	-.360***	-.149	-.321***	-.200	-.112***	-.105
	(.102)		(.099)		(.048)	
Republican	19.687***	.504	11.850***	.349	4.895*	.121
	(3.073)		(4.443)		(2.726)	
Democrat	16.323***	.417	4.709	.139	5.671*	.141
	(2.867)		(3.794)		(2.893)	
Opponents' District Lean	-.377***	-.314	-.450***	-.383	-.636***	-.524
	(.059)		(.080)		(.068)	
Incumbent Expenditure ($10,000)	-1.280***	-.419	-.271	-.145	-.332***	-.218
	(.267)		(.256)		(.110)	
Republican Expenditure ($10,000)	-1.720***	-.580	-1.116	-.589	-.292	-.191
	(.472)		(.786)		(.197)	
Democrat Expenditure ($10,000)	-2.001***	-.586	-.921	-.597	-.171	-.115
	(.445)		(.767)		(.197)	
Number of Observations	130		78		106	
R-Squared	.832		.865		.915	

Note: *** indicates significant at the 1 percent level, ** at the 5 percent level, * at the 10 percent level. Standardized coefficients are presented in the right hand column of each specification.

Throughout all of these changes, however, campaign expenditures remained significant in determining election outcomes. The magnitude of these effects, however, declined over the three election cycles. In 2001, each additional $10,000 in campaign expenditures increased a candidate's vote share by over 3 percentage points. This effect was significantly smaller for incumbents (1.878 percentage points), Republicans (1.438 percentage points), and Democrats (1.157 percentage points). By 2005, all of these effects had dropped dramatically. For challengers, each additional $10,000 in campaign financing increased the vote share by only .681 percentage points. For incumbents, it was only .349; for Republicans it was .389; and for Democrats it was a .51 percentage point increase in vote share for each additional $10,000 in campaign expenditures.

These separate regressions by election year illustrate that incumbency, party affiliation, district lean, opponent campaign expenditures, and one's own campaign expenditures are all significant in all of the years in determining election results, but that the magnitudes and relative importance of each of these effects varies across election cycles. Additionally, the influence of campaign expenditures varies not just over time, but also based on incumbency status and party affiliation. Third-party challengers consistently reap the highest returns to campaign expenditures, while incumbent Republicans have the lowest (or in some cases negative) returns to campaign expenditures.

CONCLUSION

The results summarized above indicate that campaign expenditures do have a statistically significant influence on the vote percentage received in the Virginia House of Delegates. With an R^2 of over .8 in all regressions, expenditures, incumbency, tenure, party label and district lean prove to be statistically significant and effective predictors of election results. The initial incumbency advantage presents a huge strategic disadvantage for challengers; however, challengers, and in particular third-party challengers, benefit from greater returns to campaign expenditures than incumbents.

We set out to test the hypotheses that: (1) campaign expenditures have a positive impact on vote shares; (2) that there are diminishing returns to campaign expenditures; (3) that the returns to campaign expenditures are greatest for third party, non-incumbent candidates, who benefit the most from increases in advertising and exposure that usually accompanies campaign expenditures. We can confidently conclude that in fact campaign expenditures for most candidates do in fact have a positive and statistically significant impact on election results. We find what might be characterized as weak support for diminishing returns to campaign expenditures. While the most parsimonious specification finds statistically significant quadratic effects of campaign expenditures on vote shares, these effects usually become insignificant with the introduction of interactions of incumbency and party affiliation with expenditures. This leads to our third hypothesis that the returns to expenditures are greatest for third-party challengers. This is clearly the case in Virginia House of Delegates elections. While it appears in some cases that Republican (the majority party in the Virginia House of Delegates) incumbents do not obtain significant returns to campaign expenditures, there are always positive and significant returns to campaign expenditures for third-party challengers and Democrats.

Although numerous variables were controlled for in the above regressions, there are a number of possible underlying factors that may have influenced the election outcomes that were not directly accounted for. Ignored in the results is the coat-tails effect from other elected officials running for higher office. Many times, election cycles containing state-wide or federal candidacies provide a large increase in voter turnout. This phenomenon can work in favor or against a candidate. Non-regular voters may come out to vote in favor of a higher office candidate and vote for other candidates of the same party that they would not have normally come out to vote for. Conversely, this could also bring out voters of the opposite party who will end up voting against a candidate even though they normally would not vote. This phenomenon may explain some of the changing results found across the three election cycles.

The implications of this paper and the scholarly articles before it have the potential to change the way modern-day campaigns are managed. In understanding the different facets that contribute to electoral success, campaigns may choose to shift their priorities away from fundraising after they have reached a certain threshold. Campaigns may also be afforded the ability to remain dynamic, recognizing when to shift away from the original campaign strategy depending on the finances of their opponent.

From a donor standpoint, knowing the significance of several variables within a specific district could provide for more effective allocation of campaign contributions. Donors could target races in which the marginal vote percentage payoff would be higher, such as third party challengers against incumbent Republicans. Conversely, individuals and state parties could avoid dumping hundreds of thousands of dollars into races that will prove to be losses. These findings may also dissuade candidates from investing their own money into races if the marginal returns prove to be inconsequential. Finally, the importance of campaign finance laws come into question with campaign expenditures potentially exhibiting diminishing marginal returns, with incumbents achieving significantly lower or even negative returns to expenditures. If candidates want to spend millions of dollars where they may potentially be no longer earning a significant percentage of the vote, the true value of publicly financing campaigns may be in doubt.

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