

Riding the Waves of Money: Contribution Dynamics in the 2008 Presidential Nomination Campaign

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The 2008 primary was the most nuanced and expensive nomination contest in history. We investigate how this massive battle for contributions played out over 2007 and the first half of 2008 by analyzing the daily dynamics of candidate contributions using the Federal Elections Commission's collection of individual contributions. Not surprisingly, Giuliani and Clinton were the leaders in contribution momentum during the latter parts of the so-called money primary. This pattern abruptly changed in 2008 as both parties experienced a structural change in contribution flows. While Iowa and New Hampshire placements helped their causes, the South Carolina primary was by far the most rewarding early contest for Obama and McCain. Furthermore, primary victories do not benefit all candidates equally, as Clinton and Huckabee gained far less than their counterparts in response to their early victories.

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It is unclear how much of a causal influence money has on nomination victories, but it is generally accepted that having large sums of money is a necessary component for candidates to compete and win their party's presidential nomination. This was never truer than during the 2008 nomination

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contests, where candidates experienced such massive front-loading that over half of each party's available delegates were decided within about 40 days after the Iowa Caucus. For this race, candidates had to have a large and costly national campaign organization in existence long before the first vote was cast.

In response to these requirements, the candidates broke a series of fundraising records. In late June, Clinton raised more than any other Democratic candidate in history in a single day. In the GOP, Paul would break the record for the largest online single-day fundraising in November. Early in the next year, Obama broke the record for most money raised in a single month. While it is primary results and delegate support, not fundraising, that determine nominations, it is clear that the prominence of money in nomination campaigns has increased. These days, to run a successful campaign requires, at a minimum, the ability to raise and spend increasingly large amounts of money before the primary is under way.

But how exactly did this competition for money play out during the 2008 primary? Was Clinton as strong a financial player in 2007 as her quarterly reports made her out to be? Do all candidates benefit equally from primary wins? And what effect do losses have on candidate contribution levels? This paper seeks to address these questions by describing the fight for contributions during the 2008 presidential nomination contest.

We first discuss the role of nuances in nomination campaigns as well as some of the key characteristics of the modern nomination system, including front-loaded primaries and the limits of public financing. We then present evidence as to how the money primary developed over the length of the campaign. In particular, we extend upon a simple analysis of the candidates' quarterly and monthly contribution reports by utilizing the Federal Elections Commission's (FEC) data set of contributors who gave more than \$200. We use these data to estimate a state space measure of each candidate's daily funding levels that controls for day and report deadline artifacts. The resulting estimates capture each candidate's latent level of fundraising strength over the course of the campaign, thereby providing a more complete narrative of the money race within the 2008 nomination contests.

Our analysis of these daily dynamics provides numerous insights into the money primary of 2008. We find that much of the fundraising dynamic during 2007 abruptly changed in 2008, as both parties experienced a shift in contribution flows. In the case of the Democrats, Obama became the contribution leader so much so that Clinton was unable to approach his sustained level of contribution momentum for the rest of 2008. Our estimates also suggest that it was the South Carolina primary, not those of Iowa or New Hampshire, that was by far the most financially rewarding early contest for each party's eventual nominee, at least among mid- to large-size financial contributors. Furthermore, primary victories do not benefit all candidates equally, as Clinton and Huckabee gained far less than their counterparts in

response to their early victories. In combination, the results suggest that the financial benefits of primary victories are dependent on the narrative of the campaign and the mass appeal of the candidate.

VIABILITY AND EXPENDITURES IN PRIMARY CAMPAIGNS

The modern character of fundraising is such that it is a necessary but insufficient condition for winning elections. Candidates employ different strategies in order to gain contributions, but all acknowledge the need to do so. The central role of contributions stems from its two basic campaign provisions: expenditures and signals of viability. In terms of expenditures, candidates need to have money in order to spend it. The price of campaigns has continually grown to the point that to be a competitive candidate requires more money than is possible through public finance (Butler 2005; Green 2006). Candidates require funds for traveling, advertisements, and running their local organizations.

Some studies have shown that campaign collections and expenditures can increase delegate support (Goff 2004; Haynes et al., 1997). However, Cohen et al. (2008) recently argued that contributions have a relatively minimal effect on nomination contests in comparison to factors like elite endorsements. Though the full impact of contributions is unclear, the race for them is perhaps second only to the race for votes.

Candidates also desire contributions since they send the signal that the candidate is viable. Contributors are less likely to lend their support to a candidate who is not a contender. Especially during the “invisibly primary” period (Hadley 1976), when polls are less prominent, contributions send a clear message to the public of front-runner status and candidate viability (Butler 2005).

We characterize contributions as being generated in two basic ways: structural and dynamic. The structural factors are largely static throughout the campaign. Given a candidate’s policy positions and experience, contributors may be more or less likely to support him or her. For instance, Ron Paul’s desire to return to the gold standard of currency may have excluded him from many potential Republican donors. Likewise, each candidate has an existing stable network of core supporters who are already willing to financially back his or her campaign. These networks give candidates like Giuliani and Clinton strong initial advantages over candidates with more limited national profiles.

The second factor driving contributions is more fluid and momentum-driven. While viability is suggested by fundraising success, it is clear that the relationship also works in the other direction. Contributions often follow indicators of viability, like previous contributions, national polls, or more concrete numbers like delegate counts (Damore 1997; Adkins and Dowdle

2002). Likewise, contributions follow candidates who perform well in contests. Damore (1997) shows that primary victories reap significant gains in contributions, an effect that is particularly strong for long shot candidates and especially if such victories are covered by the media. Such findings support the work of Mutz (1995), who demonstrates that leaders within the news media's horse race frame receive significant fundraising advantages. Prior to the primaries, however, the favored indicator of support is contributions.

In fact, contributions have two types of momentum. The first is driven by these external political factors, but the second is self-perpetuating and organizationally driven. Raising money allows candidates to appear viable, but they also allow candidates to spend money to raise more money (Krasno et al., 1994). This is an especially important process early in the campaign. Contributors are more likely to give to candidates who can afford to contact them, via campaign visits, direct mailing, phone calls, or e-mail (Brown et al., 1995). Hinckley and Green's (1996) analysis of the 1988 primary found that organizational expenditures were the factors most strongly associated with candidate fundraising success. Thus, candidates with greater organizational resource expenditures early in the process are more likely to find and collect contributions (see also Steger 2000).

While our focus is on the dynamic race for money, as opposed to the dynamics of the nomination contests at large, it is important to note that we should expect each of these factors to interact to shape expectations and produce primary dynamics. Accordingly, Aldrich's (1980b, 1980a) dynamic model of presidential nomination campaigns stresses that a candidate's previous levels of resources and viability influence performance expectations. If a candidate's performance manages to exceed these expectations, then he or she gets a substantial boost in resources and vice versa. In the increasingly front-loaded and financially demanding modern campaign, however, candidates who have not garnered substantial funds in the pre-primary will not be around long enough to feel the boost.

THE OPEN FRONT-LOADED PRIMARY SYSTEM OF 2008

Our focus on the dynamics of contribution provides a perspective from which to examine the 2008 nomination campaigns. These contests exemplified the influence of two recent prominent trends in presidential nomination campaigns: front-loading and increased financial requirements (Magleby and Mayer 2008; Aldrich 2009).

Typically, front-loading has the side effect of compressing the contest. With more and more primaries packed into smaller and smaller time periods, as has been the trend, front-loading had led to increasingly shorter nomination seasons (Mayer 2008). As it turned out, 2008 was the most compressed

calendar of any nomination season. For example, Tolbert and Squire (2009) note that the portion of delegates decided before March 2 was only 10 percent in 1976 but was 70 percent in 2008. Despite the compressed schedule of contests, the fundraising success and early victories of both Clinton and Obama brought about an unusually long and competitive primary among Democrats.

Within front-loaded campaigns, candidates have less time to dedicate sequentially to each state. Instead, candidates find they must campaign in many locales in a short amount of time, virtually simultaneously, thereby spreading their budget and resources thin. During these compressed schedules, long shots, in particular, have less of a chance to gain momentum from beating expectations in early states (Steger 2000). In fact, long shot candidates are cursed twice over: (1) they lack the time to build momentum from actual electoral victories and (2) they lack the funds, by virtue of their long shot status, necessary to fight a war on all fronts.

It is important to note that the traditional weapon available to the long shot candidate is utterly obsolete in the modern campaign. Public financing, another feature of the 1974 Federal Election Campaign Act and active since 1976, has steadily grown out of practical use (Corrado 2005). The amount of money available combined with the restrictions on expenditures and donations make public financing largely impractical (Butler 2005; Green 2006). While seemingly helpful for those at the bottom of the list, spending restrictions are so low compared to what the front-runners spend that it is virtually impossible to compete while accepting public funding. In 2008, candidates accepting public matching funds needed to restrict their primary spending levels to \$42.2 million. This amount is about half of what Obama, Romney, and Clinton spent in 2007 alone.

Candidates also faced greater incentives to raise campaign funds. It was the first election since 1928 that a sitting president or vice president did not seek a party's nomination. Wide open fields for candidates of both parties along with historically low presidential approval ratings led to unprecedented attention over the nomination candidates. Greater competition meant finances became even more crucial. Not only did contributions finance an incredibly expensive primary, but this made journalists and the nomination elite increasingly focus on the early FEC quarterly reports to help shape their expectations of which candidates were viable.

Thus, entering 2008, candidates from the front to the back of the pack knew they were facing a nomination contest that required large amounts of money for success. Within this "money primary," long-shot candidates needed some money to stay at least within journalists' and voters' minds as legitimate contenders. Likewise, front-runner candidates needed money to guarantee they could compete in a front-loaded nationwide primary schedule and to establish their viability as national candidates. This made the 2008 nomination campaign a fierce and competitive fight for money.

AN INITIAL LOOK AT FINANCIAL REPORTS

To examine how the money race played out over the 2007 and 2008 primary season, we begin with a review of the financial data from the quarterly and monthly FEC reports of each candidate's performance. After all, it was these data that journalists and elites within each party used to help determine the pre-primary accounts of candidate viability.

The 2008 nomination contest illustrates the importance of pre-primary fundraising for front-runners and long shots. Magleby and Mayer (2008), comparing presidential nomination contests from 1980 to 2004, portray the candidates' contribution performances in terms of the candidates' relative positions. They note the distinct paths of the front-runners, like Reagan, Carter, Mondale, and Bush, and the long shots, like Askew, Cranston, and Hollings. The trend has been that long shot candidates in recent elections can run well in the early state primaries, but they usually lack the financial support to endure the campaign and win the nomination. The 2008 nomination contests saw a similar dichotomy in contribution performance.

The contribution race was well under way a year out from the first primary. In the first quarter of 2007, the top two Democratic candidates, Clinton and Obama, raised more than \$20 million. Figure 1 displays the state of the monetary competition at the end of the invisible primary of 2007. Almost a year later, Obama only slightly trailed Clinton in total contributions and cash on hand entering the Iowa caucuses (about \$102 million vs. \$107 million in

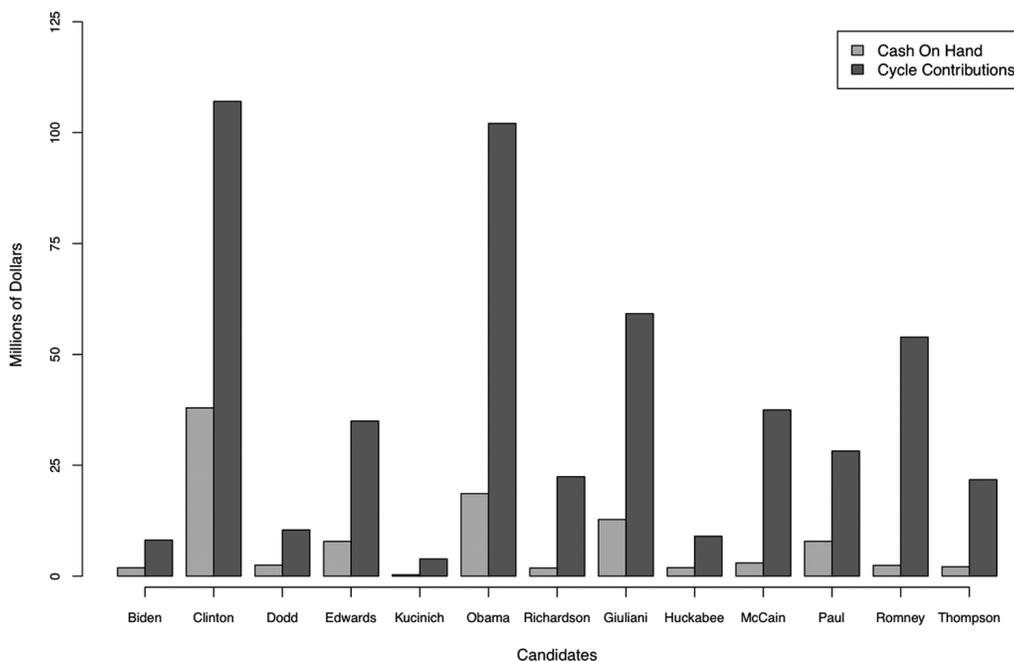


FIGURE 1 FEC reported candidate earnings from the 2007 year end report.

terms of total contributions), as both continued to shatter contribution records.

Edwards' strong third place showing, with substantial funds generated from fellow trial lawyers and networks from previous elections, would have made him a contender in any other election. However, his results still paled in the face of Obama's and Clinton's unexampled contributions. Edwards would need to strike an early victory to make up for this deficit—a victory he would not see. Likewise, by the end of 2007, Biden, Dodd, Kucinich, and Richardson had essentially lost the money primary. For these latter candidates, winning the nomination would have meant overcoming expectations and, more importantly, relative budget limitations, a situation that was extremely unlikely in the front-loaded 2008 nomination contest.

Figure 1 also shows that the top grossing candidates for the Republican Party at the year's end were Giuliani, Romney, and McCain. Giuliani was ahead of the pack at \$59 million followed closely by Romney at \$54 million. Although, given that Romney's personal fortune was partly at his disposal, these two were effectively tied in financial strength. Thompson and, somewhat surprisingly, Paul were not far behind McCain, making Huckabee the only obvious long shot.

Although he was within striking distance, journalist accounts of McCain's campaign in 2007 often considered it faltering. Following a lackluster July quarterly report, McCain would dismantle and reorganize his campaign. Due to his low cash reserves, McCain chose to drastically reduce his campaign staff and scale down his campaign. Despite these decisions, McCain managed to garner around \$6 million to \$7 million in the last two quarters, somewhat keeping pace with the anointed front-runners, Giuliani and Romney. Thus, even though McCain was not the leader, he was far from being a long shot candidate like Huckabee, who had collected only \$8 million entering 2008.

It is also telling to examine how the early state nomination outcomes reshaped the money primary before candidates entered into what was effectively a national primary on February 5. Figure 2 presents the financial profiles of each candidate as reported within their January 2008 monthly financial report. Obama raised more than \$30 million and overcame Clinton's total contributions by more than \$15 million. Both numbers are impressive results since they demonstrate how, despite campaigning's constraints on fundraising time, the Internet still allows for a significant amount of campaign contributions to be raised during the actual campaign and across the nation. Early money might be more valuable to a campaign, but it is clear that candidates can make up some financial ground by winning contests.

However, it is also clear that winning a state was not the only ingredient to financial success during the early primary period. For instance, while Mike Huckabee's contribution amount outpaced Giuliani's, it still was not anywhere near the amounts McCain and Romney received during January.

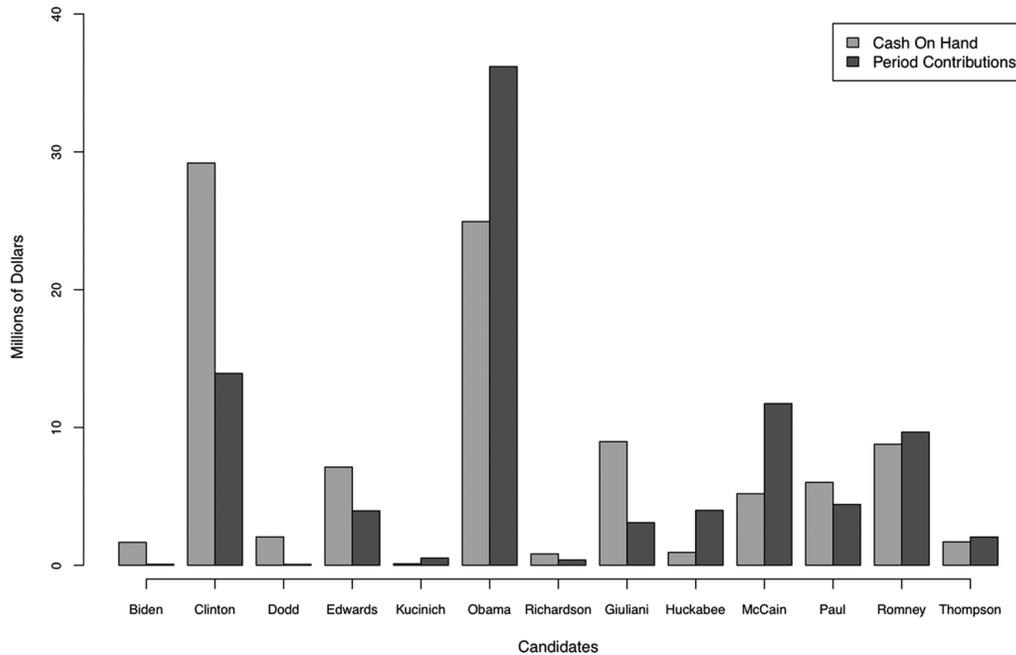


FIGURE 2 FEC reported candidate earnings from January 2008.

In fact, it appears that McCain's victories in New Hampshire, South Carolina, and Florida were barely enough to overcome Romney's receipt totals. Likewise, Clinton's wins in New Hampshire and (to some extent) Nevada and Florida did not generate near the amount of money associated with Obama's wins in Iowa and South Carolina.

So how did Huckabee's win fail to translate into the kind of contributions we saw for McCain following his wins? How did contributors respond to Romney's continued disappointments in Iowa, New Hampshire, and Florida? Where and when did the change in contribution flows occur that allowed McCain to flourish and his competitors to falter? Likewise, Clinton's elite networks and lavish fundraising events were indicative of an advantage in contributions that many pundits thought would dominate throughout the primary. Instead, in 31 days Obama overcame the lead that Clinton had built up over an entire year. But when exactly did this reversal of fortunes for the top two contenders occur?

It is difficult to answer these questions since January contained numerous caucuses and primaries and the quarterly and monthly FEC reports provide only an aggregate measure of what impact candidate performances had on invisible primary fundraising. Likewise, quarterly and monthly reports fail to accurately demonstrate the strength of the dynamics or momentum candidates may have generated over the course of the nomination campaign. If Clinton's financial prowess within 2007 was mostly a function of her large network of core supporters as opposed to mass public appeal, then this

might explain why we find that her victories failed to generate as great a reward.

Our subsequent analysis focuses on measuring whether contribution dynamics existed and how they played out over the invisible and actual primary campaigns of 2007 and 2008. We focus on financial dynamics because we think they represent a distinct force from the stable elements of organizational size and strength. We seek to determine what impact primary and caucus results had on candidates' coffers and whether these results mitigated fundraising advantages from the year before. We use monetary data from the daily FEC large donor reports dating back to the first months of the pre-primary campaign through the first half of 2008 to parse out the day-to-day changes in campaign contributions for each candidate (see also Krasno et al., 1994).

ESTIMATING DAILY CONTRIBUTION DYNAMICS

To examine how contribution flows operated during the presidential nomination campaign, we use the FEC individual donor data set to calculate the daily amount of contributions received by each campaign. We examine contributions to major candidates over the course of 2007 and until each candidate suspends his or her campaign or a party nominee is chosen.

The FEC data set is limited since it only details individual contributions from donors giving a total of \$200 or more to a specific candidate.¹ However, as Brown et al. (1995) demonstrate, a large percentage of candidates' contributions come early and from habitual contributors who give more than \$200. This was the same in 2008; candidate contributions came mostly from big donors. Out of each candidate's total contributions (including those contributions from political action committees), only Ron Paul received less than a majority of contributions from individuals in our data (43 percent). In comparison, big donor money made up between 70 and 90 percent of campaign receipts for most other candidates. Clearly, although they are not representative of all contributions, big donor dynamics represent a major component of a campaign's contribution receipts.²

A complication in generating daily contribution dynamics is that the receipt dates reported within the FEC data are not exact indicators of the actual days of contributor giving. Furthermore, for many candidates we find large movements that follow the patterns of FEC report deadlines. These day-of-week and FEC report deadline artifacts disrupt our ability to perceive exactly when candidates were experiencing contribution gains and losses.

For instance, the dots in Figure 3 represent the natural log of Hillary Clinton's reported amount of contributions for each day over the period in which she was actively campaigning. We take the natural log of total contributions to control for better visual scaling. As is apparent, there are two

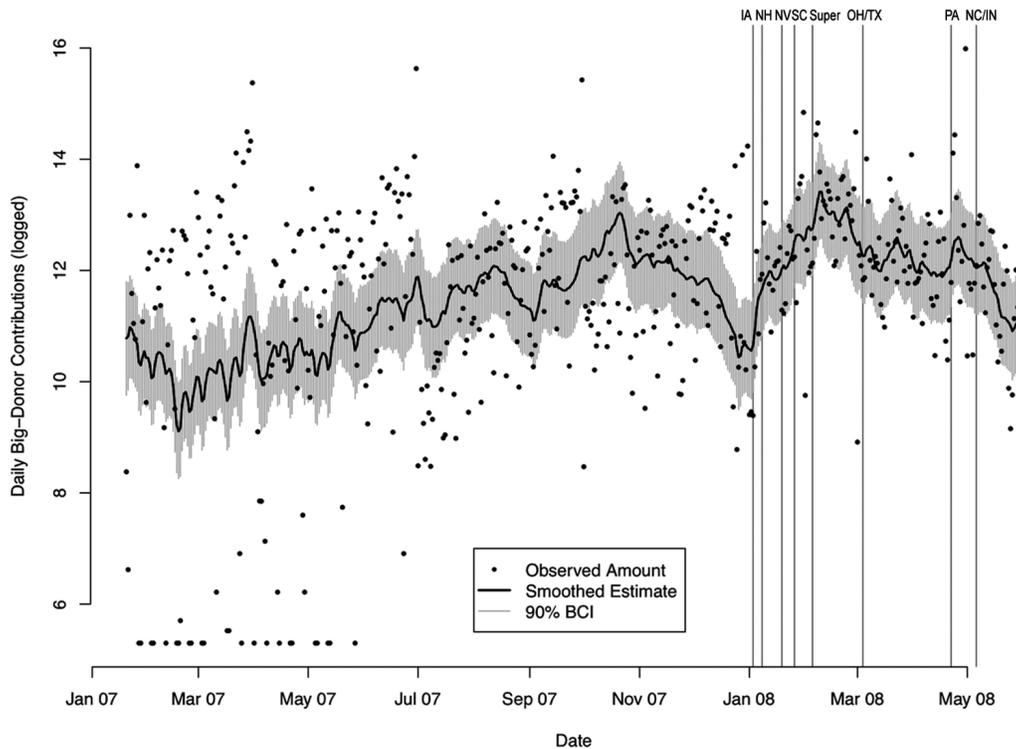


FIGURE 3 Latent fundraising strength for Clinton.

confounding patterns within the data. First, on the days preceding the FEC report deadlines (April 1, July 1, October 1, January 1, and the first of the month thereafter) Clinton's campaign reports a large amount of contributions. For the days immediately following, we see also see a large drop in contribution amounts.

These structural changes are partly a function of when campaigns process receipts and when candidates call on contributors to meet fundraising goals. All campaigns try to maximize how much money they received within these public FEC reports. Consequently, they are going to make sure to process all the checks they have in house before the report deadline. Likewise, there is also a certain marketing strategy going on such that candidates use the importance of these reports and deadlines within their appeals to contributors. They will call on donors to give an amount that guarantees that their campaign's report will meet or exceed expectations. While these processes have financial benefits, we believe they are separate from the true underlying momentum behind contribution dynamics, since candidates cannot rely on these appeals at any time, only as long as they have available supporters and a deadline is imminent.

For instance, Hillary Clinton's biggest contribution amounts were always on days immediately preceding a financial report deadline.³ Likewise, we

find that her campaign frequently ramped up its contribution takings as the report deadlines approached. Combined, these results suggest either that the Clinton campaign was slow to process contributions until the FEC deadline was near or, what seems more likely, that they were mostly reliant on organizational efforts and outreach to her existing network to generate her massive quarterly contribution amounts.

Although not immediately noticeable, there are also strong patterns within each week, as Saturday and Sunday amounts are significantly less than the amounts reported on weekdays. This is truer for some candidates than others, as the McCain campaign shows a noticeable proclivity to not report transactions on weekends and holidays. Of course, for the McCain campaign this means their contribution totals for weekdays were somewhat biased upward, since they include all contributions received over the weekend. Therefore, to accurately compare candidate contribution amounts, we control for both of these confounding patterns in the data.

To generate a smooth summary measure of contribution dynamics, we estimate a Bayesian state space (or Kalman filter) model, which is capable of accounting for these confounding factors. In short, for each of the major candidates we specify the natural log of one's reported big donor contributions (RC) as a product of the following:

$$RC_t = \theta_t + Day_t + FEC_t + \varepsilon_t, \quad \text{where } \varepsilon \sim N(0, \sigma_\varepsilon^2)$$

In this formula, Day represents a linear combination of factors that control for day-of-week effects (including holidays). FEC is a linear combination of factors that control for how many weeks remain until the next FEC report and the days immediately preceding and following report deadlines.⁴ Finally, with ε capturing the random measurement error for each day, we have our estimate of θ , which essentially represents the latent or smoothed level of contributions each day.

Our model attempts to filter out the noise in the FEC data caused by reporting artifacts such that we can focus on the latent contribution level and subsequently observe the true dynamics in fundraising. To do so, we also estimate a transition model of contribution momentum as a simple random walk:

$$\theta_t = \theta_{t-1} + \nu_t, \quad \text{where } \nu \sim N(0, \sigma_\nu^2)$$

This specification allows our estimate of θ to change each day as a function of whatever random shock or change, ν , was experienced by a candidate that day. Using a standard set of Bayesian priors and the forward filtering–backward sampling algorithm (West and Harrison 1997),⁵ we simulate two posterior chains to calculate a smoothed series for each major candidate.⁶ For all our estimates, we start the estimation in early 2007 and

continue until the candidates suspend their candidacy, clinch the nomination, or, for Clinton and Obama, reach the beginning of June.

To demonstrate the validity of our estimates, Figure 3 compares Clinton's reported levels of big donor contributions each day with our smoothed estimate of contribution dynamics. The gray-shaded regions represent the 90 percent Bayesian credibility (posterior probability) interval and capture the uncertainty in our underlying estimate. The smoothed estimates appear to be accurate in capturing a local average level of contributions for each day. They also highlight the structural movements in the Clinton campaign's contribution dynamic. Hillary Clinton showed increased contribution momentum over the course of much of 2007. As Iowa approaches, however, we find that her day-to-day logged contribution levels began to drop until the Iowa caucus. After this point, Clinton's contributions steadily gained until Super Tuesday, February 5.

EXPLORING DYNAMICS IN DAILY CONTRIBUTIONS

Above we suggested that, beyond organizational factors, campaign contributions are generated from a type of political dynamic. This momentum in contributions is a product of candidate abilities to win primaries (Damore 1997), gain favorable news coverage (Mutz 1995), beat expectations (Aldrich 1980b), and build organizational outreach (Hinckley and Green 1996). However, an examination of FEC quarterly and monthly reports is often unable to clarify how these factors developed over the campaign. We therefore turn to a dynamic investigation of how the race for contributions played out for both parties.

The Democratic Money Race

Figure 4 presents the results of our estimates for the top four Democratic nomination candidates. The dynamic estimates illustrate many important shifts in fundraising momentum over the course of the nomination campaign. Foremost, although Obama and Clinton were neck-and-neck in finances by the July 2007 quarterly report, Obama's daily fundraising momentum throughout this time period was much stronger than any other candidate's. In fact, Clinton's average daily total of big donor contributions was not much larger than those of Edwards and Richardson. Therefore, while her campaign was able to gather huge amounts of contributions right before the report deadlines, it does not appear that there was an underlying level of support beyond these dates, foretelling of the final state of the race.

This dynamic abruptly changed in July. In the late summer, Clinton's poll numbers and national media profile showed big gains, such that the campaign overtook Obama in contribution momentum. This is partly

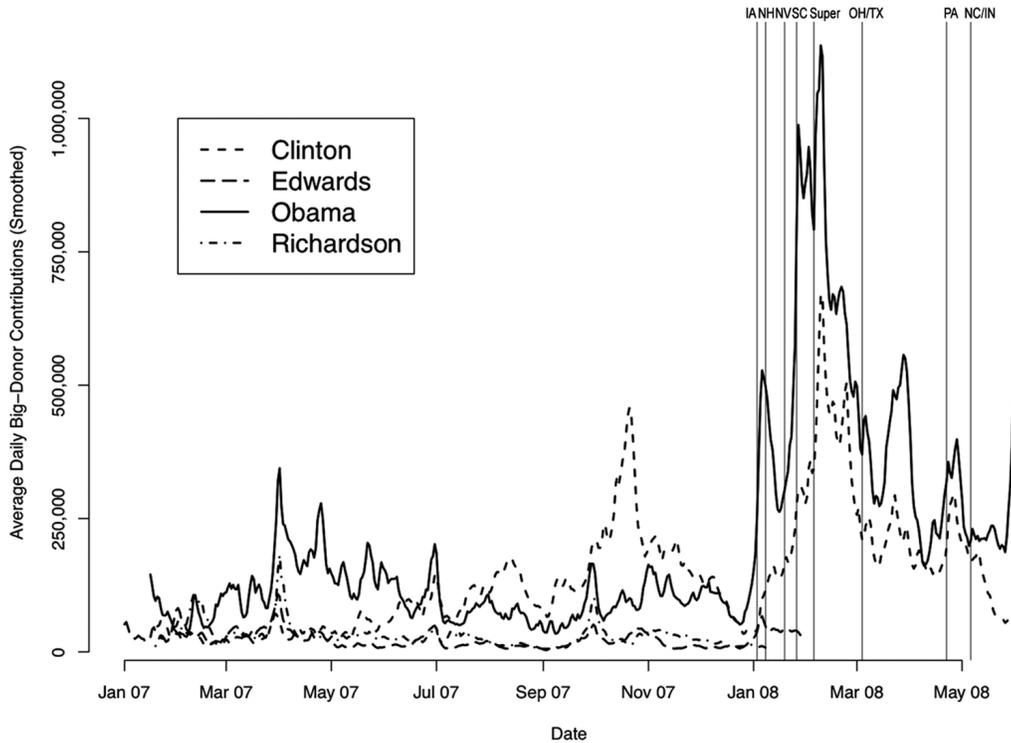


FIGURE 4 Latent fundraising strength for Democrats.

because the Obama campaign showed a steady decline in its average contribution totals until around September. However, Clinton's campaign also increased its contribution levels until it reached the highest estimated level thus far, during October. An added consequence of the intense competition between Obama and Clinton is that Edwards and Richardson were left far behind. In fact, we find that both candidates faltered early, as neither was ever able to reach the level of daily contribution totals within 2007 that they achieved at the start of their campaigns.

As Iowa approached, Clinton and Obama's latent contribution momenta were roughly equal, but the balance of forces drastically changed once Obama took first in Iowa. Obama beat Edwards and Clinton by more than 7 percent of caucus precinct delegates. He gained a higher profile in the media spotlight, as many skeptics were surprised by his ability to attract support in mostly rural Iowa, especially since much of the public were only then first exposed to the candidate. Not surprisingly, with the win and positive media coverage, Obama's contribution momentum skyrocketed to almost \$500,000 before the New Hampshire primary. Similarly, Clinton and Edwards got a boost in contributions at this time, although nowhere near the levels of Obama. Edwards' second place finish only briefly pushed him into comparable contribution levels with Clinton. It was his highest level of big donor

support to date, but it would not be nearly enough to compete with either of the leading candidates.

In New Hampshire, Clinton's victory was a sharp deviation from the most recent poll numbers and journalistic expectations. Although this victory was arguably as shocking as Obama's in Iowa, we find that it had nowhere near the financial impact. If anything, the true impact of the New Hampshire results was not so much an increase in Clinton's finances, but a sharp decrease in Obama's. Still, Clinton's win in New Hampshire was not nearly strong enough to bring her close to Obama's level of financial support at the time.

These financial and winning dynamics continued through Nevada and onto South Carolina. Considering that the Nevada caucuses essentially resulted in a tie, it is not surprising that we find little change in contribution momentum there. Contrarily, Obama's advantage in contribution momentum soared with the South Carolina primary. In fact, its date is associated with the largest estimated gains in the series of contribution levels. Following Obama's impressive victory, his campaign averaged more than an estimated \$750,000 a day in big donor contributions, and this amazing rate of support lasted through Super Tuesday.

Following South Carolina and entering Super Tuesday, Clinton's campaign also managed to increase its daily contribution levels. After what was essentially a tie on February 5, Clinton reached her highest level of contribution momentum. In fact, her campaign garnered its highest level of contribution support throughout the month of February. However, once again, her campaign's performance paled in comparison to Obama's. Whatever Clinton was able to do financially, Obama was able to do better. In their February FEC reports, Obama reported around \$55 million in contributions whereas Clinton only took in about \$35 million. Thus it was only for a brief moment, about a week before the Ohio and Texas contests, that the two candidates' levels of daily contributions were relatively equal.

By that point, however, the race for money was essentially won by Obama, who at the same time took a lead in elected delegate counts. As it turned out, his financial advantage had long been a pressing issue for the Clinton campaign. In fact, in late January, Clinton had to loan her own campaign around \$5 million. Starting in March, her campaign began running in the red, as its level of unpaid debt exceeded the amount of money they had available on hand.

In the end of the season, the monetary dominance was a huge strategic advantage for Obama. Although relatively few states had yet to vote, states like Ohio, Texas, and Pennsylvania were geographically large, covered by multiple and expensive media markets, and evenly divided in the polls. Furthermore, these elections were staggered with long time periods between each election. Consequently the race did not get cheaper, as voters and scarce delegates became only more expensive. While Clinton's campaign still

managed to raise arguably large amounts of money, they had to increasingly rely on financing her campaign through debt in order to come close to matching Obama's level of spending. From there on out, the nomination was basically Obama's, as his campaign was always in a position of relative financial strength.

The Republican Money Race

In comparison to Democratic contribution dynamics, the Republican nomination was shorter and cheaper, but certainly not any less interesting. In fact, the money race provided a changing list of front-runners among the Republicans with a good deal more variance than we saw in the Democratic Party. There are also some striking similarities to the Democratic race. Our Republican estimates similarly highlight that not all financial front-runners had equal levels of contribution momentum. Furthermore, we also find that not all primary victories carried the same financial benefits for the Republican winners.

Figure 5 presents our estimates of contribution momentum for five major Republican candidates. From the start, Mitt Romney showed exceptional fundraising prowess. In some ways, however, it was all downhill from there, as he was never able to surpass the \$20 million in contributions he

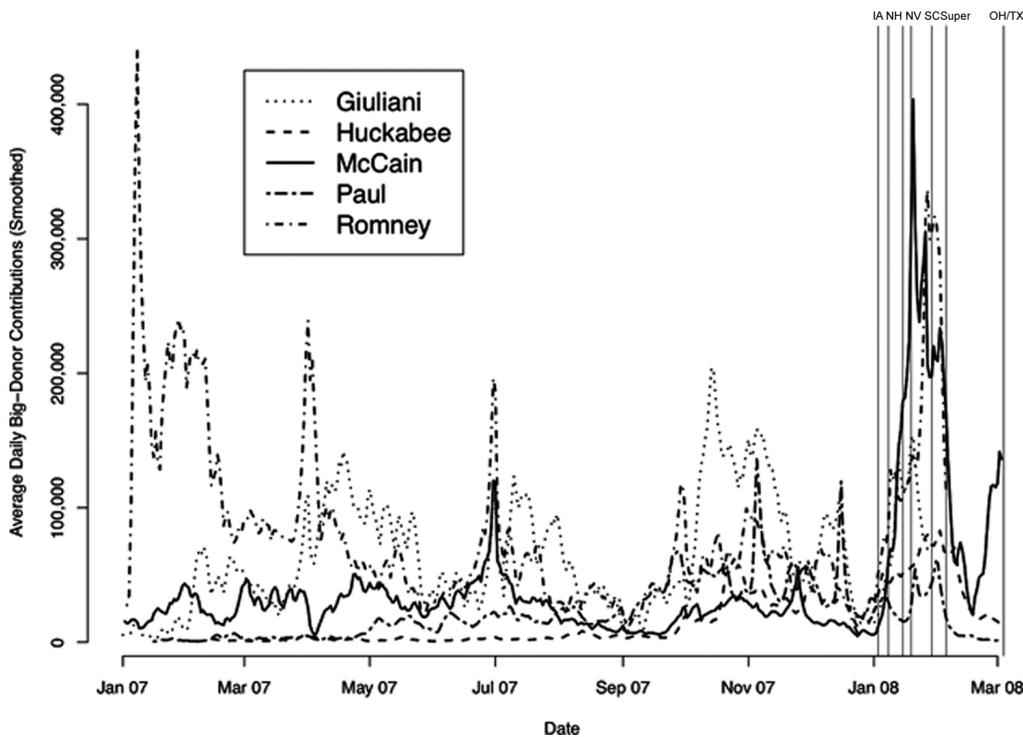


FIGURE 5 Latent fundraising strength for Republicans.

raised during the first quarter of 2007. It appears Romney had a strong core of eager supporters who were willing to support him early in his campaign. However, unlike Obama, this early level of support was not indicative of a latent ability to generate mass appeal, since his campaign was mostly unable to gain greater contribution momentum as the campaign wore on.

As we found with Clinton during this period, Giuliani's dynamic contribution estimates contrast with the story that was told by the quarterly and monthly FEC reports. Giuliani's campaign showed only sporadic levels of contribution momentum. His daily receipts were somewhat low on average, but he still had record-breaking amounts of receipts for the days immediately prior to the report deadlines. Indeed, by July 1 Giuliani trailed Romney's total receipts of \$35 million by only a little more than \$1 million.

Despite his relatively low levels of momentum in comparison to his total receipts, Giuliani still emerged as the financial front-runner for the final half of 2007. Giuliani was winning the money race by the end of 2007, although his daily momentum advantage was not nearly as strong or as consistent as Clinton's during this same period.

Throughout the first half of 2007, John McCain's campaign held a steady third place. But after the severe dismantling of his campaign staff and the subsequent journalistic dismissals of his candidacy in September, McCain's contribution levels dropped to levels consistently under Ron Paul. During this time, McCain ran mostly even with the relatively poor campaign of Mike Huckabee.

It was November when Huckabee's Iowa and national poll numbers picked up; as a result, his salience in the national media shot through the roof. In late December the race was in such flux that we find no single candidate clearly winning (or losing) the money race. All the candidates were at relatively equal levels of estimated financial support during December of 2007. Since Giuliani and Romney had performed so well throughout the year, they appeared to be the financial front-runners. Yet, despite his failings and his low level of financial support, McCain was not far behind either of these candidates. Furthermore, Romney and Giuliani's level of contribution momentum was either dwindling or so sporadic that, in retrospect, it seems unlikely that such contributions could have carried them through the coming year, especially considering Giuliani's falling poll numbers.

Mike Huckabee's win in Iowa was at least as impressive if not more so than Obama's. He defeated the much richer Romney by a margin of 34 percent to 25 percent. Plus, he did so by coming out of total obscurity in 2 months. Despite these similarities between Huckabee and Obama, Mike Huckabee's Iowa victory provided a much smaller boost in contribution levels. Among big donors, he was only able to match Ron Paul's contribution level of around \$60,000 a day from a month prior. Although these numbers slightly increase in subsequent weeks, his win did not change the nature of the contribution race, as all candidates remained relatively near to each other.

In fact, as New Hampshire approached it was Romney, the candidate who finished a disappointing second, who started to see the largest gain in his contribution momentum. This momentum changed, however, following John McCain's victory in New Hampshire. In a matter of a week, McCain's victory catapulted him from last place into financial front-runner status. Despite Romney's win in Michigan, we estimate that it was the second-place McCain who saw the largest resulting increase in contribution levels. This dynamic carried through to South Carolina, where McCain's win brought with it his highest level of big donor contribution momentum, at around \$400,000. Thus, the candidate who had previously prepared the public for his acceptance of public financing would subsequently reap the huge financial benefits of these primary victories.

McCain's contribution momentum from South Carolina lasted for a much shorter period of time than Obama's. To be certain, his campaign gathered amounts each day that were astronomically higher than his measly levels in the fall, but they did not continue at the levels expected from his South Carolina win. Furthermore, unlike Obama, McCain's campaign was in much greater need of these later contributions, so that he could compete in Florida and in the Super Tuesday primaries.

However, as Florida neared, Romney showed an impressive gain in financial numbers as well. The rise of Romney's finances at this point is particularly intriguing. While he won in Michigan and Nevada, these events were not clearly associated with his financial gains. If anything, it was the complete dissolve of Giuliani and Romney's simultaneous emergence as the last front-runner challenger to McCain that generated his contributions. Recall that this was the period when Limbaugh and other conservative pundits tried to rally around Romney as the "anything but McCain" candidate.

McCain won the hotly contested Florida primary by about 5 percent of the vote. Following this win, McCain's big donor financial momentum dropped somewhat but steadied at around \$200,000 a day. In contrast, Romney's loss led to a consistent drop in contribution momentum; by Super Tuesday, he had fallen behind McCain in daily contributions. In terms of total contributions, McCain finished the month of January ahead of Romney. His take of a little more than \$10 million was much less than what Clinton or Obama took, but, at the very least, McCain's wins provided enough resources for the costly national campaign starting in February.

Following Super Tuesday, where McCain won many of the big states and where Romney's results suggested an imminent withdrawal, McCain's contribution levels dropped to match those of Mike Huckabee. While this might have been partly a function of Huckabee's big wins in Kansas and Louisiana on February 9, it was clear by then that the nomination was McCain's to lose; he had already secured 60 percent of the delegates needed to win. His big sweep of the Potomac primaries on February 12 pushed him over the edge in terms of the race for both votes and money.

All Wins Don't Pay the Same

Examining the patterns across both the Republican and Democratic money race illuminates the strikingly different impact of early state victories. cursory views of the contests suggest that McCain's outcome in New Hampshire and Obama's in Iowa altered the contest for the eventual nominees; they appear to have given both candidates the jump they needed to be a contender. This was partly true for the financial race as well, since both McCain and Obama emerge as their party's financial front-runner after such victories. However, we find that it was each candidate's second victory, both clear victories in South Carolina, which cemented each candidate's contribution advantage.

It is unlikely that there was something particular about South Carolina as a state that gave it such an enormous influence in the money race. The South Carolina primary took place at different times and under different contexts for each party. In the case of the Democrats, Obama was expected to win for the week leading up to the contest, but the margin of his victory and the negative perceptions of the Clinton campaign's rhetoric appear to have driven his large levels of financial support. Most shocking is how long the benefits of Obama's victory lasted. With the Florida contest of unclear importance, Obama was able to ride his money wave from the South Carolina victory into Super Tuesday.

John McCain's victory was different. McCain's victory in conservative South Carolina over the evangelical Mike Huckabee became a huge indicator of his political appeal and strength. In addition, his intensely fought 2000 nomination loss in that state provided the 2008 victory with some strong symbolic relevance to many Republican insiders. However, with many Republican candidates' stakes tied to Florida, especially Giuliani's, the effect of McCain's win in South Carolina was short-lived. The Argus eyes of the media and the story of the campaign had quickly turned to the next battle.

Of course, this sort of post hoc reasoning begs the question of why the financial benefits of Iowa for Huckabee or New Hampshire for Clinton were so small? For the typical observer, both these contests appeared to be "game-changing," but the financial dynamics tell a different story. Our results highlight that winning an early contest is not enough to generate a wave of financial support. Instead, financial benefits appear to be dependent on other factors that interact with these outcomes. Subsequent investigations of the 2008 money primary would be wise to consider factors like the news media and the narrative context of such victories.

It is also clear that candidates benefit from different types of contributors during the invisible primary and primary contest months. In accord with our characterization of structural and dynamic factors of contributions, we find that, even among just the big donors, there is a difference in the size of the donation conditional on whether that donation is made in the invisible

TABLE 1 Comparing Contribution Rates and Size Among Big Donors

Period	No. of contributions		Avg. contribution	
	Clinton	Obama	Clinton	Obama
2007	71,936	76,701	\$1,280.30	\$920.30
2008	93,951	160,283	\$546.90	\$541.10

Note: Source: FEC individual-level contributor data set. 2008 numbers are calculated from January through May.

primary or during the primary months. Those who donate first and throughout the invisible primary tend to come from the candidate's network and donate more heavily. Those who donate during the primary are less often within the candidate's early network or party insiders. These later contributors respond largely to dynamics in the campaign.

For instance, throughout the primary campaign, Obama's financial advantage was not a product of his ability to receive larger contributions but his ability to attract more supporters. Table 1 breaks down the average size and number of contributions for Clinton and Obama in 2007 and the first 5 months of 2008.⁷ In 2007 and among those giving more than \$200, Obama and Clinton had relatively similar numbers of contributions. However, Clinton's invisible primary advantage existed because her donors gave her, on average, more money per contribution.

In contrast, Obama's dominance in 2008 was not due to the size of his average contribution. In fact, the average contribution was essentially the same size for both candidates in 2008. However, the frequency and rate at which people gave was clearly the factor that put him over the edge. As such, Obama did not beat Clinton by attracting larger contributions. He simply was able to attract and engage a larger portion of the public in response to his victories.

CONCLUSION

This paper pinpoints how the race for contributions changed within the 2008 nomination campaign. While reviewing the current nature of financing nomination campaigns, we distinguished between structural and dynamic mechanisms within candidate fundraising. We presented a method to estimate contribution dynamics using the FEC individual contributor data set. Notably, our estimates are able to filter out period and FEC report deadline effects and focus on the underlying dynamic driving each campaign's contributions. These results presented a number of intriguing results.

First, especially during 2007, we found that there were some key differences between leaders in the FEC quarterly report contributions and campaigns that were leading in our estimates of contribution momentum. Both

Clinton and Giuliani were able to raise large amounts of money, but these amounts came in sporadic chunks right before report deadlines. We believe this pattern is indicative of each candidate having a core network of supporters, instead of a result of true changes in candidate appeal or standing. In contrast, contribution momentum was a major force driving the financial performance of candidates like Paul, Huckabee, McCain, and Obama.

Second, we also found that not all victories pay the same. Both Clinton's New Hampshire victory and Huckabee's Iowa victory were as surprising and impressive as Obama's Iowa victory or McCain's New Hampshire victory. However, Huckabee and Clinton failed to generate the level of fundraising momentum that Obama and McCain were able to receive after their wins. Likewise, both McCain and Obama showed the greatest increase in contributions following their less than surprising wins in South Carolina. Therefore, it is not simply winning or beating expectations that produces a payoff for candidates. Rather, there appears to be some additional requirements of engaging the news media with a narrative or resonance with the mass public in order for candidates to experience a significant financial boost.

Although financial status does not perfectly predict the eventual nominees, it is clear that money played an important role in the recent nomination contest. It was precisely because of his early fundraising success that Obama managed to portray himself as a front-runner from the outset. Despite less public familiarity, youth, and a modest amount of time in office, Obama's impressive fundraising forced the media and public to acknowledge his candidacy as viable. In the end, Obama was able to transform his exceptional fundraising levels into various local organizations and a strong local presence. Such would prove a successful strategy in the unexpectedly long primary battle with Clinton. Obama's organizational strength coupled with his massive fundraising advantage in February gave him a huge advantage over Clinton in many of the later contests.

In contrast, Huckabee's campaign exemplifies the harsh financial and organizational requirements that the nominating system placed upon long shots. His Iowa win gave him exposure and greatly boosted his finances, putting him on par for the month with contribution levels of candidates like Giuliani, Paul, and Thompson. However, this amount was not near enough to compensate for his meager beginnings, such that he could fund the national-level campaign needed in February. In contrast, McCain, who entered 2008 in relatively rough financial shape, was able to greatly benefit from his wins in New Hampshire and South Carolina. His three wins in January generated enough money to exceed Romney's monthly contribution totals. This was enough to place him on equal ground for the decisive Super Tuesday contests.

In closing, the increasingly prominent role of the Internet merits a brief note. It is commonplace during each nomination contest to hear about how Internet fundraising is changing the nature of nomination campaigns.

In 2008, several accounts suggested that the Internet finally helped determine the winner. But will it allow future long shot candidates to compete and win nomination campaigns by virtue of early state victories (Aldrich 2009)? Within this perspective, the Internet's power to raise funds instantly might mitigate institutional forces that are extremely favorable to the candidates of the nomination elite.

To some extent, the unprecedented levels of financial support given to Obama after his Iowa and South Carolina victories are evidence of the important role this new technology plays in politics. Not only was Obama able to gain momentum, but the Internet allowed him to instantly capitalize upon such success. However, it is also clear that Obama's fundraising success cannot simply be pinned up as Internet-driven. First, his campaign invested early in organizational strength, and this likely had a large payoff in contributions as well. Second, whether due to favorable news media coverage or simply his massive public appeal, the campaign developed into a phenomenon. Unlike Huckabee or even Dean before him, Obama's persona and rhetoric during this time was up to the task and able to match the levels of attention thrust upon him. It is unclear whether future candidates will be as capable as Obama in effectively riding this wave of momentum.

NOTES

1. We acknowledge that these big donors do not represent the total contribution dynamics within the individual campaign, but we believe that these limitations are not great and do not severely modify our analysis. Although \$200 is not necessarily a large donation, we refer to these contributors as "big" to be clear that they are only a subset of all contributors.

2. We compare data for this time period since we have measures for all candidates in our sample. The proportion observed in our data is somewhat smaller for contributions given during the year 2008 but remain a substantial majority.

3. To be completely accurate, Clinton's biggest contribution days were around the Democratic convention of 2008. This, however, was after her campaign was suspended and appears to have been some sort of "peace offering" by Democrats to pay off her massive campaign debts.

4. For both these factors, we force the sum of their contributions to equal zero over the course of all observations. This means our remaining estimate of latent fundraising strength is equal to the reported contribution amount when summed over the week or over each FEC reporting period.

5. We specify relatively diffuse inverse Wishart priors for the two residual components and normal diffuse priors with mean zero for the day-of-week and FEC parameters.

6. Sporadic fundraising and limited data forced us to exclude Biden, Dodd, Kucinich, and Fred Thompson from our analysis.

7. Table 1 is limited by the fact it only contains donors giving more than \$200 over the campaign. However, we expect that adding the smaller contributions would only further distance the candidates and years.

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