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Alexander Blumberg April 17, 2013

Campaign Finance in the Post-*Citizens United* Era: The Impact of Independent Expenditures on Electoral Outcomes

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An abstract of
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of Emory University in partial fulfillment
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Abstract

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While numerous studies in the past have examined the link between spending and electoral outcomes, the 2010 landmark Supreme Court decision *Citizens United v. Federal Election Commission* ushered in a new era of campaign finance in the United States that has not yet been thoroughly examined. This new era is marked by the potential for unlimited, anonymous donations by individuals, unions, and corporations to outside groups that led to dramatic increases in outside spending and independent expenditures. This study sought to determine, analyze, and explain what effect, if any, such increases in outside spending were having on vote share using a variety of methods culminating in several multivariate regression models. Using open-seat House races as the unit of analysis in order to avoid problematic incumbency effects, the results indicated that while authorized campaign spending remained statistically significant, outside spending was not. The results implied that such spending was not only poorly targeted, but also largely ineffective in having any impact on vote share in the 2012 election cycle – the first Presidential election cycle to be affected by the decision.

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Acknowledgements

I would like to express my overwhelming gratitude to Dr. Giles for his assistance and guidance throughout my process of completing this thesis. Without his wisdom, substantive feedback, and availability I would not have been able to complete a work of such quality or understand it in such detail.

I would like to thank my committee members as well, Dr. Abramowitz and Dr. Dowd for their assistance and guidance throughout the process. Dr. Abramowitz was of great assistance in refining my topic and finding new and otherwise unavailable district-level voting data. Dr. Dowd readily agreed to participate in my committee and has always been a supportive figure, both professionally and personally, while I have been a student here.

I would like to thank Rob O'Reilly for his reliably quick and useful help in locating and navigating many of the data sources that were used in the analysis.

I would also like to thank Dr. Klehr for his encouragement to begin this process and support as my academic advisor throughout my four years at Emory University.

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Introduction

Following the landmark 2010 Supreme Court decision, *Citizens United vs. Federal Election Commission*, American campaign finance was fundamentally changed. The decision asserted on First Amendment grounds that money was speech and struck down key provisions of the McCain-Feingold Act – one of two major legislative reforms of American campaign finance in the past 40 years. This decision removed several limits on corporations and unions in their use of "soft money." In particular, the decision allows for unlimited contributions to various groups including the infamous "super PACs." The decision coupled with the advent of these groups have caused independent expenditures**,** or advertisement expressly advocating the election or defeat of specific candidates, benefitting campaigns to increase dramatically. The 2012 election cycle, the first Presidential election cycle to be impacted by this decision, saw an increase in independent expenditures of about four to five times as much as was spent in 2008, the previous Presidential election cycle.

This increase in funds is important to examine for several reasons. Primarily, there is the long-standing assumption that money can influence the outcome of elections. If independent expenditures can have the same influence that authorized campaign spending has, then it could allow individuals, corporations, and unions to wield great potential influence due to the removal of contribution limits to these groups. Additionally, such influence could allow such contributors to have greater influence on policy decisions both by causing politicians sympathetic to their interests to be elected and by pressuring elected politicians with the electoral importance their donations offer.

In my thesis, I use the expenditure data from these groups to analyze what impact, if any, this increase in spending has had in the 2012 elections. Ultimately, I aim to answer the following

research question: How did changed spending practices following the *Citizens United* case affect electoral outcomes in the 2012 elections? I show how much spending has increased, and determine if it affected electoral outcomes this past November. I also examine the extent to which the spending was particularly skewed towards a specific party or certain types of candidates. To show the impact of this spending, I draw upon a study by Brad Alexander (2005) that attempted to measure the impacts of particular types of spending on electoral outcomes.

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A Brief History of Campaign Finance Regulation

Although money does not completely determine an election's outcome, it is an important part of every campaign. Fundraising is a time-consuming, but necessary and increasingly important part of every politician's job, as it is required for getting elected and remaining in office. A candidate must have enough funding at every point in the campaign to succeed - seed money to kick off the campaign and enough throughout the campaign to keep running until Election Day (Jacobson 2013). There are several legitimate concerns to be raised, however, over the details surrounding a campaign's financing. This research focuses on one such concern in particular - the impact of wealthy donors and corporations, and the influence their disproportionate contributions could have on governance.

The need for federal campaign finance regulation was first significantly recognized by President Theodore Roosevelt in 1905, calling for legislation to control the undue influence that corporate contributions were having on the political system. In his 1905 State of the Union address, Roosevelt strongly called for such reform saying:

> All contributions by corporations to any political committee or for any political purpose should be forbidden by law; directors should not be permitted to use stockholders' money for such purposes; and, moreover, a prohibition of this kind would be, as far as it went, an effective method of stopping the evils aimed at in corrupt practices acts. Not only should both the National and the several State Legislatures forbid any officer of a corporation from using the money of the corporation in or about any election, but they should also forbid such use of money in connection with any legislation save by the employment of counsel in public manner for distinctly legal services (Roosevelt 2006).

Congress responded by enacting several measures from 1907 through 1947. The major bills passed during this time included the Tillman Act of 1907, the Federal Corrupt Practices Act, the Hatch Act, the Smith-Connolly Act, and the Taft-Hartley Act. These various acts focused on limiting the influence of wealthy individuals, special interest groups, unions, and corporations on

influencing electoral outcomes. These acts also mandated public disclosure of campaign finances in order to deter improprietous actions (FEC, 2011).

In 1971, Congress consolidated the many acts regulating federal campaign finances via the Federal Election Campaign Act (FECA) which also created the Federal Election Commission (FEC) to enforce its provisions. This law requires campaigns to disclose their donors and restricts the amount of money that could be contributed per person or group to any given candidate. Several amendments strengthening the law and streamlining its enforcement were also added in 1974, 1976, and 1979 spurred by the release of reports of serious financial abuses in the 1972 Presidential elections won by Richard Nixon. (FEC, 2011). Although the purpose of this act was to reduce campaign costs generally and the influence of wealthy donors, the opposite in fact later occurred. The Supreme Court, through decisions that declared limits on campaign spending unconstitutional, opened the doorway for the rise of spending by political parties and political action committees (PACs), independent organizations that campaign for or against candidates, issues, or legislation. Further rulings detracted from the act, such as *Buckey v. Valeo* in 1976, which upheld federal contribution limits but removed limitations on what candidates could spend on their own personal campaigns, and *Colorado Republican Federal Campaign Committee v. FEC* in 1996, which led to independent spending becoming essentially unrestricted by outside groups such as political parties and PACs. These rulings lead to a large increase in "soft money," as opposed to more traditional "hard money" raised and spent directly by the campaign under the limitations set by FECA. Other groups established themselves as well, often as non-profit tax-exempt entities such as 527 political organizations or 501(c)(4) social welfare groups, named after the tax code regulating them (Jacobson 2013).

The unrestricted nature of raising and spending soft money essentially undermined any limits that the FECA intended to place on federal campaigns. The unregulated spending by political parties and issue advocacy groups grew greatly with each election cycle. In an attempt to remedy this regulatory failure, the Bipartisan Campaign Reform Act (BCRA), also known as the McCain-Feingold Act, was enacted in 2002 (Jacobson 2013). The BCRA prohibited political parties from raising and spending funds outside of federal limits, effectively banning soft money to political parties (Francia etc 2013), and instituted limitations on issue advocacy advertisements, by expanding the definition for the already limited "electioneering communications" as advertisements that directly named a candidate and by instituting similar limits for advertisements paid for by corporations including non-profit groups (FEC, 2012). Although some studies have indicated that the BCRA had mixed results in actually limiting the impact of outside spending, the campaign finance world undeniably experienced a dramatic shift following the Supreme Court's decision in *Citizens United vs FEC*, putting "the final touches on an unfettered system in 2010 (Jacobson 2013, 67)."

The 5-4 decision made in *Citizens United vs FEC* found a key provision of the BCRA unconstitutional on grounds that it violated rights granted via the First Amendment of the Constitution. The majority held that limiting independent political spending of individuals or organizations infringed upon the freedom of speech, and that organizations could spend unlimited amounts in support or against any candidate independently, although they are still subject to the same rules for hard money (Stone 2010). The court ruled that independent funds were not corruptive, and thus should not be viewed as a legitimate limitation on First Amendment rights. The practical effect of this ruling was to allow corporations to independently

spend money in support or against a given candidate without limit - a first in the modern campaign finance era (Francia et al, 2013).

The decision was handed down in late January 2010, and did have an immediately noticeable impact on the 2010 and 2012 election cycles. Independent expenditures increased dramatically to $288.7 million in 2010 from the previous midterm election cycle in 2006 in which a mere $59.8 million was spent (OpenSecrets, 2012). Further, roughly two-thirds of the independent expenditures in 2010 came from groups formed as a result of the *Citizens United* decision (Francia et al, 2013). An even larger increase in independent expenditures came in 2012, the first Presidential election cycle affected by the Supreme Court's decision. To offer some perspective, in 2008, $286.4 million was spent in independent expenditures. In 2012, independent expenditures exponentially increased to $1.06 billion, about four to five times more spending than occurred in the previous cycle (OpenSecrets, 2012).

After a further ruling by the U.S. Court of Appeals, *SpeechNow.org v FEC*, the ruling from *Citizens United* was applied to fully legitimize the so-called "super PACs," or independent expenditure-only committees. The Court ruled that non-profit organizations like SpeechNOW could accept contributions exceeding the individual limit of $5,000, and not register as a PAC or be subject to PAC reporting requirements. The Court ruled that because the organization was purely involved in independent expenditures and not contributing directly to candidates that such limitations would violate both the organization's and its donors' First Amendment rights. The Court further implied that corporations and unions may contribute unlimited amounts to independent expenditure-only committees as well. While these groups would still be required to report any expenditures, contributions and contributors would not be required to be reported.

These groups could now raise unlimited amounts of money in support of or against candidates, so long as they did not directly donate to or coordinate with a campaign (Francia et al, 2013).

The decision also allowed for unlimited contributions to 527 groups and 501(c) non-profit groups. These groups, like super PACs, can independently raise and spend unlimited amounts, but with a few key differences. 527 groups cannot directly advocate for or against a candidate, but instead must focus on voter mobilization and issue advocacy. However, by avoiding the use of certain words that would indicate such advocacy, they are able to still produce advertisements virtually indistinguishable from other campaign advertisements (Jacobson 2013). The 501(c) groups can directly advocate for or against a candidate, and have two key difference from super PACs. First, and most importantly, these groups are not required to disclose their donors, allowing complete anonymity to any individual or corporation seeking such a condition. Second, every group must officially maintain a non-political primary purpose - which in reality means that no more than 50% of the group's money can be spent directly on a political purpose or advertisement (Fisher 2012). Two types of 501(c) groups in particular have been involved in such political activity: 501(c)(4) social welfare groups and 501(c)(6) trade associations (Fang 2012). Although these groups officially maintain a non-political purpose, many organizations have used the lack of legal limitations these groups offer to their advantage. For example, several of these groups, including the NRA and the Sierra Club have spent significant amounts politically (OpenSecrets 2012).

These non-profit groups and super PACs have the potential to allow wealthy donors and corporations to increase their influence in campaign finance, and theoretically, the political system. For example, the former advisor to President George W. Bush, Karl Rove, established a super PAC called American Crossroads that received over 90% of its first year's budget from just

three billionaires (Francia et al, 2013). This super PAC, like many others, has also established a 501(c)(4) group arm, in this case Crossroads GPS, allowing donors to contribute anonymously if desired (Nichols and McChestney, 2012). Additionally, many super PACs receive considerable funds from 501(c)(4) groups in a way to retain donor anonymity while freeing up funds to be spent by super PACs without the 50% limit 501(c)(4) groups are held to. Some super PACs are actually almost entirely funded by their sister 501(c)(4) branch (Fisher 2012). These non-profit 501(c) groups have proven to be the biggest source of outside spending following the decision, outspending super PACs in 2010 with $141 million to their $65 million (Fang 2012).

Corporations are also able to wield influence by anonymously donating to 501(c)(4) groups or 501(c)(6) trade associations. These trade associations in particular have brought up concerns of foreign influences in elections. U.S. law prohibits foreign individuals and corporations from financially participating in elections, but this restriction can be somewhat sidestepped following the *Citizens United* decision. For example, one major trade association, the American Petroleum Institute, has been very involved in negative political advertisements since the 2010 decision yet has many foreign members, as well as multinational corporations with foreign executives who are able to weigh in on the group's spending decisions. Candidates elected with large amounts of money from different trade associations have in many cases already proven loyal allies to their interests in Congress (Fang 2012). The *Citizens United* decision has effectively allowed for any individual, corporation, or organization to spend without limit, and do so anonymously (Jacobson 2013).

Timeline of Major Campaign Finance Laws and Cases in the U.S.

Year	Act or Case	Result
1907	Tillman Act	Prohibited corporate donations to national campaigns; lacked enforcement mechanism
1910 – amended in 1911 and 1925	Federal Corrupt Practices Act	Established spending limits in Congressional elections; expanded corporate contribution limits; required campaign finance disclosures
1939	Hatch Act	Prohibited partisan activity by civil servants in order to end exchanges of contributions and patronage for employment
1943	Smith-Connally Act	Prohibited unions from donating to national campaigns
1947	Taft-Hartley Act	Prohibited unions and corporations from making independent expenditures in support of or against a candidate
1971 and continuing amendments	Federal Election Campaign Act	Created the FEC; consolidated previous campaign finance laws; placed legal limits on contributions; required financial disclosure from campaigns and committees
1976	Buckey v. Valeo	Removed limitations on what candidates could spend on their own personal campaigns
2002	Bipartisan Campaign Reform Act	Placed limits on soft money and issue advocacy advertisements in campaigns; does not regulate 527 organizations however
2007	FEC v. Wisconsin Right to Life, Inc.	Ruled the BCRA's restriction on issue advocacy advertisements in the months preceding an election unconstitutional
2010	Citizens United v. FEC	Held that limiting independent political spending of individuals or organizations unconstitutional; organizations could spend unlimited amounts in support or against any candidate independently
2010	SpeechNow.org v. FEC	Fully legitimized independent expenditure only committees, or "super PACs"

The Effects of Campaign Spending: Election Outcomes and Public Policy

Spending does not directly determine the outcome of an election, but it is a factor. The total amount of spending can serve as a useful measure of the total campaign effort in terms of how much the campaign has received in donations to spend. The donations reflect support for the candidate, successful events, and recognition of the candidate's quality and positions. The most difficult controversy in determining the effects of spending arises from the examination of incumbent versus challenger dollars. Although campaign spending is strongly correlated with electoral outcomes and generally accepted to have a statistically significant effect, the relationship changes once incumbency is examined. When challengers spend more, they tend to perform better, but when incumbents spend more they tend to perform worse. This is not a result of spending hurting an incumbent, but rather a reflection of the challenger. When an incumbent faces a serious threat, he or she must spend a greater amount against such a difficult challenger. These relationships are very difficult to measure, and require very sophisticated multivariate models to truly capture the effects of spending. Such models also suffer from serious issues that many critics claim overstate challenger spending and understate incumbency spending. It is generally accepted that ordinary least-squares regression models underestimate the effects of incumbent spending on votes – and there is no agreed upon solution in the academic community (Jacobson 2006).

While the legal avenues opened up by *Citizens United* undoubtedly present the opportunity for huge spending by individuals and organizations, to truly understand the practical impact the decision will have on the political world, it must be established whether campaign contributions affect decision-making in crafting public policy and legislative votes and whether this influx of new money into the election cycle will affect the electorate. The first of these

queries has been examined over the years based on important donors, both individuals and organizations, to key politicians.

Two studies in particular by Fellowes and Wolf look at the impact of business campaign contributions on voting behavior in Congress. Their study addressed a fundamental paradox in campaign finance - businesses contribute millions of dollars each election cycle, yet most studies found no significant correlation between campaign contributions and policy decisions. These studies instead found the contributions at best merely increased access to politicians rather than influencing their choices. Fellowes and Wolf, however, find several flaws in these studies that they attempt to correct and reassess such findings. They argue that previous models systematically undercounted business contributions by only including contributions directly from businesses and excluding contributions from business executives, who are often solicited for campaign contributions by their respective firms. They also hold that previous studies used highly inconsistent operational definitions for business policy, focusing only on certain industries with no regard for the wide array of policy instruments involved in Congress. After correcting these perceived flaws, Fellowes and Wolf find that "aggregate business campaign contributions do influence macro-level pro-business tax and regulatory policy votes (321)." They argue that in order to avoid the appearance of buying votes, incumbents will reward their contributors via tax and regulatory benefits rather than direct government expenditures that help business. By separating votes on pro-business non-expenditure bills, the researchers were able to establish a statistically significant relationship demonstrating evidence for campaign contributions directly influencing the policy-making process (Fellowes and Wolf, 2004).

A second study by Fellowes and Wolf expanded on these initial findings by showing that longer-serving incumbents who are in safer seats are increasingly likely to offer such benefits to

their business donors with each re-election. They argue that these collective findings exhibit a behavioral pattern of "tactical rationality (2)." Members of Congress with high indebtedness to business contributions and high re-election margins become increasingly likely to vote for tax and regulatory benefits for business while their colleagues with safe seats but without large amounts of business contributions become less likely to vote for these same measures. Fellowes and Wolf find that this logic of tactical rationality allows Members of Congress to reward their contributors in a rather masked manner, avoiding the appearance of impropriety (Wolf and Fellowes, 2004).

The next practical impact that must be established is the impact this new influx of money will have on the electorate. Although the *Citizens United* decision was only two years ago, there have already been a few studies conducted, mostly surrounding the 2010 election, that attempt in some way to measure the impact this decision has had or will have. One such study conducted by Muntean examines campaign finance from the passage of the BCRA until the *Citizens United* decision in an attempt to predict what will occur in future election cycles. Muntean performs an analysis that looks at independent expenditures between 2003, when the BCRA took effect, to early 2010, and the time of the *Citizens United* decision. He finds that businesses with a principal owner - a single entrepreneur or founding family - were more likely to contribute to independent political organizations overall, and were much more likely to contribute greater amounts than those firms without a principal owner that made political contributions. Muntean uses these findings to challenge the conventional wisdom that the largest corporate players in campaign finance are publicly traded and agent-managed firms and makes a few predictions regarding the post-*Citizens United* campaign finance era. He argues that once the extent of return from independent expenditures is established, if a positive return occurs, corporate political

expenditures will increase dramatically. He also argues that principal owners will have an increased incentive to support their interests financially with the lack of disclosure rules, or anonymity, that 501(c) and 527 groups offer. By donating to these groups, principal owners will not have to consider any potential hostility from their employees or the media following their choices or level of financial support. It is predicted that these principal owners will support independent groups based on both ideological and business values, and that there will be a significant increase in "the least transparent, least regulated and unlimited form of campaign contributions (Muntean, 2012, 29)."

Another study was conducted by Brooks and Murov to assess how a negative advertisement's sponsorship affects the effectiveness of the advertisement. In light of the rampant growth of political advertisements following the decision, this study examined how advertisement sponsorship by unknown independent groups as opposed to official campaign advertisements would affect public reception - a previously overlooked area of study. Brooks and Murov conducted a large-N survey-based experiment on a random sample of U.S. adults to assess this impact. They found that advertisements that were sponsored by unknown independent groups had a higher net effectiveness, which they define "in a two-candidate race" as "persuasion (movement of the target downward in terms of favorability) minus backlash (movement of the beneficiary of the negative ad downward in terms of favorability)" (288). Under this definition, an advertisement is more effective when its persuasiveness lowers support against the opponent to a greater extent than it causes backlash against the candidate it is intended to help (Brooks and Murov, 2012). These findings are important in that they establish that there is an effect from this new wave of political advertising following *Citizens United,* and due to their overall greater net

effectiveness, there is incentive to continue and even increase the amount of independent spending in a given election.

Research conducted by Franz goes further in attempting to understand the impact of the *Citizens United* decision on the 2010 elections, and attempts to answer a wide variety of questions including the changed levels in spending, the effect of such spending on the outcome of Congressional races, and how the power of political parties and their ability to compete with special interests in supporting candidates has shifted. The study begins by showing the dramatic increases in spending over time, with an emphasis on the spike between 2008 and 2010 in outside independent spending. Franz, however, compares the proportional rates of outside spending with figures from past election cycles, and finds them to be relatively in line with such data - ultimately arguing that *Citizens United* has not had as large of an impact as it has been made out to be. He argues that the impact has been overstated, and that the decision did not affect electoral outcomes in 2010, nor has it substantially affected any political party so far (Franz, 2010). However, Franz's study falls short in a few key areas. The main issue with his work is the timing of his publication. His findings are somewhat suspect due to the fact that the *Citizens United* decision had what could be expected to be a more limited impact in 2010 than it will in future election cycles. Due to the timing of the decision, the 2010 election cycle was less impacted by the changed spending practices. Additionally, the nature of a midterm election cycle is fundamentally different and the study took place during a more severe economic recession which could have affected spending as well.

Overall, however, there is a dearth of scholarly literature regarding this new era of campaign finance, largely due to the novelty of the situation - 2012 marks the first full election cycle under which the *Citizens United* decision has been in effect. As Jacobson notes, there is a

generally accepted effect of spending on electoral outcomes, largely because spending is viewed as a reflection of total campaign effort and success (2006). However, *Citizens United* presents a new situation – the old models of donations to campaigns and PACs with strict limits no longer accurately portray the reality of campaign finance. Unlimited donations from individuals, corporations, and unions with total anonymity have the potential to place very different impacts and pressures on the political system, electorate, and campaigns. The scholarly inquiries that have been conducted so far have focused more specifically on effects such as the effectiveness of advertisements or propensity to contribute. The only article looking at the effects on electoral outcomes pursued the question in a limited timeframe, with findings that for many reasons could be inaccurate or incomplete. Therefore, the research that will be conducted in this paper serves as an original work that addresses a fundamental question in contemporary campaign finance.

Statement of Hypotheses

Hypothesis 1: *If independent expenditures are higher for a given candidate, then that candidate will receive a higher share of the vote.*

Hypothesis 2: *If expenditures by a candidate's authorized committees are higher for a given candidate, then that candidate will receive a higher share of the vote.*

Hypothesis 3: *If overall spending is higher for a given candidate, then that candidate will receive a higher share of the vote.*

The existing literature has indicated that spending can be tied to a generally predictive effect in electoral outcomes. However, this theory has not yet been tested in the wake of the *Citizens United* decision, which has led to a dramatic increase in independent expenditures in particular. It is plausible that a similar causal mechanism will be present regarding independent expenditures and the increased amount of overall spending that has resulted relative to prior elections. Additionally, the literature that does exist so far regarding the decision has found that the negative advertisements in particular, which have constituted the majority of the independent spending, from such independent groups like Super PACs and 501(c) groups have had a strong net effectiveness, presumably resulting in the desired impact on the electorate. Therefore, I hold that independent expenditures will be distinctively predictive in affecting vote share.

Current theory supports the notion that any type of spending will have a predictive effect upon vote share. I will first test vote share for a correlation with total spending to establish the impact of spending as a whole, and then separate spending into two categories: independent expenditures and official campaign spending (expenditures from the candidate's authorized committees). By separating total spending into these two categories, I will be able to test the relative impact of independent expenditures compared to the campaign's own spending, whether either type of spending has a statistically significant effect on vote share, and whether one type of spending or the other is more predictive of vote share. Despite many claims about the effects

of increased expenditures in the media, such theory and hypotheses have not been tested in any significant capacity since the *Citizens United* decision.

Arguments have been made on the opposite side holding that there is no significant effect on the electoral process following this decision. Proponents of such a view make two major arguments. First, that there is an issue of marginality, or a "ceiling effect." Given the already high volume of money flowing into elections, it can be argued that this increase in money does not have a substantial effect on voters – that they are already inundated with campaign messages and this marginal increase will not make a difference. Second, an argument can be made for offsetting funds. If money comes in from super PAC and other groups for both candidates, the increase in funds on both sides could offset each other and have a neutral net effect. On both counts, however, I disagree. I think that given the exponential increase in independent expenditures – about four to five times as much as before – there will be a tangible impact on electoral outcomes. I also doubt the offsetting funds argument, as first-glance data from OpenSecrets shows a strong skew in favor of spending toward the Republican Party (OpenSecrets, 2012). However, I will look for both of these effects by testing for a nonlinear relationship to examine if a ceiling effect is present. Additionally, my model will take into account offsetting funds by testing for spending effects as a difference of spending in favor of a candidate minus spending against a candidate. Ultimately, I will try to demonstrate whether or not these independent expenditures can have a decisive effect on electoral outcomes or not.

Data

The unit of analysis is contested open-seat races in the U.S. House of Representatives in the 2012 elections. I chose open-seat House races as my unit of analysis primarily because it removes the issue of incumbency that was discussed earlier. There are considerable issues with incumbent dollars compared to challenger dollars, as well as other problems such as name recognition and the fact that incumbents tend to scare off high-quality challengers. The effects of incumbency are difficult to objectively measure, and open-seat races allow me to test for the effects of spending without having to compensate for the difficulties that incumbency presents. Additionally, these races can be expected to be highly competitive, as open-seats account for a disproportionately high amount of the newcomers to each new Congress. This competitiveness in turn encourages substantial spending on both sides that can demonstrate my predicted effect. I decided to not include Senate or Presidential elections in my sample, even though I ultimately want to generalize my findings to such races. These races would not add a considerable increase to my sample size, but would add a host of difficult issues to control for such as national dynamics, increased media exposure, and in the case of the 2012 Presidential race, incumbency issues as mentioned earlier.

I define an open-seat Congressional race as any race in which both the Democratic and Republican candidates did not serve in the prior 112th Congress. As a result of the redistricting that took effect between the 112th and current 113th Congresses, some members of the House chose to run in a different district than the one they had held in the prior Congress due to changed demographics, or because the redistricting led to the geographical area they had previously represented being moved into a differently numbered district. For example, the Clerk of the U.S. House of Representatives lists Arizona's 3rd district as an open-seat race because its

incumbent, Ben Quayle, retired. However, following the redistricting the 3rd district largely mirrors what was previously Arizona's 7th district, and its incumbent, Raul Grijalva, successfully won the 3rd district's election in 2012 after serving the 7th district since 2003. Because of the redistricting there were several cases like this that I excluded from my sample as they would hold the very incumbent effects I wished to avoid. Using my definition, I excluded the races that included incumbents from the 112th Congress and also excluded one race in Massachusetts that did not have a Republican candidate. This definition left a total sample size of 57 races including new districts created via reapportionment following the redistricting as well as retiring incumbents. Following this exclusion, I had to exclude seven more races. Two districts were missing data on one or more of my variables, and five districts included a candidate who did not meet the very low threshold requiring them to file FEC reports – which signaled a lack of competitiveness in the race as well as a result of missing data in those races. After this exclusion, I was left with a final sample size of 50 contested open-seat elections for my analysis.

My dependent variable is the Republican share of the vote[1]. The data for this variable were gathered from a dataset for the 2012 House elections popular vote compiled by David Wasserman, the House Editor for the Cook Political Report. The use of vote share as the dependent variable allows my analysis to explore which type of spending, if any, has a statistically significant effect on actual vote share, and to what extent. I chose to use the Republican vote share rather than the Democratic vote share as my dependent variable simply because more independent expenditures are spent in favor of Republican candidates.

[1] The results were also tested using the major-party share of the vote for both the dependent variable and Romney vote share measure of partisanship control variable. The results did not using the major-party vote share - they were consistent and relatively unaffected. I chose to use the exact vote share instead to best reflect the actual change in votes as a result of spending practices.

My primary explanatory variable is independent expenditures on both sides for each open-seat House race. OpenSecrets has data compiled from FEC reports by Congressional race with this data available in four distinct categories: spending for and against the Republican candidate, and spending for and against the Democratic candidate. I use these four categories to create a difference that represents the net spending in favor of the Republican candidate by adding the totals spent in favor of the Republican candidate and against the Democratic opponent, and then subtracting the totals spent against the Republican candidate and in favor of the Democratic opponent. This difference represents the net spending for or against a candidate from independent expenditures and accounts for any effect from offsetting funds.

I control for three additional variables. First, I control for the regular spending of each campaign – money spent by the campaign itself through its authorized committees. I computed and compiled this data myself using raw data available from the FEC totaling spending by every candidate who filed a FEC report in the 2012 Congressional elections. The FEC data details the total disbursements by a candidate's authorized committees and transfers between authorized committees were subtracted from this total figure to eliminate double counting of money, and provide an accurate figure for the amount spent by the campaign. After arriving at these figures, I subtracted the money the Democratic opponent spent from the money the Republican candidate spent to arrive at a net spending figure. This difference represents the net spending for or against the Republican candidate from the campaigns' authorized committees and accounts for any effect from offsetting funds.

Second, I control for the relative partisanship of each district using the percentage of the vote the Republican party's nominee received in the Presidential vote by Congressional district. This variable shows the percentage of the district that voted for Mitt Romney. I received this data

from Dr. Alan Abramowitz in the Emory University Political Science Department. This control variable allows my model to account for the differing levels of baseline partisanship in each district.

Using the Romney vote percentage as a measure of baseline partisan division is somewhat problematic. It is a single election and contemporaneous with the dependent variable. The former raises an issue of reliability (measurement at one point in time) and the latter that of endogeneity; to some extent the Romney vote in a district reflects baseline Republican support but it may also partially reflect the "coat tail" effects of the Republican congressional candidate. In short, the magnitude of the Romney vote share to some extent may be driven by the dependent variable, the Republican vote share. To assess the robustness of my results and to address partially at least the endogeneity issue, I used an alternative measure of partisan strength constructed by the Daily Kos, a political blog. This measure, Republican Partisanship Estimate, is constructed using results from statewide races from 2006-2012. The measure was available for 43 of the 50 districts in my sample.

Third, I control for candidate quality. This is the most difficult variable to measure, as it is the most subjective and problematic. However, it is important, as candidate quality can clear the primary field and affect the overall outcome of a race, especially if the challenger pales in relative comparison. I have defined a quality candidate on the basis of whether the candidate has previously held any elected political office. Although this is a relatively simplistic measure, and can conceal significant variation in the level of prestige and power of the elected office, my other control variables of regular campaign spending and partisanship should help control for candidate quality as well – higher quality candidates would ostensibly bring in more campaign donations and lower quality candidates are more likely to be present in districts that are heavily

weighted against them in terms of partisanship. I will use two dichotomous variables of 0 or 1 to represent a Democratic or Republican advantage in candidate quality. If both candidates have previously held an elected office, or if neither candidate has held an elected office, then both dichotomous variables will be valued at 0. However, if the Democratic candidate has previously held an elected office, and the Republican candidate has not, the first dichotomous variable will be set at 1 and the second dichotomous variable at 0 to represent a Democratic advantage in terms of candidate quality. The opposite will occur in the case of a Republican advantage in candidate quality.

My primary multivariate regression model separates spending into two distinct categories – the net differences for a candidate in terms of outside spending and spending by the campaign itself. However, I also conduct a secondary multivariate regression model that combines these two differences into a figure representing total spending to examine the net effect of spending as a whole. While I predict both types of spending to have a statistically significant effect, it is possible that one or both of these spending variables may not be statistically significant. This secondary model allows me to measure the effect that spending as a whole has on vote share rather than each distinct type.

Additionally, I test for a nonlinear relationship to exclude the possibility of a ceiling effect being present. As previously discussed, the dramatic spending increases in the wake of *Citizens United* could have an effect, but only up to a certain spending ceiling. I conduct three additional regression analyses to test for such a nonlinear relationship. The first two additional models test for a nonlinear relationship with the two spending variables. The first model squares the outside spending variable to test for a nonlinear relationship, and the second model squares the authorized campaign spending variable to test for a nonlinear relationship in that variable as

well. The third model squares the total spending variable to test for a nonlinear relationship in overall spending. All three models include all control variables.

Analysis

My analysis proceeds in five steps. First, I examine the distribution of my dependent and independent variables. Second, I examine the correlation among the independent variables. This provides a better picture of how partisan strength may influence levels of spending and the quality of candidates in districts. Third, I examine the uncontrolled bivariate relationships between the dependent and the independent variables. Fourth, I employ multivariate analysis to test my hypotheses and finally, test the robustness of my findings.

Variables' Summary Statistics

Table 1: Summary Statistics for All Variables

Variable	Mean	Standard Deviation	Minimum	Maximum
Republican Vote Share	48.21%	12.29%	25.77%	76.18%
Net Outside Spending	$74,828	$307,832	-$1,144,964	$968,059
Net Campaign Spending	$9,832	$ 1,441,647	-$5,203,362	$3,218,014
Total Net Spending	$84,660	$1,569,496	-$5,239,766	$3,228,796
Candidate Quality – Dem Adv	0.30	0.46	0	1
Candidate Quality – Rep Adv	0.16	0.37	0	1
Romney Vote Share	49.06%	12.82%	27.00%	78.10%

The Republican share of the vote in open-seat races ranged considerably, from 25.77% to a landslide victory of 76.18%. The vote share had a mean of 48.21% and a standard deviation of 12.29%. Predictably, these summary statistics are quite close to Mitt Romney's share of the vote in each district, with a mean of 49.06% and standard deviation of 12.82%. Despite a minority share on average, the Republican Party won 26 seats and the Democratic Party won 24 of the 50 open-seat races in the study.

The two vote share variables as well as the spending variables had considerable variation race by race, which was expected. Although open-seat races could be expected to be more competitive and attract more spending, some races were in districts that were heavily Republican or Democratic, and although challengers were run, they realistically had no chance of success. These races obviously were not very competitive and attracted significantly less outside spending, as well as fewer donors to the campaigns themselves and less incentive for those campaigns to spend significant sums. These less competitive races demonstrate the importance of controlling for partisanship in each district in the multivariate regression models conducted.

The means of the candidate quality variables indicate the percentage of races in which the Democratic or Republican party had an advantage. There was a Democratic candidate quality advantage in 30% of the open-seat House races, and a Republican candidate quality advantage in 16% of the open-seat House races. Although the limitations of this variable were previously discussed, I believe that this method was successful in operationalizing candidate quality advantages and presents an effective measure to control for and readily examine the effects of candidate quality on vote share in the regression models.

Relations among the Independent Variables

In order to fully understand the effects present in my model, the relationships between the independent variables must be examined. For several of my independent variables, there are complex relationships that exist between them that must be understood to, in turn, understand the regression analysis. The relationships between some of these variables are discussed here to provide such a context using both theoretical framework and Pearson correlation-coefficients.

The most concerning variable in my analysis is partisanship, measured by the Romney vote share. As can be seen in Table 6, the Romney vote share explains 90% of the variance in the

Republican vote share, causing concerns about the meaning of my model's overall fit given the inclusion of this control. However, this variable is related in part to the other independent variables in my model.

In Table 2, I examine the relationship between baseline Republican partisan support in the district and spending. I use both the Romney vote share and the alternative measure, the Republican Partisan Estimate.

Table 2: Correlations of Spending Variables with Romney Vote Share

Spending Variable	Correlation with Romney Vote Share (n=50)	Correlation with Republican Partisanship Estimate (n=43)
Net Outside Spending	0.1093	0.1603
Net Campaign Spending	0.5667	0.5606
Total Net Spending	0.5420	0.5359

The correlations with the spending variables are fairly similar for the two measures of partisanship. The correlations between partisanship and outside spending are positive, but relatively weak. This indicates that independent expenditures occurred with almost no consideration to the partisan advantage in a given district. This could be due to compensatory spending by outside source. That is, outside sources spending disproportionately in districts where candidates received limited support from traditional sources of authorized campaign funds. It also could be a reflection of an attempt on the part of independent expenditure groups to increase the competitiveness of races in districts with a partisan disadvantage. In contrast, the correlations between the net campaign and total spending variables and partisanship are moderately strong. These correlations indicate that the authorized campaign funds increase as the Republican Party's advantage increases within a district.

Table 3: Means of Partisanship Measures between Candidate Quality Advantages

Variable	Romney Vote Share (n=50)	Republican Partisanship Estimate (n=43)
Democratic Advantage	42.47% (n=15)	43.26% (n=14)
Republican Advantage	52.58% (n=8)	54.89% (n=8)
No Advantage – Both High Quality	47.25% (n=15)	47.25% (n=14)
No Advantage – Both Low Quality	57.20% (n=12)	54.30% (n=7)

Table 3 is used to examine the difference between the Romney vote share measure and the statewide estimates measure in how each measure captured the effects of candidate quality advantages. The table shows the means of the two partisanship measures for each of the different candidate quality advantage possibilities. The means between these variables indicate that the statewide estimate of partisanship better captures the effects of candidate quality when there is a clear advantage on either side, probably because it is drawn from a number of races and less vulnerable to the effects of one candidate, in this case Mitt Romney.

Table 4: Correlations between Spending Variables

Variable	Net Outside Spending	Net Campaign Spending	Total Net Spending
Net Outside Spending	1		
Net Campaign Spending	0.3270	1	
Total Net Spending	0.4965	0.9827	1

The relationships between the spending variables themselves, as well as the relationships between the spending variables and candidate quality must be considered as well. Tables 4 and 5 examine these relationships. Table 4 shows the correlations between the spending variables. The correlation between net campaign spending and total net spending is particularly interesting. This

correlations in Table 4 indicate that the total net spending variable is much more heavily related to campaign spending than outside spending (independent expenditures). Such a result would explain why both campaign and total spending were statistically significant in the initial bivariate analysis later while net outside spending was not. The two sources of spending, outside funds and campaign funds, have a moderately positive correlation, indicating the they are not both fully driven by the same considerations, which is consistent with the conclusions drawn from Table 2.

Table 5: Means of Spending Variables between Candidate Quality Advantages

Candidate Quality	Net Outside Spending	Net Campaign Spending	Total Dem Outside Spending	Total Dem Campaign Spending	Total Rep Outside Spending	Total Rep Campaign Spending
Democratic Advantage (n=15)	$ 16,788	-$558,995	$180,604	$1,356,693	$197,392	$797,698
Republican Advantage (n=8)	-$16,111	$44,052	$276,309	$1,029,335	$260,198	$1,073,388
No Adv – Both High Quality (n=15)	$67,449	$ 14,081	$558,210	$1,349,720	$625,659	$1,363,801
No Adv – Both Low Quality (n=12)	$217,230	$ 692,741	$559,256	$674,409	$776,486	$1,367,150

Table 5 shows the means of the net Republican advantage spending variables as well as several raw measures of spending for both parties. The means offer interesting results, indicating that overall Republican candidates spent more money in most races in terms of both outside spending and authorized campaign spending.

The results also indicate that more money is likely to be spent in races in which there is no candidate quality advantage – that is, either both candidates are low or high quality – rather than in races with a clear partisan candidate quality advantage. The Democratic candidates only

have a marked advantage in expenditures in districts where they enjoy a quality advantage. Democratic candidates are distinctively disadvantaged in districts where neither candidate is high quality. In these districts the Republican candidate has a net Campaign spending advantage of roughly $560,000 and an Outside spending advantage of approximately $217,000. This probably reflects the partisan advantage enjoyed by Republicans in these districts as seen in Table 3.

Initial Bivariate Analysis

Before examining the full multivariate model I constructed, I used an initial bivariate analysis to observe the uncontrolled relationships between each independent variable and the dependent variable, Republican vote share. Each row in the following table shows the uncontrolled relationships between each independent variable and the dependent variable according to the following model:

$$VSR = b_o + b_1 X$$

Where VSR is the Republican vote share and X represents each independent variable in turn.

Table 6: Initial Bivariate Analysis

Unit of Analysis: Open-Seat House Races in the 2012 Election

Independent Variable	Coefficient	Standard Error	T-statistic	Probability Levels	Adjusted R^2
Net Outside Spending	5.04e-08	5.72e-08	0.88	0.38	-0.0046
Net Campaign Spending	5.18e-08	9.78e-09	5.30	0.00	0.3558
Total Net Spending	4.57e-08	9.19e-09	4.97	0.00	0.3258
Candidate Quality – Dem Adv	-0.11	0.04	-2.99	0.00	0.1392
Candidate Quality – Rep Adv	0.08	0.05	1.64	0.107	0.0336
Romney Vote Share	-0.91	0.04	21.41	0.00	0.9033
Republican Partisanship Estimate	1.16	0.09	12.61	0.00	0.7899

n=50 for all variables except Republican Partisanship Estimate (n=43)

The initial bivariate analysis indicates that there is a statistically significant relationship (albeit with highly varying degrees of fit) between vote share and the net authorized campaign spending, both candidate quality variables, partisanship as measured by the Romney vote share in 2012, and overall spending. The results also indicate that there is no significant bivariate relationship between vote share and independent expenditures, with an adjusted R^2 indicating virtually no explanation of the variance.

Hypotheses Testing: Multivariate Analysis

In order to test the impact of independent expenditures in particular as well as authorized campaign expenditures on vote share, I created my primary multivariate model that was previously discussed. The model can be summarized as follows:

$$VSR = b_o + b_1 OSR + b_2 ACSR + b_3 CQDA + b_4 CQRA + b_5 RomneyVS$$

Where VSR is the Republican vote share, OSR is the net difference in outside spending benefiting the Republican candidate, ACSR is the net difference in authorized campaign spending benefitting the Republican candidate, CQDA is a dichotomous variable representing the presence or absence of a Democratic advantage in candidate quality, CQRA is a dichotomous variable representing the presence or absence of a Republican advantage in candidate quality, and RomneyVS is the vote share that Mitt Romney received in the district.

Table 7a: Multivariate Regression Analysis for Primary Model

Unit of Analysis: Open-Seat House Races in the 2012 Election

Independent Variable	Coefficient	Standard Error	T-statistic	Probability Levels
Net Outside Spending	3.07e-07	1.73e-06	0.18	0.86
Net Campaign Spending	8.80e-07	4.42e-07	1.99	0.05
Candidate Quality – Dem Adv	-1.11	1.19	-0.93	0.36
Candidate Quality – Rep Adv	3.80	1.42	2.68	0.01
Romney Vote Share	0.83	0.05	17.03	0.00
Constant	7.24	2.56	2.83	0.01

n = 50

Adjusted R^2 = 0.9206

The results for the primary multivariate regression model are presented in Table 7. The results indicated that the coefficients for the net difference in outside spending benefitting the Republican candidate and the presence of a Democratic advantage in candidate quality were not statistically significant at the 95% confidence level. All other coefficients were statistically significant and met this 95% confidence threshold. The overall fit of the model was quite high, with an adjusted R^2 of 0.92; this model explains about 92% of the variance in the Republican vote share in open-seat House races. As indicated in Table 6, much of this fit is attributable to the partisan strength variable.

According to the results of this regression model, outside spending was far from having a statistically significant effect. However, the authorized campaign spending, the presence of a Republican advantage in candidate quality, and the partisanship of a district did have a statistically significant impact on the candidate's vote share. All three of these variables are statistically significant at the 0.05 level.

The results for outside spending were not statistically significant, which I did not expect, but there was a statistically significant impact from the net spending that was authorized by the campaign. The estimated coefficient seems incredibly small at first glance, 8.80e-07. However, the coefficient indicates that a campaign can make an impact in 0.88% of the vote share by outspending their opponent by $1,000,000. While this percentage may still seem small, such an impact can make a decisive difference in very competitive races and is noteworthy.

Predictably, the results for Romney's vote share were statistically significant. The more interesting results from the regression model are from the Republican advantage in candidate quality. Such an advantage was not only statistically significant at the 0.01 level, but appears to have a powerful effect as well. The presence of an advantage in Republican candidate quality, or when the Republican candidate had held prior elected office and the Democratic candidate had not, had an estimated coefficient of 3.83. This estimate indicates that such an advantage offers a 3.83% benefit in vote share, a surprisingly strong effect relative to the other variables included in the analysis.

In order to test the impact of spending overall on vote share, I created my secondary multivariate model that was previously discussed. The model can be summarized as follows:

$$VSR = b_o + b_1 TSR + b_2 CQDA + b_3 CQRA + b_4 RomneyVS$$

Where VSR is the Republican vote share, TSR is the net total spending benefitting the Republican candidate (sum of the net difference in outside spending benefiting the Republican candidate and the net difference in authorized campaign spending benefitting the Republican candidate), CQDA is a dichotomous variable representing the presence or absence of a Democratic advantage in candidate quality, CQRA is a dichotomous variable representing the

presence or absence of a Republican advantage in candidate quality, and RomneyVS is the vote share that Mitt Romney received in the district.

Table 8: Multivariate Regression Analysis for Secondary Model

Unit of Analysis: Open-Seat House Races in the 2012 Election

Independent Variable	Coefficient	Standard Error	T-statistic	Probability Levels
Total Net Spending	8.13e-07	3.77e-07	2.16	0.04
Candidate Quality – Dem Adv	-1.10	1.17	-0.92	0.36
Candidate Quality – Rep Adv	3.85	1.39	2.77	0.01
Romney Vote Share	0.83	0.05	17.68	0.00
Constant	7.04	2.44	2.88	0.01

n = 50

Adjusted R^2 = 0.9222

The results for the secondary model testing for an impact from spending overall are presented in Table 8. The results from the control variables were very similar to the primary model. The candidate quality advantage was statistically significant for Republicans while the Democratic variable was not; the Romney vote share was also still statistically significant. The adjusted R^2 was also very similar, explaining about 92% of the variance in the Republican vote share as well.

To examine the possibility of a ceiling effect for spending being present, I created three additional multivariate regression models to test for a nonlinear relationship. In each model, I squared one of the spending variables and ran the regression using both the unsquared and squared versions of the variable, along with all other control variables. These models were especially important for the outside spending variable, as it was the only spending variable that

lacked a statistically significant effect. Therefore, the possibility of a nonlinear relationship had to be examined. Although both authorized campaign spending and the total spending had statistically significant effects, it is possible that the operation of a ceiling effect downwardly biased the estimate of the effect of spending on vote share. If a ceiling effect is present, the unsquared term for spending will have a positive sign and the coefficient for the squared term will have a negative coefficient, indicating that the effect of spending on vote share is positive but diminishing as spending increases.

The first additional model I tested was whether outside spending had a nonlinear relationship with Republican vote share. The model can be summarized as follows:

$$VSR = b_o + b_1 OSR^2 + b_2 OSR + b_3 ACSR + b_4 CQDA + b_5 CQRA + b_6 RomneyVS$$

Where VSR is the Republican vote share, OSR^2 is the net difference in outside spending benefiting the Republican candidate squared, OSR is the net difference in outside spending benefiting the Republican candidate, ACSR is the net difference in authorized campaign spending benefitting the Republican candidate, CQDA is a dichotomous variable representing the presence or absence of a Democratic advantage in candidate quality, CQRA is a dichotomous variable representing the presence or absence of a Republican advantage in candidate quality, and RomneyVS is the vote share that Mitt Romney received in the district.

Table 9: Multivariate Regression Analysis for Testing Outside Spending Nonlinearity

Unit of Analysis: Open-Seat House Races in the 2012 Election

Independent Variable	Coefficient	Standard Error	T-statistic	Probability Levels
Net Outside Spending	7.68e-08	1.77e-06	0.04	0.97
Net Outside Spending Squared	1.58e-12	2.19e-12	0.72	0.47
Net Campaign Spending	9.57e-07	4.57e-07	2.10	0.04
Candidate Quality – Dem Adv	-0.93	1.22	-0.76	0.45
Candidate Quality – Rep Adv	3.60	1.45	2.48	0.02
Romney Vote Share	0.83	0.05	16.95	0.00
Constant	7.04	2.59	2.71	0.01

n = 50

Adjusted R^2 = 0.9198

The results of this regression analysis indicated that there was not a statistically significant effect in the outside spending variable, or the squared outside spending variable. Therefore, it can be concluded that a nonlinear relationship is not probable in this case of outside spending.

The second additional model I tested was whether authorized campaign spending had a nonlinear relationship with Republican vote share. The model can be summarized as follows:

$$VSR = b_o + b_1 RSR^2 + b_2 OSR + b_3 ACSR + b_4 CQDA + b_5 CQRA + b_6 RomneyVS$$

Where VSR is the Republican vote share, RSR^2 is the net difference in authorized campaign spending benefitting the Republican candidate squared, OSR is the net difference in outside spending benefiting the Republican candidate, ACSR is the net difference in authorized campaign spending benefitting the Republican candidate, CQDA is a dichotomous variable representing the presence or absence of a Democratic advantage in candidate quality, CQRA is a

dichotomous variable representing the presence or absence of a Republican advantage in candidate quality, and RomneyVS is the vote share that Mitt Romney received in the district.

Table 10: Multivariate Regression Analysis for Testing Campaign Spending Nonlinearity

Unit of Analysis: Open-Seat House Races in the 2012 Election

Independent Variable	Coefficient	Standard Error	T-statistic	Probability Levels
Net Campaign Spending	1.16e-06	4.73e-07	2.46	0.02
Net Campaign Spending Squared	1.92e-13	1.27e-13	1.52	0.14
Net Outside Spending	7.33e-07	1.73e-06	0.42	0.67
Candidate Quality – Dem Adv	-1.05	1.18	-0.89	0.38
Candidate Quality – Rep Adv	3.97	1.40	2.83	0.01
Romney Vote Share	0.82	0.05	16.89	0.00
Constant	7.29	2.53	2.89	0.01

n = 50

Adjusted R^2 = 0.9229

The results of this regression analysis indicated that there was not a statistically significant effect in the squared authorized campaign spending variable. Therefore, it can be concluded that a nonlinear relationship is not probable in this case of authorized campaign spending.

The third additional model I tested was whether overall spending had a nonlinear relationship with Republican vote share. The model can be summarized as follows:

$$VSR = b_o + b_1 TSR^2 + b_2 TSR + b_3 CQDA + b_4 CQRA + b_5 RomneyVS$$

Where VSR is the Republican vote share, TSR^2 is the net total spending benefitting the Republican candidate squared (squared sum of the net difference in outside spending benefiting the Republican candidate and the net difference in authorized campaign spending benefitting the

Republican candidate), *TSR* is the net total spending benefitting the Republican candidate (sum of the net difference in outside spending benefiting the Republican candidate and the net difference in authorized campaign spending benefitting the Republican candidate), CQDA is a dichotomous variable representing the presence or absence of a Democratic advantage in candidate quality, CQRA is a dichotomous variable representing the presence or absence of a Republican advantage in candidate quality, and RomneyVS is the vote share that Mitt Romney received in the district.

Table 11: Multivariate Regression Analysis for Testing Total Spending Nonlinearity

Unit of Analysis: Open-Seat House Races in the 2012 Election

Independent Variable	Coefficient	Standard Error	T-statistic	Probability Levels
Total Net Spending	1.20e-06	4.24e-07	2.83	0.01
Total Net Spending Squared	2.07e-13	1.13e-13	1.83	0.07
Candidate Quality – Dem Adv	-0.93	1.15	-0.81	0.42
Candidate Quality – Rep Adv	3.83	1.36	2.82	0.01
Romney Vote Share	0.82	0.05	17.65	0.00
Constant	7.09	2.38	2.98	0.01

n = 50

Adjusted R^2 = 0.9261

The results of the regression analysis in Table 11 were less clear than the previous two models. Although the total net spending variable squared was not statistically significant at the 0.05 level, the probability level of 0.07 is significant at the 0.10 level. However, the presence of a ceiling effect can be dismissed due to the positive coefficient for the squared term for total net spending. Rather, due to this positive coefficient, vote share appears to be increasing more

dramatically as spending increases. While this may be possible and should be considered, it seems somewhat unlikely due to the initial correlations and bivariate analysis conducted earlier.

Tests for Robustness

Given the various issues discussed earlier with using the Romney vote share as a measure of partisanship, I assessed the robustness of my findings substituting the Republican Partisanship Estimate for the Romney vote share. I first recreated my primary multivariate model using the alternative measure of partisan support. The model can be summarized as follows:

$$VSR = b_o + b_1 OSR + b_2 ACSR + b_3 CQDA + b_4 CQRA + b_5 RPE$$

Where VSR is the Republican vote share, OSR is the net difference in outside spending benefiting the Republican candidate, ACSR is the net difference in authorized campaign spending benefitting the Republican candidate, CQDA is a dichotomous variable representing the presence or absence of a Democratic advantage in candidate quality, CQRA is a dichotomous variable representing the presence or absence of a Republican advantage in candidate quality, and RPE is the Republican partisanship estimate constructed from the statewide contests.

However, to ensure the robustness of this test, I also conducted my primary model again with the same observations (n=43) used in this endogeneity test model. The results of this adjusted primary model are presented in Table 12b.

Table 12a: Multivariate Regression Analysis for
Partisanship Endogeneity Test Using Alternate Measure for Partisanship

Unit of Analysis: Open-Seat House Races in the 2012 Election

Independent Variable	Coefficient	Standard Error	T-statistic	Probability Levels
Net Outside Spending	5.87e-09	3.68e-08	0.16	0.87
Net Campaign Spending	2.01e-08	9.07e-09	2.21	0.03
Candidate Quality – Dem Adv	0.01	0.02	0.10	0.92
Candidate Quality – Rep Adv	0.02	0.02	0.71	0.48
Republican Partisanship Estimate	0.99	0.12	8.07	0.00
Constant	-0.16	0.06	-0.25	0.80

n = 43
Adjusted R^2 = 0.8019

Table 12b: Adjusted Multivariate Regression Analysis for Partisanship Endogeneity Test

Unit of Analysis: Open-Seat House Races in the 2012 Election

Independent Variable	Coefficient	Standard Error	T-statistic	Probability Levels
Net Outside Spending	1.56e-08	2.25e-08	0.69	0.49
Net Campaign Spending	1.21e-08	5.58e-09	2.17	0.03
Candidate Quality – Dem Adv	-0.02	0.01	-1.25	0.22
Candidate Quality – Rep Adv	0.04	0.01	2.70	0.01
Romney Vote Share	0.80	0.05	15.41	0.00
Constant	0.08	0.03	3.13	0.00

n = 43
Adjusted R^2 = 0.9264

The results for this multivariate regression model testing robustness are presented in Table 12a and can be compared with Table 7. The results for this model are fairly similar to

those presented in the primary model earlier (Table 7). Although the fit, measured in adjusted R^2, declined 10 percentage points, it is still relatively strong. The coefficient for outside spending remained non-significant while that for campaign spending remained statistically significant and positive, although diminished in strength. The candidate quality advantage for Republican candidates is no longer statistically significant, indicating that the statistical significance of this variable in the primary model is not robust to alteration of the partisan strength measure. This result combined with the diminished effect of campaign spending suggests that the Romney vote share measure of partisan strength did not fully capture the effects of district partisanship on vote share.

As previously noted, the use of the alternative measure of district partisan strength results in a loss of seven cases in the analysis due to missing data. With a total "n" of 50 this is not an insignificant number. The loss is concentrated in races where low quality candidates from both parties are competing. The differences between the results in Table 12a and Table 7, therefore, might reflect the deletion of these cases from the analysis and not the change in measures of district partisan strength. This possibility is examined in Table 12b where the original model with the Romney vote share is estimated on the reduced sample of cases. The results in Table 12b parallel those in Table 7, the Republican advantage variable is statistically significant. This indicates that the insignificance of Republican advantage in Table 12a is a result of the shift in the measure of partisan strength and not the missing data created by adopting this measure.

I also tested the robustness of the total spending nonlinearity model (Table 11) to a change in the measure of district partisan strength. This model can be summarized as follows:

$$VSR = b_o + b_1 TSR^2 + b_2 TSR + b_3 CQDA + b_4 CQRA + b_5 RPE$$

Where VSR is the Republican vote share, TSR^2 is the net total spending benefitting the Republican candidate squared (squared sum of the net difference in outside spending benefiting the Republican candidate and the net difference in authorized campaign spending benefitting the Republican candidate), *TSR* is the net total spending benefitting the Republican candidate (sum of the net difference in outside spending benefiting the Republican candidate and the net difference in authorized campaign spending benefitting the Republican candidate), CQDA is a dichotomous variable representing the presence or absence of a Democratic advantage in candidate quality, CQRA is a dichotomous variable representing the presence or absence of a Republican advantage in candidate quality, and RPE is the Republican Partisanship Estimate.

Table 13: Multivariate Regression Analysis for
Testing Total Spending Nonlinearity with Alternate Partisanship Measure

Unit of Analysis: Open-Seat House Races in the 2012 Election

Independent Variable	Coefficient	Standard Error	T-statistic	Probability Levels
Total Net Spending	1.94e-8	7.41e-9	2.62	0.01
Total Net Spending Squared	1.96e-15	2.57e-15	0.76	0.45
Candidate Quality – Dem Adv	0.01	0.02	0.29	0.77
Candidate Quality – Rep Adv	0.02	0.02	0.70	0.49
Republican Partisanship Estimate	1.00	0.12	8.38	0.00
Constant	-0.03	0.06	-0.42	0.68

n = 43
Adjusted R^2 = 0.8043

The results of this analysis are presented in Table 13. Consistent with the results in Table 12a and in contrast to Table 11, Republican advantage does not have a significant effect on Republican vote share. Likewise, the non-linear effect of total spending is no longer statistically

significant. This non-significant value indicates that neither a ceiling effect nor a strongly increasing effect on vote share at higher spending levels is present and strengthens the conclusions drawn previously. Replicating the analysis in Table 11 with the reduced sample produced by the missing data for the Republican Partisanship estimate reproduced the results in Table 11 (analysis not shown). The non-significance of the non-linear term in Table 13 is a result of the change in measure of district partisanship and not the difference in the set of cases analyzed.

Discussion and Conclusion

The results of these analyses, once considered together, lend themselves to several conclusions. The main conclusion that can be drawn is that my first hypothesis can be rejected. From the initial bivariate analysis and primary multivariate regression model, it can be concluded that independent expenditures are not having the effects I predicted they would have. Despite the dramatic increases in independent expenditures that have resulted from *Citizens United*, there was no statistically significant effect on vote share in the races examined. The implications of this result must be considered. I believe the theory behind my first hypothesis was sound, but that the recent increases in independent expenditures are simply not having the same impact that a campaign's spending has. Such results do not necessarily remove an incentive from corporations or individuals to donate to SuperPACs or other outside spending groups. Such donations could still provide political influence later in the political process. However, the results do indicate that an election cannot be bought with the new type of political spending practices that have emerged since the Supreme Court's decision. Further, the independent expenditures themselves do not appear to be making a decisive difference in electoral outcomes.

Although I cannot conclusively state why independent expenditures did not have a significant effect on vote share, there is room for speculation based on my results. One likely possibility is that the spending of independent expenditures were poorly targeted. While there was a reasonably strong correlation between authorized campaign funds and partisanship, there was not between outside spending and partisanship. Independent expenditures were instead spent heavily in favor of candidates in districts where they both were disadvantaged in terms of the partisanship of that district but also in spending by their authorized campaign committees. Additionally, I speculate that campaign spending was statistically significant while outside

spending was not because of what campaign spending represents. The amount donated to a campaign often reflects the strength of that campaign in terms of the candidate's quality, positions, partisanship of the district, outreach, and other factors. It would seem that this reflection of campaign strength correlated with vote share results. On the other hand, outside spending is a reflection of a small group of people who control vast sums of money attempting to influence an election. It could be that this money does not reflect or affect the actual citizens of a district, and would explain why authorized campaign spending but not outside spending was statistically significant.

There are some limitations that must be considered, namely the sample size and timing of this study. The 2012 election cycle was the first major election cycle to fully be impacted by the *Citizens United* decision. It is entirely possible that due to the novelty of the spending practices that emerged from this decision that the independent expenditures were not targeted well or spent as efficiently as possible. There is a great potential for future research reexamining my research question that would be significantly strengthened by an increased sample size and the possibility of better targeted spending that can only come from future election cycles.

The regression models do support my other two hypotheses, that authorized spending by the campaign and spending do have an impact on vote share. Both of these variables were found to have statistically significant impacts in their respective regression models. These results support the existing literature that spending can be tied to a generally predictive effect in vote share. This outcome shows that ultimately, spending does matter, but that the changed spending practices themselves are not having a significant effect. Spending matters, but this particular type of spending, independent expenditures, is not having the impact it is portrayed and claimed to have by the many editorials and media claims to the contrary. In fact, it seems the real winner

from the increase in independent expenditures is the media, profiting from the huge new sources of revenue coming in from these SuperPACs and other 501(c) groups.

The tests I ran for nonlinearity also provide results worth considering. I was able to discount a nonlinear relationship between vote share and both independent expenditures and authorized campaign spending. These results led me to believe there was no ceiling effect involved in either of these types of spending. However, when I tested the overall spending effect for a nonlinear relationship the results were not so clear. With the Romney vote share in the model as a control for partisan strength in the district, the squared term for total spending approached standard levels of statistical significance (p=0.00), but the coefficient was positive. This result indicates that a ceiling effect is not present, but that perhaps spending at a very high level does offer an increased impact on vote share. However, this result was not robust to the shift to the alternate measure of district partisan strength.

One of the more interesting findings that I was not expecting came from the candidate quality variables included in the analyses. I expected these measures to serve as simple controls for the variation that can occur due to the differences in name recognition, political support, and experience that come from holding prior elected office. My results indicated that while a candidate quality advantage was statistically significant for a Republican candidate (p-value of 0.01), it was far from statistically significant for a Democratic advantage. However, I believe that the impact of candidate quality in this case cannot be completely taken at face value due to the results of the initial bivariate analysis as well as the results from my robustness tests. The results from the bivariate analysis did not show a statistically significant relationship between vote share and a Republican candidate quality advantage. This result casts doubt on the statistically significant result that emerged from my primary model, as the other variables that were

statistically significant were also significant in the bivariate analysis as well. The statistically significant result in the primary model can further be dismissed following the robustness tests. When the alternate measure of partisan strength was used, the Republican Partisanship Estimate, the Republican candidate quality advantage variable was no longer statistically significant. The results from my checks for robustness indicate that the Romney vote share measurement lead to this statistical significance for the Republican candidate quality advantage variable rather than an actual effect from the variable itself.

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