

Deus ex Machina: Candidate Web Presence and the Presidential Nomination Campaign

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Abstract

Using data from the 2008 presidential nomination contest, we offer systematic tests of the relationships between traditional campaign factors, the Internet and campaign performance. We find that claims of the Internet's relevance to modern campaigns are warranted, as it is a unique facet of campaigns and significantly improves candidates' financial and electoral support. The Internet is especially helpful to candidates in generating small-donor contributions and in maximizing contributions after early primary victories. Overall, these findings suggest that the Internet offers a viable mechanism for long-shot candidates to overcome the resource demands of the current presidential nomination system.

Keywords

presidential nominations, Internet, campaign contributions, campaign expenditures

Since party reforms opened up the presidential nomination process, parties have slowly changed the nature of nomination campaigns. Momentum, horserace media coverage, and information dynamics still shape the primary process and nomination outcomes during the contest period, but the demands of a compressed and frontloaded system limit how much long-shot candidates gain from these factors. Not surprisingly, recent scholarship has found that a candidate's level of party-insider and political support at the beginning of primary season largely determines the nomination (Cohen et al. 2008; Mayer 2003). Long shots have less of a chance to compete with early front-runners (Steger 2000), leading some scholars to complain that the rules have essentially turned back previous reforms (Aldrich 2009; Cohen et al. 2008) to the point "that it can barely be considered truly a democratic selection at all" (Aldrich 2009, 33).

Concurrent with these changes, we have witnessed a massive technological change in the development and use of the Internet. These changes likely benefit those candidates with broad or intense national appeal, regardless of party-insider status. Despite little empirical evidence, the low costs and social nature of Internet communication have motivated practitioners and scholars to claim that it is a potential game changer. The Internet may free candidates from the burdens of fund-raising that plagued previous failed nominations (Aldrich 2009; Paolino and Shaw 2003). Moreover, it potentially gives greater resources to grassroots activists within the nomination process (Trippi

2004). Thus, the advantages party insiders and front-runners experience from frontloading may be mitigated by the Internet's benefits to long-shot candidates.

A cursory examination of recent contests provides some evidence for these claims. Consider outsider candidate for the Republican nomination Ron Paul. On November 5, 2007, an enthusiastic supporter who specialized in Internet marketing coordinated a "money bomb" in which approximately 35,000 donors contributed to his campaign. More than \$4.2 million was raised that day, breaking the single-day fund-raising record over the Internet and propelling Paul into the limelight. Having been skirted by traditional media outlets in much of the 2007 invisible primary, Paul's newfound wealth raised his prominence within the field and allowed him to compete through the duration of the nomination process and raise his stature as leader of the Republican Party's libertarian faction.

Likewise, approximately four years earlier, Howard Dean, a then little-known Governor of Vermont, also saw his electoral viability change drastically. Dean's

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campaign took a turn for the better in terms of fund-raising and polling status in the fall of 2003. Via Meetup.com, a network software that allowed for campaigning via the Internet, Dean's campaign cultivated a host of grassroots supporters and individual donors. By early 2004, and entering the Iowa caucus, Dean had a network of enthusiastic supporters, the most amount of funds raised and the most amount of cash on hand among the Democratic field.

Although neither candidate won the nomination, both campaigns are now commonly referenced as Internet success stories because they launched relatively obscure candidates into prominence within the presidential nomination and did so with the help of the Internet. Traditional media and party elites ignored both candidates until they garnered broad grassroots support and large contributions from individuals. Thus, the Internet provided a cheap platform for grassroots campaigning and fund-raising, an opportunity that, at least anecdotally, seems especially beneficial to long-shot candidates.

The following study provides some of the first evaluations of whether a candidate's presence on the Internet represents a different and meaningful facet to nomination campaigns. Specifically, we evaluate two related questions on the role of the Internet in nomination campaigns. First, to what extent is a candidate's presence on the web different from campaign performance—and not merely a function of the traditional aspects of campaign performance, such as polls and media coverage? Second, does the Internet make a difference? That is, can web presence help candidates gain greater monetary and political support?

We address these questions by analyzing a comprehensive measure of a candidate's web presence calculated from a candidate's reach across social media, blogs, search engines, candidate websites, and other web forums. We use this measure along with traditional measures of campaign dynamics—polling, news media coverage, spending, and visits—in a series of panel data analyses across the major primary candidates in the 2008 nomination contest. We find support for claims that the Internet represents a different and equalizing force in presidential nominations. In addition, our examination of the benefits of web presence supports claims that it provides significant political and economic benefits that extend beyond traditional predictors. We conclude by discussing the implications of these findings for our understanding of the Internet's role within presidential nominations and party primaries more generally.

The Internet in Modern Campaigns

In the most recent election cycles, campaigns have made use of new online platforms (Teachout and Streeter 2008)

that provide a fundamental shift in how organizations approach online campaigning. Centralized, top-down strategies that had dominated previous campaigns have been abandoned to a large extent in favor of a decentralized, bottom-up, open-source approach that engages and empowers supporters (Hendricks and Denton 2010; Johnson 2011; Kerbel 2009). Accordingly, many observers of the 2008 campaign attribute Obama's success at least in part to his campaign's comprehensive use of the Internet (Ceaser, Busch, and Pitney 2009; Denton 2009; Hall-Jamieson 2009; Harfoush 2009; Hendricks and Denton 2010; Johnson 2009; Kaid 2009; Kenski, Hardy, and Hall-Jamieson 2010; Owen 2009; Panagopoulos 2012; Panagopoulos and Balsara 2009). No longer a nascent medium with a limited audience, a majority of Americans reported using the Internet for information about the campaign in 2008, with one-in-three watching videos online and one-in-ten engaging politically via social networking sites (Smith and Rainie 2008).

Against this unique backdrop, researchers have an opportunity to evaluate theoretical expectations about the impact of the Internet and online campaign activities on a range of factors. Initial theorizing advanced the possibility that unprecedented narrowcasting, interactivity, and specialization offered by the Internet would heighten engagement, voter information, and even support for candidates (Bimber and Davis 2003), but skeptics argued that "the decentralizing, disintermediating effect of the Internet" would harm democracy by accentuating fragmentation and divisiveness (Sunstein 2001). Norris (2000) theorized early on that the Internet's influence on politics would be either reinforcement or mobilization. Early studies of web-based campaigning found that online communication tools supplemented but did not replace traditional campaigning and showed candidate websites had only a modest tendency to strengthen and reinforce voters' predispositions, exerting only minimal effects on undecided voters (Bimber and Davis 2003). They also found the Internet failed to alter patterns of behavior and did not level the playing field for minor-party candidates, as some had expected (Klotz 1997).

Ultimately, past studies suggest that there are serious limits to the Internet's ability to change the dynamics or fundamental aspects of contemporary campaigns (Bimber and Davis 2003). But the rapid evolution of online campaign communications and activities as well as growing online audiences renew prospects that web campaigning exerts much more potent effects than previously theorized (Cornfield 2012; Panagopoulos and Balsara 2009). These changes afford candidates unprecedented opportunities to interact with voters, craft and deliver targeted and unmediated communications, and inform and mobilize citizens. The effects of Internet campaigning on preferences or support for candidates may be limited if voters

engage selectively with online platforms (Bimber and Davis 2003; Norris 2000). However, if Internet campaigning has merely become more effective at engaging and mobilizing likely supporters, then this change still has the potential to benefit candidates in election contests that hinge on targeting and organizing supporters, such as party nomination contests.

The Internet and Primary Performance

The most damaging criticism of the Internet's role in campaigns is that it merely provides an additional medium through which the traditional forces of the campaign operate. Candidates with a great deal of attention on the Internet may be those who also receive the bulk of attention in the news, are well funded, or receive a great deal of support in the polls. Thus, our first step is uncovering whether any differences exist between the Internet and the traditional campaign dynamics, where we focus on presidential nomination campaigns specifically.

It is possible that information and interactions on the Internet simply mirror the broader information environment, as campaign and news organizations also maintain high degrees of prominence within Internet communication. But there is equally good reason to think of Internet-based exposure as a unique campaign factor, especially within nomination campaigns. Foremost, the Internet has an unusually high potential for interaction and engagement. Contrary to sitting in front of the television or listening to the radio, the Internet provides a multitude of opportunities for communicative processes among the audience. Furthermore, the barriers to this interaction are extremely low. Thus, the audience can easily be transformed into a *public* à la Dewey ([1927] 1954) or *public sphere* à la Habermas ([1962] 1989), wherein listeners become active participants in interpersonal conversations (Dahlgren 2005). Posting status updates, responding to news reports, *tweeting*, signing petitions, and chatting indicate engagement with others and exemplify how the Internet is currently used in politics, especially by younger individuals (Trammell et al. 2006). What likely makes a candidate's presence on the Internet a different factor is therefore the online community's level of engagement or interaction with a candidate's positions, character, or organization that is facilitated through Internet sites and the behavior of a candidate's online audience, what we term *web presence*. We focus on engagement and interaction, because these are considered to be aspects of online communication—especially social media—that differ from traditional media and represent new routes for candidate exposure and appeal. The interactive nature of the Internet, its broad range of media, and

low barriers to entry—and thus increasingly frequent use among the electorate and campaigns—suggest that it is a different medium than those that came before it.

It is along these lines that we propose that candidate web presence represents a different facet of campaign performance than either their electoral support or their general news media prominence. This is not to say that they will be totally unrelated to one other, but we expect meaningful differences to be present in these factors and in their relationship to candidate performance, as the Internet not only informs but also facilitates greater engagement and connectivity with the campaign and candidate. We do not contest the notion that citizens consume online material selectively. On the contrary, the deliberate and purposive nature of online search and exposure assures selectivity is heightened. Consistent with existing claims (Bimber and Davis 2003; Norris 2000), the effective deployment of online tools to maximize web presence may largely increase the knowledge and mobilization of likely supporters. But the net contribution and benefit of these characteristics varies by campaign, and they are especially likely to be of consequence in campaigns that hinge on targeting and mobilizing likely supporters, like nomination campaigns.

Given such a definition of web presence, we can develop expectations of how candidates' web presence affect their financial and electoral performances in the nomination race. Of the many potential benefits of the Internet for modern nomination campaigns, its greatest potential is its ability to raise funds and recruit and organize supporters cheaply and quickly. Outsider candidates are outmatched in the current system. The spiraling costs of campaigns, front-runner tendencies to reject spending limits, and the increased frontloading of state contests have heightened the importance of a candidate's early ability to collect contributions and establish a strong organization in shaping nomination outcomes (Butler 2004; Cohen et al. 2008; Green 2006; Steger 2000).

Successful campaigning on the Internet has the potential to minimize these hurdles within modern presidential primaries. Foremost, the Internet reduces the initial financial demands of the campaign with regard to campaign fund-raising. Candidates need to reach out to potential supporters and persuade them to support their campaigns early. In doing so, it has been shown that personalized appeals, even if through direct mail, are important in explaining giving (Brown, Powell, and Wilcox 1995; Francia 2003; Godwin 1988). The Internet lessens both these resource constraints by making it cheaper and quicker to contact and personalize solicitations from the public (Bimber 1998). Furthermore, it apparently holds a particularly powerful appeal among new voters, as the Internet has been shown to be a locus of fund-raising

activity for younger contributors (Panagopoulos and Bergan 2006). The added benefit of a strong web presence is that persuasive or mobilizing appeals through social media or other forums mobilize and instantly link to a candidate's website for receiving contributions. Like direct mail, this benefit is most likely associated with small donations, as very large contributions are usually associated with personal contact (Herrnson 2008). Thus, holding other factors constant, we expect that an increase in a candidate's web presence will result in greater fund-raising, and, in particular, greater fund-raising among small donors or within short periods of time.

A strong web presence also reduces the burden of early campaign organization. Campaigns endeavor not only to raise money, but they also attempt to attract and mobilize volunteers and voters. Direct contact increases political participation and voter turnout (Rosenstone and Hansen 1993), even after controlling for prior participation (Abramson and Claggett 2001). While not face-to-face contact, the Internet provides an effective and personal medium for mobilizing messages and does so relatively cheaply. It has been shown to be an effective mechanism for increasing campaign engagement and mobilization (Bimber and Davis 2003), even after controlling for socioeconomic factors correlated with Internet access (Tolbert and McNeal 2003). Furthermore, internet social networking makes it easier to find and establish local networks outside traditional party networks, as was thought to have occurred in Dean's campaign. Accordingly, holding other factors constant, we expect that an increase in a candidate's web presence will lead to greater electoral support for the candidate.

Measuring Internet and Campaign Dynamics

Considering the rapid changes in forms of Internet communication and access, we propose that the 2008 presidential nomination campaign provides a valuable opportunity to examine the causes and effects of candidates' web presence. First, Internet use by 2008 was widespread among the public and candidates sought to use it to their advantage. Second, the extended preprimary period in 2008 allows us to evaluate campaign performance prior to the effects of primary contests, after which candidate winnowing limits comparability. Third, the 2008 nominations provide a multitude of candidates in each party from which to make more generalizable claims about electoral behavior. Candidates range from those with strong support among party elites to virtual outsiders to the party environment, providing unusual leverage in understanding the role of different campaign dynamics across very different candidates.

Web Presence

Of foremost importance to our study is a measure of candidate presence on the web, where presence not only represents prominence but also the level of engagement and interaction facilitated by the Internet. To do so we selected a publicly available measure developed by the Spartan Internet Consulting Corporation. The Spartan Internet Political Performance (SIPP) Index comprises more than 650 quantitative measures that tap the level of support candidates are receiving online and evaluate how well each candidate is connecting with individuals across the Internet.¹ Factors used include the level of involvement on the candidate's official website, utilization of and activity on social networking sites, use of search engines and search engine marketing, presence in online news, and blogs.²

The SIPP Index is calculated by tabulating all these measures and deriving each candidate's Internet "market share" or relative prominence in a percentage format. Importantly for our purposes, the different measures are weighted based on their importance in *connecting* with users, such as the degree to which each form of activity is immersive or action-oriented, as well as the reach of each form of activity as determined by site traffic and page rankings. These measures are calculated weekly (starting in July of 2007), summed for each candidate, and then made into relative measures by dividing each candidate's total by the level of activity across announced nomination candidates of both parties.

To illustrate the nature of the SIPP Index, Figure 1 plots the scores of the top twelve candidates for each week preceding the Iowa Caucuses when all candidates were active. Looking at Figure 1, the SIPP Index reflects popular impressions of which candidates had a web presence. The Obama and Paul campaigns, both largely perceived to have an active contingent of "net supporters," rate as the Internet leaders of their respective party. Moreover, we also see a dip followed by a rise in the Paul campaign's web presence score in coordination with the November "Money Bomb." Two candidates other than Paul had major trends in their web presence. Edwards exhibits a steady decline, while Huckabee rises in the latter half of the year.

Covariates

We collected and coded several other variables that may be related to a candidate's web presence. Given our expectations above, we require a measure of a candidate's popular support, and rely on a collection of *National Polls* to build this variable. Many polls ask a slight variant of the same question at different times, namely, "If the Republican/Democrat primary election were held today,

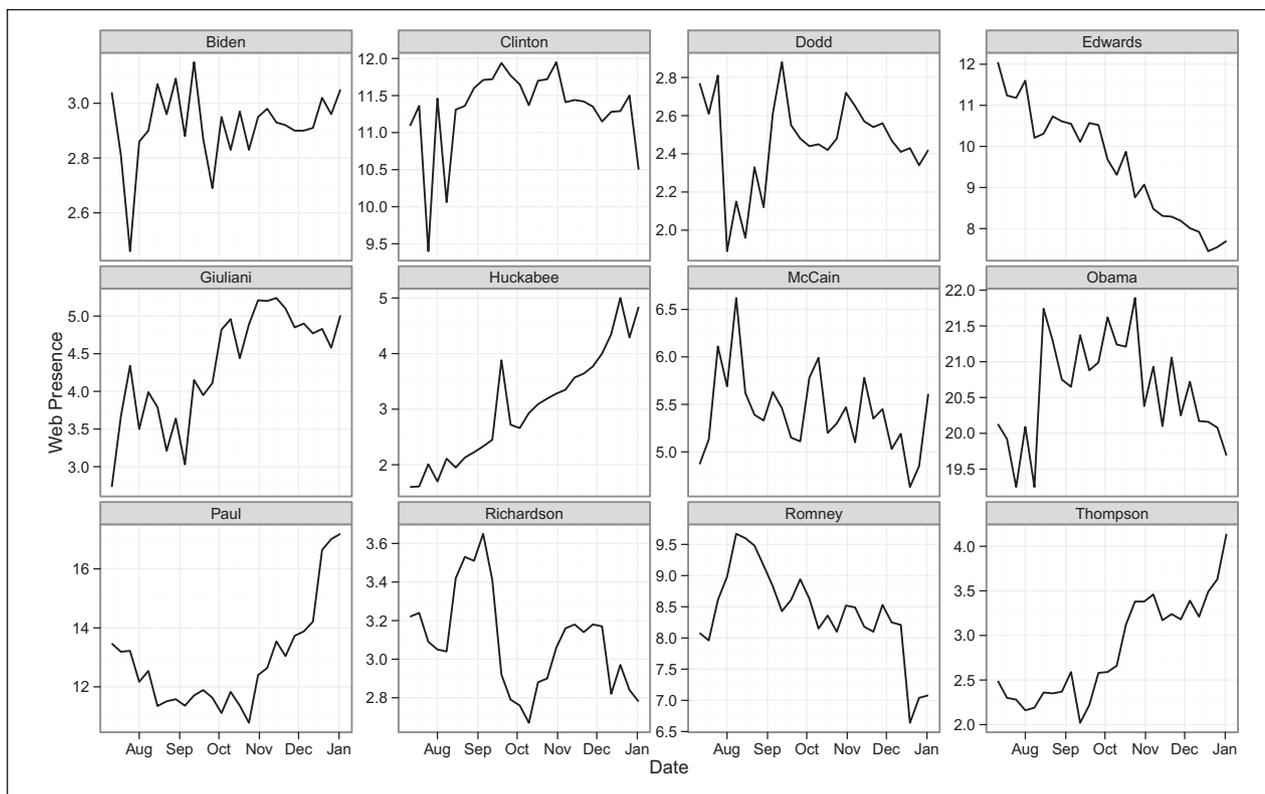


Figure 1. The SIPP Index measure of web presence.

who would you vote for—or who are you leaning toward today?” The consistent presence of this question in national polls provides the opportunity to create time series of each candidate’s relative standing. Using the full collection of all publicly available national primary polls reported on popular polling websites, we calculated a candidate’s average poll standing over this time period, weighted by sample size. After tabulating each candidate’s poll standing, we generated a smoothed weekly measure from Bayesian state space model, to account for missing data and sampling error (Jackman 2009). The resulting measures tap each candidate’s weekly level of national public support. Although not a perfect measure, we use it as a proxy for the relative national standing of the candidate in the nomination contest.

To compare candidates’ web presence with their *News Media Prominence*, we developed a measure of the amount of attention candidates received in the news media. Again, if web presence merely reflects candidate general news prominence, then candidates should exhibit relatively similar standings in this measure. We developed our measure of news media prominence by examining all presidential campaign articles written by the *New York Times*, *Washington Post*, *Los Angeles Times*, and the *Associated Press*’s politics wire. We downloaded each news source’s campaign articles as published on its

website and included in its politics or campaign Rich Site Summary (RSS) feed. After identifying all articles that covered the presidential nomination contest, we counted the number of news media sentences that refer to any candidate for a party’s nomination. We then define a candidate’s media prominence as the percentage of sentences referring to that candidate out of all sentences discussing candidates of the corresponding party. Like the polling data, we used Bayesian state space models to identify the systematic ebbs and flows in this data (Jackman 2009).³

We also include two measures to tap the effects of a candidate’s local campaign activity. First, we include a weekly sum of *Campaign Visits* to different states during the invisible primary. Using the *New York Times* and the *Washington Post*’s calendar of candidate appearances, our measure counts up how many daily state visits a candidate made each week. Second, we tabulated each candidates *Travel and Event Spending* from their itemized spending reports. Although each campaign itemizes its reports in slightly different ways, there is a great deal of similarity in how they account for their expenses. For example, all campaigns have entries listing “catering” or “event food” to detail expenses for serving food. We categorized these transactions using a selection of keywords and regular expressions to first place transactions into broader categories of expenses. We then personally

examined these results to verify each transaction's classification and created two separate categories of expenses, which we ultimately combined to capture candidate efforts to hold local campaign events. All expenses that are listed for the purposes of travel (airfare, travel, lodging, transportation, or flights) or local events (catering, decorations, audiovisual, equipment rental, events, facility rentals, or staging) were deemed travel-related expenses. Since campaigns occasionally spend this money ahead of the events, we specify the measure as the average amount spent by the candidate over the previous four weeks.⁴ To account for decreasing marginal returns to scale of spending, we use a logarithmic transformation of the four-week averages.

Finally, we include three separate measures of campaign expenses that are potentially related to organizational efforts to gain web presence. *Direct mail* has long been a prominent method for soliciting contributions (Godwin 1988). Direct mail fund-raising is often seen as most effective in raising smaller donations of under hundred dollars (Francia 2003; Herrnson 2008) but also may serve to simply draw attention to candidates' characteristics or policy positions. In fact, direct mailings often refer readers to the candidate's website for further information. Any expenses listed for the purpose of direct mailing, postage, phone banks, telecommunication services, list buys, or list rentals were counted as direct marketing spending.

Candidates engage a host of media to *promote* their campaigns. In addition to allocating staff to such activities, they purchase television, Internet, and radio advertisements. They disseminate a barrage of information with printed campaign materials, including posters, stickers, banners, signs, buttons, shirts, and photographs, many of which include references to a candidate's website. All of these expenses were coded as promotional. Such expenditures build a brand around the candidate, help identify the supporters, and generate modest revenue, to promote awareness of the candidate.

It is also possible that campaign spending on staff and *organization* should influence their web presence. Campaigns who have the staff to update social media sites or frequently post information on their website are more likely to generate an Internet following. We code all expenses that are listed for the purposes of personnel, payroll, salary, consulting, office expenses, computers, rent, or research as organizational expenses that may affect web presence. As with the travel measure, for each of these three measures, we specify each candidate's weekly web presence as a function of the average amount spent by the candidate over the previous four weeks and use a logarithmic transformation.

With this data we explore three related hypotheses about the role of the Internet in presidential nomination

contests: we expect web presence (1) to be a unique factor among the typical campaign dynamics and (2) to benefit candidates in terms of their (a) financial support and (b) electoral status. In the two sections that follow, we present the results of the corresponding hypothesis tests.

A Horse of a Different Color

A comparison of other aspects of a campaign's prominence to our Internet measure during the second half of 2007 allows us to demonstrate how web presence represents a fundamentally different aspect of campaign prominence. As shown in the left graph of Figure 2, there is a clear positive correlation between a candidate's average news media and web presence. However, it is also apparent that web presence differs from news media exposure and represents a different form of public prominence for many of the candidates. Hillary Clinton and Ron Paul, for example, show approximately equal levels of web presence, although the Clinton campaign was far and away the most talked about candidate in news media coverage, while Ron Paul was far from it. Likewise, John Edwards, whose campaign was managed by netroots expert Joe Trippi, equally paced Clinton in web presence during most of the campaign, despite the news media's fascination with Clinton.

We can also demonstrate how web presence differs from a candidate's popular support over this same period. The right side of Figure 2 compares a candidate's average web presence with their average placement across the polls. Even more so than media exposure, we find a candidate's web presence differs from a candidate's popular support. Although Giuliani and Obama polled at similar levels during the second half of 2007, Obama was generating much stronger connections and exposure among individuals on the Internet. We also see that while a candidate like Fred Thompson was able to poll well during this time, he was not generating similar levels of interest on the Internet. Regardless, it is clear that a candidate's web presence is a distinct but not unrelated aspect of performance during the preprimary campaign.

To further demonstrate the unique aspects of candidate web presence, we examine its predictability by specifying it as a function of news media attention, polling status, and measures of candidate spending and activity. Indeed, the bivariate plots above are not significance tests of the relationships. Since we are interested in testing whether candidates can use their resources to change their web presence, we estimate a *fixed-* or *within-effects* panel data model, which examines the average effect of these variables within each candidate's dynamic. Given the over-time nature of the data, we control for the autocorrelation with an auto-regressive disturbance term. The results presented in Table 1 therefore control for fixed

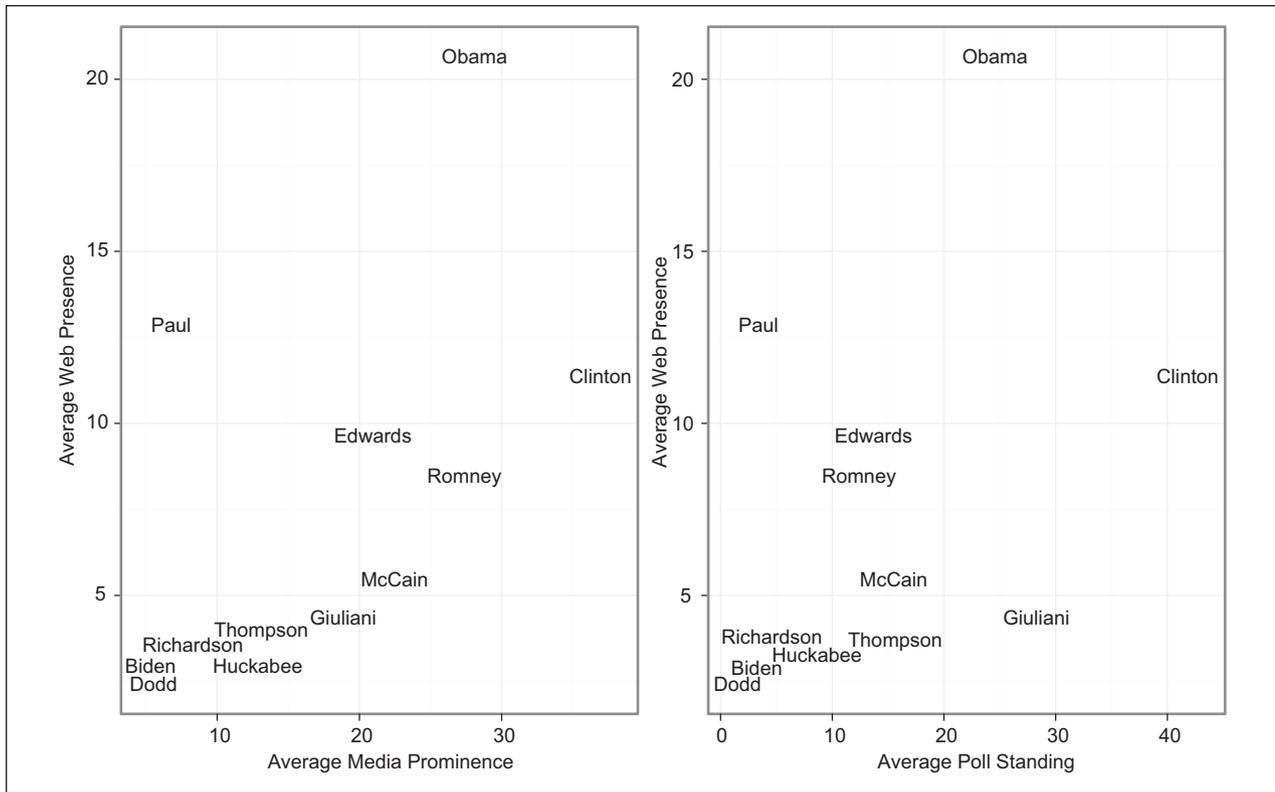


Figure 2. Correlations of web presence with media and polls.

Table 1. The Campaign Factors of Web Presence.

	Web presence			
	(1)	(2)	(3)	(4)
News prominence	0.014 (0.017)			0.009 (0.017)
National polls	0.036 (0.032)			0.035 (0.032)
Campaign visits		-0.000 (0.011)		-0.003 (0.011)
Travel spending		0.188* (0.072)		0.180* (0.073)
Direct marketing spending			0.111* (0.062)	0.115* (0.064)
Promotional spending			0.009 (0.055)	-0.031 (0.059)
Organizational spending			0.040 (0.122)	0.036 (0.127)
Intercept	6.754* (0.106)	5.475* (0.164)	5.675* (0.303)	3.626* (0.378)
N	278	278	289	278
$\hat{\rho}$	0.796	0.791	0.804	0.782
Within R^2	.008	.026	.014	.047

Dependent variable: Web presence. Linear regression coefficients with standard errors in parentheses. All models use candidate-specific fixed-effects with auto-regressive (AR(1)) disturbances. Estimates for the intercept represent the average value of the candidate-specific effect in the fixed-effects specification.

* $p \leq 0.5$, one-tailed test.

candidate-specific advantages (e.g., differing levels of elite party support, initial resources, and a host other variants specific to each candidate) and are washed of autocorrelation.

Beginning with the model of candidate prominence, Model 1, we see that neither candidates' news media prominence nor national polling status is significantly related to their future web presence. Both show a positive

association, as expected, but with relatively large standard errors. Thus, we cannot say with any confidence that changes in a candidate's general prominence, be it in the national media or popular support, lead to greater web presence.

The model of campaign travel activity, Model 2, shows that a candidate's web presence is associated with recent campaign activity. While the sheer number of campaign visits has no effect, spending money to travel and host campaign events in various locales generates greater web presence, which also suggests the importance of carefully delimiting measures of campaign activity. The act of campaign traveling can have very different purposes and effects. Candidates' campaign visits can range from back-room meetings and lunches with party insiders, top level supporters, and interest group executives on down to campaign rallies for the general public. The amount of spending therefore does a much better job at predicting future web presence for a candidate than traveling alone. The results suggest that an additional by-product for candidates from local campaign activity is enhanced web presence. One way for candidates to connect with the mass public and circumvent the national political establishment is to contact them in person. In the invisible primary, candidates are busy shaking hands, particularly in the early contest states, and fund-raising across the country. A frequent product of campaign trail stops and fund-raising activities is that candidates can meet individuals and generate local news coverage and interest. Given the findings above, it is likely that these local appearances are effective in attracting the public's attention to a candidate or at least in providing a more meaningful motivation to discuss this candidate on the web.

Model 3 considers the remaining three types of campaign spending: direct marketing, promotional, and organizational. Only increases in direct marketing expenditures significantly affected future gains in web presence. Spending on promotions lack a significant association with web presence, an unusual finding as substantial portions of promotional materials are often dedicated to the web.⁵ Similarly, changes in the amount of money spent on staff and organization do not positively associate with candidates' future web presence. These mixed spending results are not totally unexpected, since promotional and organizational spending may seek to generate attention in alternative forums, like news coverage. In such cases, the public may have little reason to engage the Internet when the information is already easily available. Direct marketing and local campaign events, however, are usually targeted to individuals for the expressed purpose of encouraging them to seek out more information about the candidates, which is often done on the web, and appears here to be a successful endeavor.

The results with all of the variables included in a single model, Model 4, confirm the earlier estimates. The fully specified model finds that only increases in expenditures for campaign travel and direct marketing are significantly associated with gains in web presence. When controlling for fixed candidate-specific advantages, news prominence, polling status, campaign visits, promotional expenses, and organizational expenses, we still find convincing evidence that a candidate's expenditures on direct marketing and campaign travel and events significantly predict changes in future web presence. It is important to note that although these variables are significant, the model fit measures indicate that the relative size of the effect of candidate spending on web presence is not overwhelming.⁶ The changes in spending, in logged form, range from 5.5 to 13.5 for direct marketing and from 3.0 to 13.4 for travel. Thus, the effect of a change in expenditures from the overall candidate minima to the overall candidate maxima is 1.87 percent for travel and 0.92 percent for direct marketing, on average.

To illuminate the contribution of spending variables to each candidate's web presence, we estimated the difference between a candidate's web presence when spending is set at their observed minimum and at their actual spending levels. We then take this estimate of the change in web presence associated with spending and divide it by a candidate's observed level of web presence. The resulting percentage measure, plotted in Figure 3, is thus the percent of a candidate's observed web presence that can be considered a function of a candidate's own spending; that is, the range in candidates' abilities to translate campaign spending into a greater web presence. The direct marketing and campaign travel spending of Thompson, Richardson, Dodd, Huckabee, and Giuliani explains more than 50 percent of their respective web presence. Contrarily, less than 20 percent of Paul's and Obama's web presence were affected by their campaign spending. The web presence of Biden, McCain, Romney, Edwards, and Clinton make up a group in the middle range of scores. In addition, by plotting the percent of web presence attributable to candidate spending against the candidates' observed web presence, an obvious downward sloping pattern emerges. Moving from candidates with lower observed web presence to candidates with higher observed web presence, the percent of web presence attributable to the campaign decreases.

Figure 3 makes clear that our results in Table 1 do not mean that direct marketing and campaign travel expenditures fully explain the massive popularity candidates like Paul or Obama experienced on the Internet. Instead, we find that spending levels better explain the dynamics in web presence for candidates with little net presence to begin with, like Richardson, Dodd, and Thompson.

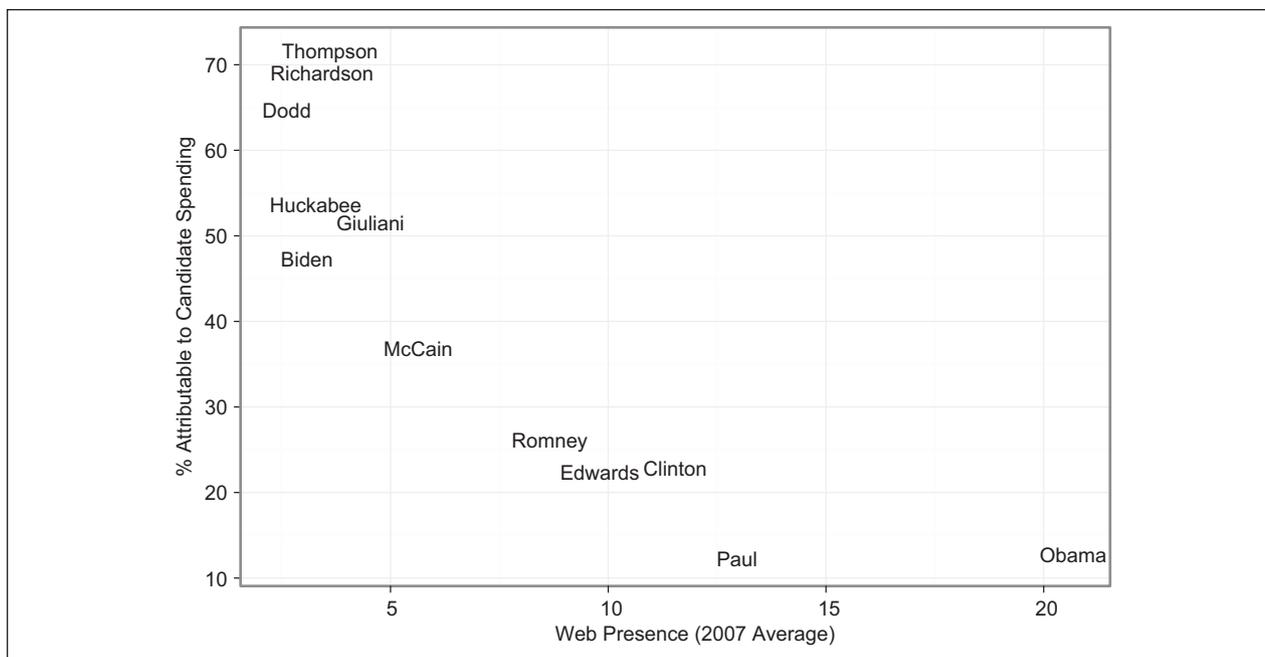


Figure 3. The relative contribution of candidate spending by web presence.

Candidate direct marketing and travel spending may provide candidates with a baseline level of Internet exposure but cannot improve web presence beyond these initial levels. The results suggest a ceiling to the effect of campaigns on candidate web presence. While lesser known candidates' web presence benefits substantially from increased campaign spending, candidates who are already popular on the Internet need something beyond the scope of the campaign to boost their Internet appeal.

Benefiting from Web Presence

Scholars and practitioners increasingly consider the Internet a new force within party nomination campaigns that has the potential to overcome the resource demands of the current frontloaded system. The basis for these claims rest on the ability of the Internet to cheaply and effectively communicate to supporters to facilitate greater amounts of candidate contributions and mobilize candidate support. However, there is little systematic empirical evidence demonstrating that web presence contributes to a candidate's performance within the nomination campaign. Our measures allow us to evaluate the Internet's independent influence across candidates. Having shown above that our measure of a candidate web presence is unique from traditional facets of campaign performance and associated more with factors related to candidate engagement, we turn here to an examination of the roles of this unique factor in campaign support and fundraising success.

Beginning with campaign contributions, a clear finding from the data is that success on the Internet correlates with greater financial receipts.⁷ The left graph in Figure 4 plots out each candidate's average web presence score by the total amount of contributions they raised over the third and fourth quarters of 2007, with one name plotted for each quarter. We note two clear relationships from this figure. First, those candidates who rated higher in web presence also showed higher levels of receipts. Second, by looking *within* each candidate, it is clear that gains in quarterly receipts are associated with higher web presence scores.

The right graph in Figure 4 evaluates the additional claim that the financial benefits of connecting with individuals on the Internet are even stronger among small donors. Although small-donor amounts are not itemized by candidates, we can approximate this amount by subtracting from a candidate's overall total the amount he or she received during each quarter from donors who gave over two hundred dollars (over the entire course of the campaign) as recorded in the Federal Election Commission (FEC)'s individual donor data set. When defining small-donor contributions as those from individuals who gave under two hundred dollars total, we also find a positive relationship between quarterly contribution amounts and web presence.

Stronger tests of these relationships with candidate and covariate controls further support arguments that candidates with greater web presence are more successful at raising funds. Here, we regress each candidate's

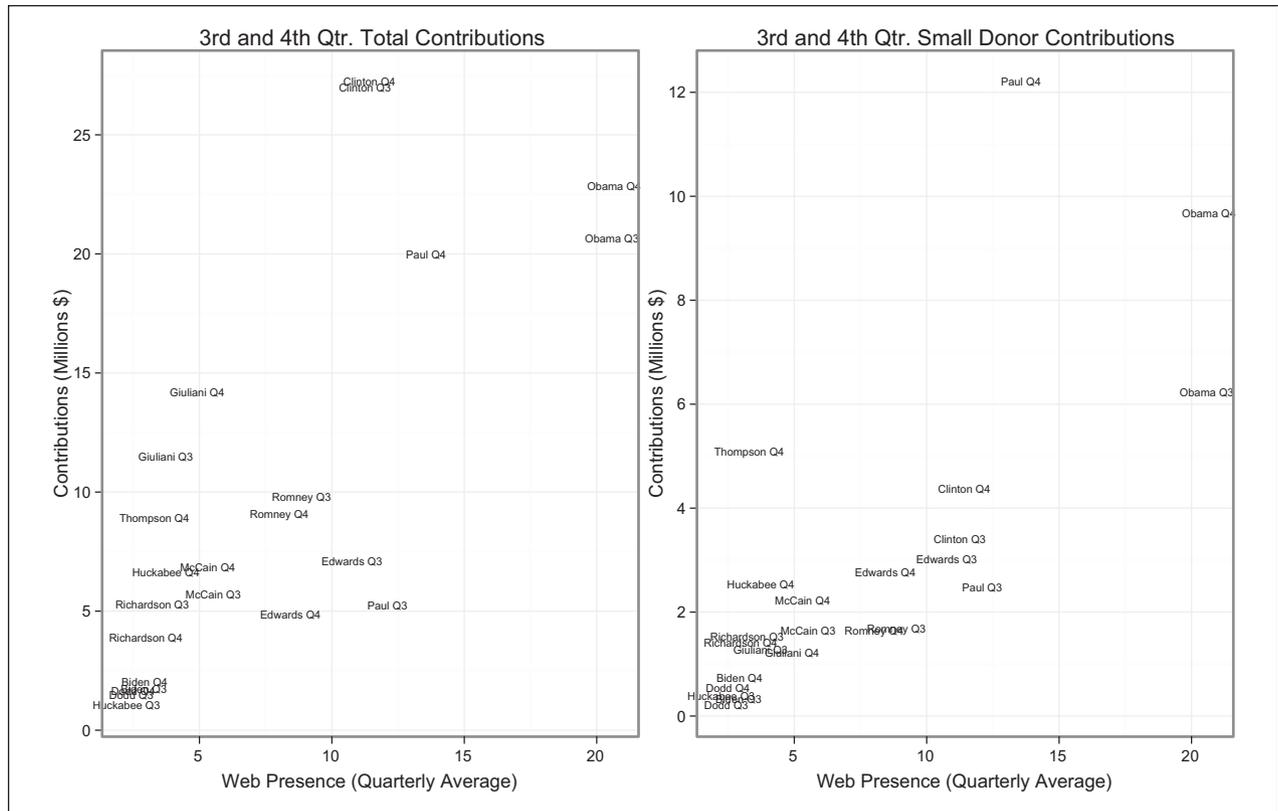


Figure 4. Third and fourth quarter (2007) contribution totals by web presence.

Table 2. The Financial Benefits of Web Presence.

	Quarterly contributions	
	Total	Small donor
News prominence	-0.342 (0.181)	-0.238 (0.126)
Web presence	0.650* (0.118)	0.410* (0.071)
National polls	0.553* (0.121)	0.082 (0.057)
Campaign spending	0.187* (0.087)	0.118 (0.078)
Intercept	0.378 (1.109)	1.040 (0.820)
N	23	23
R ²	.900	.715

Dependent variable: Quarterly contributions, in millions of dollars.
Regression coefficients with clustered standard errors in parentheses.
* $p \leq 0.5$, one-tailed test.

quarterly contribution amount on their average media prominence, average web presence, average poll standing, and campaign expenditures over this same period. Table 2 displays our results from a linear regression model with candidate-specific clustered standard errors for overall contribution and small-donor contribution totals.⁸ Notably, web presence is the only variable that is a consistent significant factor in explaining a candidate's quarterly contribution totals. Across the candidates and

on average for the quarter, a one-unit increase in a candidate's web presence corresponds to a \$650,000 increase in total contributions and \$410,000 in small-donor contributions. Campaign expenditures and national polls both show significant positive relationships with overall fundraising—interesting findings in their own right—but these relationships are not significant for small donors. Web presence remains a significant predictor for small-donor totals. The estimate of its effect also gains in size relative to that for national polls, supporting claims that the web presence has greater benefits for small-donor contributions. In both cases, news media coverage has a consistent negative relationship with quarterly totals, but the estimates fail to reach conventional significance levels.

Another aspect of the claimed financial benefits of web presence is that it allows candidates to receive a large influx of funds within a very short period of time. Although early-state winners have traditionally seen a boost in their campaign contributions following positive media coverage of a victory (Damore 1997; Mutz 1997), primary frontloading has effectively limited these effects. By staging primaries within shorter periods of time, candidates have less time to devote to personally raising funds and a shorter time window to capitalize on a victory

Table 3. Web Presence and the Dynamics of Early Contest Contributions.

	Weekly contributions
Contest win	-1.128 (0.830)
News prominence	0.077* (0.021)
Win × News prominence	-0.017 (0.026)
Web presence	0.096*(0.046)
Win × Web presence	0.199* (0.046)
Fourth quarter fund-raising	-0.044 (0.053)
Intercept	-1.083 (0.721)
N	38
R ²	.781

Dependent variable: Weekly contribution totals from FEC's individual donor database, in millions of dollars. Linear regression coefficients with clustered standard errors in parentheses

* $p \leq 0.5$; one-tailed test.

(Aldrich 2009). However, the Internet provides a cheap and almost immediate way for candidates to contact pre-existing supporters and motivated new supporters to find a candidate and give funds in response to a victory. Thus, we should expect the Internet to be especially useful to candidates following primary victories.

Accordingly, we test whether contest victories provide greater financial benefits to candidates with greater web presence. We examine the candidate contribution dynamics following early contest results for those candidates who had active campaigns in all the major January contests for their respective party.⁹ We follow Damore (1997) and model weekly contribution totals recorded in the FEC individual donor data set as a function of the previous week's campaign performance, thereby testing whether the contribution payoffs of victories are conditional on a candidate's level of media coverage or level of net prominence. In Table 3, each candidate's weekly contribution total is regressed on a dummy variable recording whether the candidate won a contest the previous week, a variable measuring the candidate's weekly average level of media prominence within our news coverage data, a measure of each candidate's weekly web presence, and two variables that interact contest wins with these news and internet variables. Also following Damore (1997), we include a candidate's fund-raising total from donations in the FEC data set during the previous quarter as an additional control variable. In accord with previous findings (Damore 1997) and in contrast to the preprimary portion of the campaign examined above, contributions during the contest period of the nomination show significant responsiveness to a candidate's level of media coverage. Unique to this study, however, web presence also shows large significant effects rivaling those of general news media prominence. A one-unit increase in a candidate's

web presence corresponds to an additional \$96,000 in weekly contributions on average in 2008.

We also find that a primary win alone does not directly provide significant financial benefits to candidates. Instead, the financial benefits of a victory show significant differences depending on a candidate's level of web presence. Interestingly, this interactive relationship does not hold for their level of media coverage. To elaborate, only candidates who measure above six in our web presence measure are estimated to reap contribution gains from a win in the previous week. This indicates that Mike Huckabee significantly benefited from his increased news coverage following his Iowa win, but the win itself produced no significant contribution gains in the following week because of his low web presence. However, even after controlling for gains in media coverage, Obama's Iowa win combined with his high web presence is estimated to have generated an additional gain of \$3.2 million in the following week. Thus, the web enables candidates to translate early victories into financial gains that would otherwise be lost.

Having found consistent evidence of the financial benefits of a candidate's web presence, we turn now to examine whether web presence has potential benefits for electoral outcomes. Given the limits of our measure, we can only test the benefits of web presence within early-state contests that had a sufficient number of competing candidates (Iowa, New Hampshire, Nevada, and South Carolina). As discussed, a candidate's web presence likely increases electoral support by mobilizing and organizing supporters to vote or caucus. Indeed, the Internet's ability to organize and establish strong bonds among supporters is especially important in caucus contests, where supporters need to publicly show their support (Redlawsk, Tolbert, and Donovan 2011).

To test this for this relationship, we specify each candidate's percentage share of votes cast, or percentage share of caucus delegates won in Democratic caucus contests, as a function of each candidate's web presence score in the previous week. With limited observations, we control for other factors by including a poll standing control variable that measures the average level of candidate support estimated by public surveys for the week prior to the contest.¹⁰ Our test is inexact—a candidate's web presence potentially influences a candidate's polling performance prior to election day—yet remains informative. The contacts and attachments fostered on the web provide a candidate's supporters with the organization and motivation that increases their chances of expressing their support and decreases their chances of changing their support in the days immediately prior to voting. Therefore, holding poll standing constant, we should expect candidates with higher levels of web presence to perform better on election day.

Table 4. Web Presence and Early-State Performance.

	State contest			
	Iowa	New Hampshire	Nevada	South Carolina
Poll standing	1.165* (0.078)	1.204* (0.068)	1.478* (0.273)	1.377* (0.071)
Web presence	0.362* (0.093)	-0.169 (0.189)	0.589* (0.269)	0.324* (0.148)
Dem. intercept	-4.717* (1.555)	-1.635 (2.128)	-18.978 (8.204)	-12.544* (4.194)
Rep. intercept	-3.811* (1.361)	-0.767 (1.627)	-10.055* (3.296)	-6.719* (2.204)
N	12	10	9	9
R ²	0.978	0.965	0.921	0.983

Dependent variable: Percentage share of votes for primary contests and percentage share of votes (Republicans) or delegates won (Democrats) for caucus contests. Least-squares regression coefficients with robust standard errors in parentheses.

* $p \leq 0.5$, one-tailed test.

In Table 4, we present regression model parameter estimates with robust standard errors, where any potential differences by party are accounted for by estimating separate constants. Not surprisingly, a candidate with strong poll numbers is expected to win a greater share of the votes or delegates. But even after controlling for polled levels of support entering a contest, we find that a candidate's web presence has a significant positive relationship with electoral support for three of the four early-state contests. The result is positive and significant within the caucus states of Iowa and Nevada, where a point increase in web presence provides as much as a half percentage point increase in the share of the Nevada vote. The size of this increase is nontrivial in light of the proportion of variability in the models explained by polling alone.

Only New Hampshire's estimates fail to reject the null hypothesis, which is not necessarily unexpected. Since it is such a fixture in local nomination politics, primary participation in New Hampshire is also much higher relative to other primary states, and perhaps this makes the organization and turnout effects of web presence perhaps less influential there. But this insignificant result may also be for methodological reasons. The primary was less than a week after Iowa's caucus, such that our weekly measure does not capture the changes in web presence following the Iowa caucus. Moreover, the dismal performance of the polls in New Hampshire on the Democratic side make testing less efficient, where the exclusion of the Obama observations turns the coefficient estimate positive.¹¹ Thus, across three important early contests in 2008, our tests indicate that candidates with higher levels of web presence possessed an important advantage come election day. Candidates with higher levels of web presence do significantly better than polls would predict, and vice versa. This evidence supports claims that candidate web presence facilitates stronger organization ties with individual supporters and a stronger level of voter attachment, an especially important advantage for candidates in caucus contests. Indeed, it is possible the benefits of a

web presence are larger, considering these estimates fail to represent what influence a web presence has on preexisting levels of candidate support as measured by our polling variable.

Discussion

The analyses above provide robust evidence that popular perceptions of the unique nature and the benefits of the Internet in nomination campaigns are legitimate, albeit exaggerated at times. We found that a candidate's web presence is partially responsive to campaign factors but not simply a reflection of national media coverage or poll standing. Moreover, a candidate's web presence was a consistent and significant predictor of a candidate's success in fund-raising and electoral support. It was an especially useful tool for small-donor contributions, quickly raising contributions after primary victories and maximizing support in the early-state contests.

Of course, these results are specific to the 2008 presidential nomination campaign, and it is difficult to predict how changes in campaign finance or party nomination calendars will modify the Internet's importance in future contests. Indeed the 2012 Republican contest exhibited the power of the Internet to help and hurt candidates. Herman Cain, for example, gained appeal early among the party's Tea Party wing on the Internet, and this soon translated into positive national media coverage, a boost in contributions, and a surprising lead in national poll numbers by October 2011. But this rise in popularity also produced greater journalistic scrutiny and a slew of negative stories that quickly ended his campaign. Moreover, the 2012 campaign also ushered in "Super Political Action Committees (PACs)," independent-expenditure-only committees that have no limits on spending or the size of incoming donations. Although they add to campaign spending totals, these organizations primarily fund directed attacks on candidates. Our results suggest that the Internet will continue to play a central role alongside

this new feature, enhancing the same mechanism we describe in 2008. As front-runners suffer intense attacks by outside groups, campaigns and/or the news media, voters have a greater incentive to seek out and consider long-shot candidates that are not being attacked, such as Cain and then Santorum in 2012. Thus, it is likely that the Internet enables long shots to capitalize on the increased attacks from Super PACs, even though it is not a sufficient basis of support once candidates have gained popularity.

Ultimately, this study suggests a nuanced understanding of the Internet's benefits depends on recognizing the type of election and the type of candidate. The bulk of the evidence here supports the growing belief that the Internet has the potential to help equalize the playing field between long shot and front-runner in party nominations. First, we find that the campaigns, particularly those of the front-runners, are limited in their ability to control their candidate's web presence. Although a candidate's web presence showed significant associations with campaign travel and direct marketing spending, the substantive size of these relationships are relatively small on average. Long shots, like Thompson, Richardson, and Dodd, were able to spend their way into a modicum of web presence; front-runners and those with relatively high levels of web presence to begin with, like Obama, Clinton, and Paul, had a web presence practically beyond the reach of their campaign spending, media profile, and general campaign activity. Thus, we find that the Internet is a powerful tool in campaign fund-raising and organization, but for front-runners, it is one that is only mildly responsive to campaign spending and predominately reflective of an organic appeal beyond the considered factors of the campaign. Fortunately for long shots, it appears that there are some things front-runners' money cannot buy.

Second, the Internet has the potential to help equalize the playing field by combating some of the recent institutional changes in the primary calendar thought to favor front-runners. Specifically, a trend toward frontloading has meant that candidates must compete earlier to gather funds and organize campaigns, which benefits those with insider support and donor networks (Cohen et al. 2008). In addition, the compacted calendar means that long shots without nationally organized campaigns in place have less time to convert strong early performances and momentum into fund-raising and organization before the next caucus or primary (Gurian 1986). As we have shown above, the Internet is bucking this trend, rather than reinforcing it (Paolino and Shaw 2003), by providing fund-raising and organizational benefits to long-shot candidates. The Internet helps free candidates from some of the burdens of fund-raising that have plagued previous failed nominations, particularly with regard to small-donor contributions, and places greater control of the

nomination process in the hands of grassroots activists and focused campaigning. Looking to the future of nomination races, the Internet appears set to play the role of a technological *deus ex machina*, arriving late and unexpectedly to the campaign narrative to salvage some of the more democratic objectives of the McGovern–Fraser reforms.

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Notes

1. Spartan Internet Consulting <http://www.spartaninternet.com>; accessed on March 19, 2011.
2. A list of the elements used to calculate the SIPP Index are presented in the appendix (<http://prq.sagepub.com/supplemental/>)
3. Further details about the news prominence and support measures are presented in the appendix.
4. Dates for some listed transactions are not the actual date but the date on which the credit card bill was paid. Since these credit card transactions are noted in each candidate's report, we exclude these transactions from our measure so that it only contains transactions from that week.
5. Further parsing the promotion materials into a specific category for web-only expenditures does not change the substantive results.
6. Such is to be expected given the comprehensive measure of candidate web presence, which obviously depends on much more than campaign factors. The intention here is not to explain web presence at large but its relationship to the traditional campaign dynamics.
7. We omit Thompson's third quarter as he was not an official candidate until September.
8. We used several alternative model specifications to check the robustness and any potential small-sample bias of our results, including robust standard errors with a lagged dependent variable, jackknifed standard errors, and autoregressive panel corrected standard errors (Beck and Katz

- 1995). All model specifications provide the same substantive conclusions.
9. This includes Iowa, New Hampshire, Nevada, and South Carolina for the Democrats, and Iowa, New Hampshire, Michigan, South Carolina, and Florida for the Republicans.
 10. The New Hampshire poll excludes all surveys that were in the field prior to the Iowa Caucuses.
 11. Multiple reasons for polling's failure on the Democratic side have been offered, such as a possible racial effect, voters switching at the booth to vote in what was thought to be a more competitive Republican contest, or the sudden decay of a huge positive bump from an Iowa win.

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