

# More than an Uphill Battle: Primary Challenges to Congressional Incumbents

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## ABSTRACT

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(Under the direction of Erik Engstrom)

This paper is an examination into the district factors and representative characteristics that lead to challenges of incumbent House members in party primaries. Given the extreme difficulty in defeating incumbent House members, it is expected that rational political actors will gauge the political climate carefully. Partisan dominated districts will be more likely to be the site of inter-party battles as the seats will be of greater value to potential challengers. Members that moderate their views will be more likely to be challenged due to the relative ideological extremity of the respective partisan base.

This paper is dedicated in loving memory to my grandmother, Dorothy Fagg. She was a person of intelligence, courage, patience and seemingly limitless compassion. Faith, family and friends were the most important things in her life and she will be missed.

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“If one’s goal is electoral success, it is not rational to challenge an incumbent.”

Louis Sandy Maisel, From Obscurity to Oblivion

## INTRODUCTION

While the political science literature on congressional elections is vast and deep, much of it starts from a fundamental misconception. Rather than beginning from the point of candidate emergence, it begins and ends with the general election. This approach gains the discipline a number of valuable insights, but it neglects the fact that candidates face another potential pitfall on the path to election or reelection, that of the partisan primary.

While the primary is the comparatively understudied cousin of the general election, it has the potential to explain much about candidate behavior. Especially, in the modern political climate as the number of competitive general election congressional contests is comparatively small, generally numbering less than 50, the primary is frequently the locus of electoral action and strategic behavior (Fowler and McClure, 1989). Every year, congressmen face challengers in the primary, generally with a few incumbents being defeated. Such challenges are inherently risky, therefore, it is reasonable to assume that most political actors will consider the political environment carefully before entering against a sitting member. Examining the conditions in which in-party challengers emerge should offer insight into what cues challengers use to identify vulnerable incumbents. Since there exists a fundamental difference between candidates that choose to challenge an

incumbent of their own party, versus an incumbent of the opposing party, this paper seeks to isolate some of the contextual factors that might influence such a candidacy.

### *Primary Structure*

The modern direct primary is an addition to our electoral system rather than an institutional feature designed by the founding fathers. It was established by the Progressive Movement in the early part of this century as a method of weakening the power of the 'party bosses' and preventing them from nominating their own candidates (Jacobson, 1983). This reform makes the United States' electoral system unique among established democracies, because it is standard for parties to internally control the candidate nomination process. Key argues that the weakness of American political parties created the primary and it has served to weaken them further (1956; also Galderisi and Ginsberg, 1986).

Organized state-run primaries create a political environment for the public competition of factions within the major parties. Primaries thus prevent the complete dominance of an area by a small group of party elites, by allowing some competition in even the most party-dominated areas (Key; Jewell and Olsen, 1982; for a different view see Turner, 1953). Epstein argues that the primary system delayed the development of a two party system in party-dominated areas, such as the Democratic South and Republican Wisconsin, by allowing a level of intra-party competition (1986). He also believes that this nominating system had the effect of weakening the power of third parties because it allowed for the competition of less popular ideologies, incorporating them into a broad two party system (also Galderisi and Ginsberg). Under this structure, the parties become in effect 'public utilities' of the state because it plays a role in their promotion and internal competition.



While the primary is nationally the principle nominating procedure, the process is not uniform; there exists a wide variety of state-specific forms. In 2001, seventeen states had either a legal or informal nomination of candidates at a pre-primary party convention (Galderisi and Ezra). Nine states' conventions have authority over which candidates make the final ballot (CO, CT, IA, NM, NY, ND, RI, UT and VA). For example in Connecticut, primary candidates must receive a minimum of 20% of the votes at convention in order to make it on to the primary ballot. In Utah, only endorsed candidates are allowed on the ballot, but the party must select two candidates if no candidate receives more than 70% of the convention vote. Jewell sees the rise in states using convention endorsement as a reaction to their perceived loss of nominating power (1984).

Both convention endorsements and nominations have the effect of lowering the number of possible primary candidates, with endorsements, especially, hurting those without large bases of support (Hernnson and Gimpel, 1995). Endorsed candidates may still face challengers in the primary, but, Bibby finds that they face generally fewer, less qualified opponents (2000). Generally, whether or not the endorsed candidate prevails relates to the organizational strength and unity of the party (Jewell). Even with the party's official backing, they do not universally succeed, with a large amount of variation by state and party. For example, Bibby found that endorsed candidates in Minnesota and Rhode Island face far more difficult primary contests than in most other states.

Additionally, the state has the ability to limit the number of candidates through ballot restrictions. New York, for example, requires roughly 20,000 signatures to be placed on the ballot and they must be on pink paper, signed legibly, exactly as they appear on the voter roll (Galderisi and Ginsburg). By placing large barriers between potential candidates

and the voters these authors believe that strict ballot access laws diminish the importance of primary elections.

Most states organize their primaries under either an open or closed primary system. In an open primary, individuals may choose to vote in either party primary on election day. Texas is one example of such a state, no party pre-registration is required to vote in the primary. A closed primary is exactly as it sounds, a party's primary is 'closed' to all those who have not previously registered. A small number of states use a nominating system referred to as the 'blanket primary'. Under this system, a voter may choose a candidate of either party for each office. This procedure has been used in Washington and Alaska for a long time, and it has recently been adopted in California (Maisel, 1987). Louisiana uses a somewhat similar system sometimes referred to as the 'open primary' or the 'nonpartisan primary' (see Kuzenski, 1997). Under this peculiar system, all candidates run on a common ballot and voters are allowed to vote for a candidate of either party. The Louisiana primary system is majority-rule and if a candidate receives more than 50% of the vote, there is no general election for that race. If no candidate receives a majority, the top two vote-getters, regardless of party, face each other in a run-off election. As a result, two candidates of the same political party frequently face each other in the run-off election. In contrast, the more typical 'blanket primary' system usually results in a general election contest between candidates of both major parties.

### *General Election Effects*

Fearing that a primary contest may weaken party unity in the general election, candidates and party elites are generally concerned about the possibility of contested primaries. Trying to isolate the effect of primaries has led to a contentious debate among

academics. Changes in methodology, control variables, state selection and duration seem to play a large role in the divergent results. Hacker found, in one of the first articles on the subject, that divisive primaries had little effect on Senate and Governor elections (1965). Ten years later, Pierson and Smith replicated that result, even when controlling for incumbent effects and level of state party competition (1975). Born, looking at House candidates, found that divisive primaries had a limited impact on the final election outcome (1981; see also Kenney, 1988). Galderisi et al argue more theoretically that primaries can either damage an incumbent or play no role in the final outcome, i.e. they can never help an incumbent (2001).

### *Incumbents and Challengers*

Since primaries are fundamentally different than general elections, they pose a different set of concerns for incumbents. When preparing for a general election, an office holder must present an acceptable record to the majority of voters in the district. Specifically, for a primary, an incumbent needs a record acceptable to a smaller, more ideological part of the district (Galderisi et al, 2001). The need to face the electorate twice poses difficulties for incumbents and requires them to be proactive. For instance, incumbents can raise a large war chest in order to try to ward off potential challengers (Herrnson, 2004). This exemplifies Cox and Katz's argument that the ability to frighten off potential quality challengers is one of the main benefits of incumbency (1996). While their research focused on general elections, its extension to potential primary contests is intuitive.

Luckily for incumbents, primary contests are relatively rare. Grau found that incumbents were far less likely than non-incumbents to face primary challengers (1981). The most action in primaries occurs in competitions for open seats (Maisel, 1987). Challengers most

likely arise in partisan dominated districts and, even then, generally only when the incumbent is viewed as vulnerable (Grau; Galderisi et al, 2001; Goodliffe and Magleby, 2001; Bibby). Because they are seen as having a higher value, nominations for safe party seats are generally more competitive (Maisel). Turner believes that intra-party competition occurs more frequently in areas where party dominance is statewide rather than focused on single area (1953). Schantz found, in 1980, that primary opponents were far more likely for Democrats than Republicans (Jacobson and Kernell, 1983; similar results, state legislative races Grau; contrasting view Huckshorn and Spencer, 1971). Herrnson and Gimpel replicated that finding, they believe that result stemmed from the Democrats deeper candidate pool at the state level and their more diverse electoral coalition (1995). They also found a regional effect for the Democrats, with fewer primaries fought in the South and the West, and no change in the number in the Northeast. Finally, they also discovered Democrats were more likely to challenge incumbents, while Republicans were more likely to react to the partisan nature of the district and state political opportunities. In general, Fowler and McClure believe that primaries are becoming more competitive, especially in the Democratic Party (1989).

How often do incumbents lose in their primary? The easy answer is not very often. Bibby, looking at all congressional races between 1980 and 1998, found that roughly 98.7% of incumbents have been re-nominated. That is not to imply that incumbents are never challenged. Looking at races between 1994 and 1998, Maisel and Stone found that at least one-quarter of incumbents faced contested nominations (2001). Parsing out the unqualified candidates, at least 10% of incumbents faced a quality challenger in each election. As for defeated members, that number is highly variable. In 1992, nineteen

incumbent members were defeated for their primary nomination and from 1946 to 1998 an average of roughly seven members have failed to be re-nominated (Goodliffe and Magleby). It is important to look not just at the number of members defeated in the primary, but also the percentage of total defeated incumbents. That number is also highly variable, looking at 1980-1996, that percentage has ranged from a low of 6.3% in 1990 to a high 44% in 1992 (Ornstein et al, 1998). Clearly, incumbents cannot afford to be complacent about their nomination.

Since knocking off a same-party incumbent is relatively rare, it is somewhat surprising that congressmen are regularly challenged for their nomination. Jacobson and Kernell argue that candidates are strategic, thus they will seek out conditions when victory is most likely (1983; also Maisel and Stone, 1980). Along similar lines, candidates may look at the situation both objectively (considering fundraising, partisan nature of the district, etc.) and subjectively (personal reasons, ideology, etc.) (Maisel et al, 1990). Strategy will only take a challenger so far; Maisel notes that most of those times when an incumbent loses there is a powerful factor leading to that outcome (1987). Huckshorn and Spencer argue that because winning a primary (whether against an incumbent or not) adds cost to the election equation, most potential candidates would seek to avoid one. If they chose to challenge an incumbent, then ideology would be a likely motivating factor. According to their research, half of the primary challengers interviewed identified ideology as their major reason for seeking office.

Incumbent strength clearly deters potential candidates, especially quality candidates and this serves to limit competition (Maisel and Stone; Kazee, 1983). Increases in challenger quality have the potential to alter outcomes, Herrnson argues that more qualified

candidates leads to more competitive elections (2001; Jacobson and Kernell).

Unfortunately, political observers frequently evaluate the quality of candidates by their ability to raise money or find their own campaigns. Successful primary challengers likely spend large amounts of their own money, in an effort to increase their identification with the public and, thus reducing the incumbency advantage (Goodliffe and Magleby; Maisel, 1982; Jewell, 1984). Critical to the success of a primary challenge is access to campaign funds; winning challengers generally spend more than losing ones. Even if they have selected their race strategically, challengers still face tall odds. In Maisel's study of primary candidates, he found that one-quarter, even those not facing an incumbent, did not feel that they were likely to win (1982). Most candidates in the interviews ran either because they felt like it was the best time or that a certain issue was being ignored.

Maisel lists certain factors that can improve the chances for challengers. First, an incumbent misstep can be critical (1982). Second, in order to prevent division in the anti-incumbent vote, Maisel argues for the necessity of a small primary field. Third, access to campaign funds is critical, whether from personal sources or from donors. Fourth, strength in a geographic area is an asset. Finally, since congressional primaries are generally low salience campaigns, especially when higher offices are on the ballot, it is vital to grab the public's attention.

District and incumbent factors will also play a key role in the possibilities for challenger success and emergence. Krasno and Green found that local political factors were most important in the emergence of quality House challengers (1988). Both the size of previous election victory and scandal both have the potential to add an insurgent primary candidate. Maisel and Stone pose that how well an incumbent's ideology fits with the district, their

tenure, demographic characteristics, fundraising ability and partisan organizations may play a role in the outcome and the emergence of candidates. Generally, they believe that the candidate is more likely to be concerned about their chances of winning the nomination than in the general election. Clearly, the nomination is not the ultimate goal, except for protest candidates, but it must be considered the proximate one.

## THEORY

### *Types of Candidates*

When formulating a theory of primary challenger emergence it is important to start by separating out the three broad types of candidates: qualified, symbolic and protest. These types must be kept distinct because the goals and strategies involved are fundamentally different. Qualified candidates are those candidates with a genuine chance of winning the election. While their prior backgrounds could be very different; elected official, prominent businessman, teacher, etc., their goal of winning the nomination and ultimately the general election unifies them. These candidates may view weakness in the current office holder and seek to avoid the inevitable crowded open seat primary.\* Symbolic candidates are those that generally represent an ideological or demographic position not shared by the current representative. It is most likely that in Democratic districts these candidates will come from the left and similarly in Republican districts come from the right. These candidates might want to win, yet fundamentally they are more concerned with raising the importance of their issue or group. On occasion these candidates get elected but, in general, they do not defeat an incumbent in the primary. Finally, protest candidates are those candidates that are not serious at all, neither posing a serious chance of winning nor

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\*For example, in 2000 the average open seat contest had over four candidates running in the previous office holding party's primary, with some districts having almost a dozen candidates.

reflecting a broad portion of the electorate. Generally, these candidates are perennial candidates for some office or another, running regularly without showing any electoral traction. While for most of this study symbolic and protest candidates can be thought of together, due to the similarity of the goals (i.e. making a stand, not necessarily winning), it is important to keep them generally theoretically separate.

*Goals: Winning (Quality Candidates)*

Quality candidates will be most likely to challenge when they think that the incumbent is vulnerable for one reason or another. Within the arena of party primaries, the chief forms of weakness will be electoral and institutional. Since these are serious challengers, they will be putting time and other resources into the campaign and will not want to squander them. These challengers should be surveying the landscape carefully for the perfect opening.

*Hypothesis 1: Primary challengers will be more likely when an incumbent looks electorally weak.*

*Hypothesis 2: Primary challengers will be more likely when the incumbent is facing a current scandal.*

*Hypothesis 3: Primary challengers will be more likely when the incumbent has shown a level of institutional weakness.*

*Hypothesis 4: Primary challengers will be more likely in partisan dominated districts (i.e. safe seats)*

*Hypothesis 5: Primary challengers will be more likely following a redrawing of district boundaries that brings in a large number of new voters.*

All four hypotheses are examples of candidates reading the district and trying to evaluate their chances. The first three hypotheses refer to the electoral weaknesses of the incumbent; deficiencies or possible deficiencies in previous or future election returns.

Hypothesis 3 specifically refers to the possibility of criticizing an incumbent for a lack of



institutional prowess, which would reflect poorly on their ability to deliver for the district. Hypothesis 4 reflects both the electoral concerns of the challenger and the value of the seat. A 'safe' seat is easier to defend in a general election and therefore will be of greater overall value. A strategic elite will recognize that defeating an incumbent will require a significant amount of resources and logically they will be less likely to challenge if a competitive general election battle is to follow. For example, looking at the 2000 election, the average open seat winner won by less than half the margin of the previous incumbent (22% versus 46%). Therefore a strategic elite facing an incumbent cannot expect the same level of support as the current incumbent. Running in seat with a stronger partisan advantage reduces the cost of the already uphill campaign. According to Hypothesis 5, incumbents will lose some of their strategic advantage following a redistricting plan that significantly changes the district's boundaries by adding new voters. An incumbent will have to work hard to gain the name recognition in the new part of the district and this may provide an opening for a challenger.

*Goals: Taking a Stand (Symbolic and Protest Candidates)*

Challenging an incumbent is always a difficult proposition with small potential for victory. For symbolic and protest candidates, facing an incumbent is not merely about winning rather, these candidates place greater importance on raising the visibility of their group or issue. Accordingly, they will place less stake in contextual factors that might affect their chances.

*Hypothesis 5: Primary challengers will be more likely when the incumbent does not live in the most populous part of the district.*

*Hypothesis 6: Primary challengers will be likely when the incumbent is more ideologically moderate than the primary electorate.*

Both hypotheses 5 and 6 refer to the incumbent's ability to represent the district. Many districts, due to their size may have conflicts between the different geographic sections. Hypothesis 5 seeks to test whether representing a district from one of the less populated areas, leads to the emergence of a symbolic challenger. Hypothesis 6 stems from the fact the primary electorate is generally more ideological extreme than the general election electorate. Therefore, as an incumbent moderates, they should be more likely to face challengers, specifically from the ideological extremes of their party. This hypothesis may prove to be true for all three types of challengers but qualified candidates will likely need to see a larger electoral opening than merely a slight move to the center by the incumbent.

#### *Some Common Deterrents*

While the mental equation for both sets of candidates is different, some common incumbent traits should influence candidate emergence.

*Hypothesis 7: Primary challengers will be less likely as the incumbent ages or serves more terms.*

*Hypothesis 8: Primary challengers will be less likely as the incumbent raises more money.*

*Hypothesis 9: Primary challengers will be more likely in the Republican Party than the Democratic Party.*

As a candidate ages the likelihood of retirement increases, which will eventually result in an open seat. Therefore, it is logical that older candidates should face fewer challengers because their seat will become open sooner. The second part of Hypothesis 7 refers to the fact that more tenured members will have a longer history of electoral success. The longer the successful electoral history, the less likely it becomes that the incumbent will make a strategic misstep large enough for primary defeat. Hypothesis 8 refers to one of an incumbent's most ready tools for frightening off potential challengers: money. Hypothesis

9, which runs counter to much of the existing literature, is reasoned that a Republican seat is currently more valuable because of their majority status. Theoretically, all three of these hypotheses should be more influential for quality challengers than the symbolic group. In order to test that fact, a second set of tests will be performed to isolate the differences in that group.

## DATA

The scope of this paper is all 2000 and 2002 congressional primary elections. I selected those years because I wanted to include results from a presidential election year, an off year and a redistricting year. The selection of those two years allowed me to cover all three of those broad categories. Each case is an individual district (or an incumbent, depending on one's perspective) but the sample had to be reduced from 870 to 767 for two reasons. First, open seats were omitted, because they did not have an incumbent running and would present unique characteristics, which are widely studied in the literature. Second, three independents were running for reelection and had to be eliminated because they were not constrained by the normal direct primary. The data was coded by the author and can be produced by request.

Candidate name, party, terms, age, state, percentage presidential vote, committee status and district number were all gathered by using the National Journal's Almanac of American Politics. Previous incumbent vote percentages and the number of primary challengers were collected from the America Votes series with The Almanac used as a backup. In those cases where the two sources conflicted, America Votes was used to make the final decision. The amounts of money raised by the incumbent and challengers were gathered from the Federal Election Commission website. The Almanac provided the

incumbent's hometown, while the Congressional Districts in the 1990s and Congressional Districts in the 2000s provided the counties in each district and their population. In order to find out which county a city was in, the Census's Quick Facts webpage was used. The ideological data was from the DW-NOMINATE scores from Keith Poole's website. Partisan strength was measured by using Cook's PVI (Partisan Voting Index), which is calculated based upon each district's difference in presidential vote from the national average. Scandal was collected from Congressional Quarterly Almanac's report on the Committee on Standards of Official Conduct. Redistricting data came from Michael Crespin's measure of redistricting change.

## MEASUREMENT

The dependent variable will be two different measures of the number of the primary challengers. In the first analysis, the variable will be a simple count of the number of challengers. In the second analysis, the number of challengers will be reduced by looking only at quality challengers. This variable will be made dichotomous since there were only three districts with more than one quality challenger.<sup>†</sup> Quality challengers will be defined as those that raised at least ten percent as much money as the incumbent. This measure is not ideal because it does not get at the motivation of candidates, but it should serve as a safe threshold for determining candidate quality. It is difficult to imagine that a quality challenger could not raise at least ten percent as much as an incumbent, while it is unlikely that a protest candidate could pass that threshold.<sup>‡</sup>

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<sup>†</sup> This finding reinforces the view from Maisel that quality challengers are unlikely to join a race with other quality challengers. A race against an incumbent is an uphill one from the beginning, so following another serious challenger would not be a logical action.

<sup>‡</sup> The data seems to reinforce the ten percent threshold. The distribution of challenger fundraising resembles half of a standard normal distribution, with a majority of challengers raising no money at all. There is a natural trough between eight and fifteen percent, with a very small number raising more than fifteen percent.

### *A Note on the Number of Candidates*

One might reasonably believe that coding the number of primary challengers would be a straightforward process. I had originally planned to use the FEC website as a source for all primary candidates, both those that actually ran and the ones that considered running. Instead, I found a large number of former candidates still filing FEC reports and confusing the process. Additionally, I found a large number of candidates that were reasonably electorally successful challengers who filed no forms at all. There were also a significant number of times where the number of challengers in America Votes conflicted with The Almanac. While America Votes was finally chosen as the arbiter of disputes, there may be a small amount of measurement error on the dependent variable. Luckily that error will be almost exclusively focused on the most fringe of fringe candidates. Here is a quick sample of some of the curious findings that made this portion of the coding much more interesting.

- 1) In NY 9, an individual challenged and lost to the Democratic incumbent in the primary and then faced him in the general election as a Republican.
- 2) In NY10, a losing Democratic primary candidate faces the incumbent in the general election as a Liberal Party candidate.
- 3) In NC 4, a challenger got 11% of the vote yet filed no FEC forms.
- 4) In OR 3, a challenger got 12% of the vote while filing no forms
- 5) In TX 1, a challenger got 15% of the vote while filing no FEC forms.

In order to measure the electoral strength of a member, it is important to quantify how much better a member does than the average member of their party. In order to do this, I have created a modified version of the ‘normal vote’ and ‘personal vote’ (Ansolabehere et

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Attempting to fully replicate Jacobsen’s measure of quality by previously held office, proved difficult, but where information was available, it produced comparable results. It is likely that this measure casts a slightly wider net than that measure, also including a small number of self-funded challengers.

all, 2000). I measured the 'normal vote' by taking the partisan totals for the most recent presidential election. I had intended to include a percentage of partisans in the district, but unfortunately the data was not available for enough states to warrant usage. The 'personal vote' was measured as the difference between the incumbent's previous general election percentage and the normal vote. For members that received a smaller percentage than the 'normal vote', they were coded as zero, having no 'personal vote' (132 members in all).

To measure the partisan strength of the district, I used Cook's PVI measure. Institutional weakness was measured with a dichotomous variable reflecting whether or not a member was on a power committee. The member's residency will be measured by a dichotomous variable reflecting whether or not they live in the most populace county in the district. This variable is somewhat simplistic as some districts contain two counties of similar populations and therefore the distinction is less theoretically important. Nonetheless, for consistency the variable was coded the same way even if one county was less than one percent larger than another. One note, a small number of members live in towns small enough I was unable to identify their counties.

The ideological difference from the primary electorate proved to be a difficult item to measure. In the end, I settled on an imperfect but practical method, the absolute value of the DW-NOMINATE score. This method does not attempt to measure the specific ideology of the district; rather, it simply measures the ideology of each member, as compared to other members and places them in a single direction. Since moderation is measured by lower numbers and extremity by higher numbers, its value is predicted to be negative.

Age was measured in a simple chronological fashion. Tenure was measured in number of terms served before the election; for those members that were elected in a special election that part of a term is measured as one. For example, a member elected in the 1998 general election and a 1999 special election would both be coded as serving one term in 2000. Party was operationalized in a simple dichotomous fashion, with Republican arbitrarily receiving the higher value.

Finally, two control variables were created to handle the difference in ballot access. The first one isolates those states where political party conventions have a significant influence on which candidates make the final ballot. These rules should logically have an effect on the number, as well as the quality of candidates. The second one isolates those states that have a blanket primary. While there is less theoretical reasoning to assume that blanket primaries encourage or discourage candidates, I believe it is important to separate out this unique nominating process.

Redistricting was coded using the valuable measure of district change created by Michael Crespin. Districts were coded based upon the percentage of ‘retained’ constituents following the census. Therefore members with a smaller percentage of ‘old’ constituents will be predicted to have a greater chance of facing a primary challenger.

#### *A Note on Scandal*

While theoretically and empirically I believe that scandal, or appearance of scandal, would play a role in the possible emergence of a primary challenger, I found it difficult to operationalize. The ideal method would be to conduct a content analysis of the primary newspaper in each member’s district but the difficulty of such an undertaking is obvious. In the end I chose to use the Congressional Quarterly Almanac’s report on the

investigations of the House Committee on Standards of Official Conduct. All members who were investigated, regardless of the final result, were coded as having scandal. This measure, while systematic, probably underestimates the number of members that were accused of a scandal by a primary opponent.

## ANALYSIS

Before running the model it is important to look at the number of primary challengers.

Table 1 shows that just under 25% of incumbents faced a challenger in 2000.

<b>Table 1: Number of Primary Challengers</b>	
<i>Number</i>	<i>Percentage (Frequency)</i>
0	78.72 (614)
1	16.67 (130)
2	3.72 (29)
3	0.64 (5)
5	0.26 (2)
Totals	100 (780)

A majority of those challengers were not credible by any measure of quality. Using the ten percent standard, Table 2 shows that far fewer faced quality challengers, roughly 5% of total members. Despite those relatively small numbers, these are the cases where the greatest amount of strategic behavior should be observed.

<b>Table 2: Number of Quality Primary Challengers</b>	
<i>Number</i>	<i>Percentage (Frequency)</i>
0	95.13 (742)
1	4.49 (35)
2	0.38 (3)
Totals	100(780)

Given the first dependent variable is a count, it would be methodologically best to run it either as a Poisson or negative binomial regression. The dependent variable includes a large number of zeros therefore, it suffers from over-dispersion. Poisson assumes that the mean and the variance will be the same, which was not true in this case. Therefore, I elected to use a negative binomial model (which relaxes the previous assumption) with



clustered standard errors on the state variable because it is theoretically likely that state has some effect on the number of challengers.<sup>§</sup> I originally ran the model with a dummy variable for each state, but it did not change the results and needlessly ate up degrees of freedom.

<b>Table 3: Count Model: Number of Primary Challengers 2000 and 2002 elections</b>	
<b>Variable</b>	<b>Basic Model Coefficient (Robust S.E.)</b>
Party/Majority	-.08(.21)
Residence	-.17(.16)
Terms	-.01(.02)
Ideological Extremity	-1.58(.52)***
Power Committee	-.06(.14)
Money Raised	-.00(.00)
Age	-.01(.01)
Personal Vote	-.01(.01)
Partisan Strength	.04(.01)***
Ballot Restrictive State	-.79(.27)***
Blanket Primary State	.07(.13)
Redistricting	-.01(.00)*
Scandal	.84(.46)*
Constant	.46(.65)
N	767

*Note: \*p<.10, \*\*p<.05, \*\*\*p<.01*

As you can see from Table 3, ideology of the member seems to have a powerful effect on possibility of facing a primary challenger. As a member becomes more ideologically extreme, the possibility of facing a primary challenger goes down. Also, as the district becomes more partisan-dominated the chance of a primary challenger increases, thus partisan strength of the district also has an effect on the number of primary challengers. This is a fully logical result as a ‘safe seat’ would have added value for a potential challenger.

<sup>§</sup> Also considered was a zero inflated negative binomial model. This model was rejected for two fundamental reasons a) the fact that I do not theoretically believe that there two operating processes, one creating zeros and one creating higher counts and b) the impossibility of creating the perfect model specification, on which the model is highly dependent.

Living in one of the nine states where political parties have strong control over ballot access, notably decreases the chances of facing a primary challenger. Since parties are wary of party challengers, they will act in a concerted way to avoid frivolous challenges to existing incumbents. There is a weak negative effect for the redistricting variable, meaning that when a congressman retains more of their district following redistricting, they are less likely to face a challenger. A weak effect is also found for the presence of scandal or potential scandal. The underwhelming result of this variable may be related to this model, which includes all challengers regardless of quality. While quality challengers should evaluate the political landscape very carefully, symbolic and protest challengers will be less likely to weigh factors such as scandal highly. Since this model includes both types of challengers, and non-quality challengers make up the majority of cases, the effects of contextual factors, such as scandal, may be muted.

The difficulty with negative binomial models, like all maximum likelihood models, is they do not generate fundamentally intuitive coefficients, since there is not a linear relationship. Table 4 presents the change in probability of facing an additional challenger based upon a discrete change (in this table moving from the minimum to the maximum and moving from zero to one) in the dependent variable. Generally speaking, the measure is computed holding all other values to their means. In this analysis, since a number of the predictors are dichotomous using the mean in all cases would be illogical. The binary predictors have been set to their minimums (iteration 1) and maximums (iteration 2) to aid in clarity.

<b>Variable</b>	<b>Iteration 1 (Min-Max)</b>	<b>Iteration 1 (0-1)</b>	<b>Iteration 2 (Min-Max)</b>	<b>Iteration 2 (0-1)</b>
<i>Party/Majority</i>	-.023	-.025	-.020	-.022
<i>Residence</i>	-.045	-.054	-.044	-.053
<i>Terms</i>	-.031	-.002	-.025	-.001
<i>Ideological Extremity</i>	-.476	-.440	-.392	-.363
<i>Power Committee</i>	-.016	-.016	-.014	-.014
<i>Money Raised</i>	-.048	-.000	-.040	-.000
<i>Age</i>	-.078	-.002	-.064	-.002
<i>Personal Vote</i>	-.142	-.003	-.117	-.003
<i>Partisan Strength</i>	1.007	.008	.830	.007
<i>Ballot Restrictive State</i>	-.155	-.155	-.282	-.282
<i>Blanket Primary State</i>	.021	.021	.016	.016
<i>Redistricting</i>	-.240	-.004	-.198	-.004
<i>Scandal</i>	.375	.375	.133	.133
<b>N</b>	<b>767</b>	<b>767</b>	<b>767</b>	<b>767</b>
Discrete change was computed with continuous variables held to their means, while all dichotomous variables were held to their minimum (iteration 1) or maximum (iteration 2) values. Dichotomous variables are listed in italics for reader convenience.				

Focusing only on the variables that were statistically significant in the previous analysis, it will now be possible to compare impacts. Ideological extremity ranges from -.363 to -.476 suggesting a fairly powerful negative effect, therefore, as a member moves from the center to the extreme, the probability that they face a challenger goes down. The close range of these values stems from the relatively short range of the predictor (0 to 1.24), so the difference from moving from the minimum to the maximum and zero to one is largely equivalent. Partisan strength has a very powerful effect on the chances of facing a challenger with an effect of roughly one in both iterations. The range of the partisan

strength variable is much wider (roughly 67) leading to difference between the two types of changes estimates.

Looking at the ballot restrictive state variable, the effect is  $-.155$  in the first iteration and  $-.282$  in the second iteration. The effect of living in a ballot restrictive state is less powerful than moving to the political extreme and far less powerful than the effect of running in a partisan dominated district. The variable is dichotomous leading to the same result between the two change estimates.

Among the two borderline variables, redistricting and scandal, the effects are again much lower than partisan strength and ideological extremity. Preserving more of a district, does serve to suppress the likelihood of in-party challenges. Scandal increases the probability of facing a challenger, but nowhere near the extent of living in a partisan dominated district.

Discrete change is not the only way to interpret coefficients from a maximum likelihood model. Another common method is to transform the odd ratios into a percent change. This will allow you to compare effects against each other. Looking at table 5, we see the strong effect of ideological extremity measure. Partisan strength looks less important in this analysis but that is an artifact of the relatively wide range of the variable. Scandal shows a large effect, but given the lack of statistical significance its impact is uncertain.

<b>Table 5: Percent Change in Odds Ratio (Count Model)</b>	
<b>Variable</b>	<b>Percent Change</b>
Party/Majority	-8%
Residence	-16%
Terms	-0.5%
Ideological Extremity	-79.4%
Power Committee	-5.7%
Money Raised	-0.0%
Age	-0.5%
Personal Vote	-1%
Partisan Strength	3.9%
Ballot Restrictive State	-54.7%
Blanket Primary State	7.4%
Redistricting	-0.8%
Scandal	132.4%
N	767

Model fit is not as neat a subject in maximum likelihood models as in linear models but there are a variety of somewhat imperfect measures. Looking at table 6, it is clear that the model does not do an excellent job of predicting the possibility of facing challengers.

While some of the predictors have gained traction on the times in which primary challengers will emerge, it obviously does not show the entire picture.

<b>Table 6: Model Fit: All Challengers (Count Model)</b>	
McFadden's $R^2$	0.044
Likelihood Ratio $R^2$	0.055
Aldrich-Nelson $R^2$	0.054
Wald Test $R^2$	0.077

One could easily argue that a count model is not necessarily the best way to evaluate the possibility of facing a primary opponent. Instead, it would be better to test a logistic model for the probability of facing a challenger. However, logistic models suffer from the assumption that the mean of the dependent variable will 0.5, an assumption not met in this case. Therefore, the model was run against a rare events logit model. As you can see in Table 7 the results are largely similar, weakening my fears about the inapplicability of the standard logistic model.

<b>Variable</b>	<b>Logit Model Coefficient (Robust S.E.)</b>	<b>Rare Events Logit Model Coefficient (Robust S.E.)</b>
Party/Majority	-.18(.23)	-.17(.23)
Residence	-.29(.19)	-.28(.19)
Terms	-.01(.02)	-.01(.02)
Ideological Extremity	-1.53(.64)**	-1.47(.63)**
Power Committee	-.05(.19)	-.05(.19)
Money Raised	.00(.00)	.00(.00)
Age	.00(.00)	.00(.01)
Personal Vote	-.01(.01)	-.01(.01)
Partisan Strength	.04(.01)***	.04(.01)***
Ballot Restrictive State	-.84(.31)***	-.80(.31)**
Blanket Primary State	-.13(.18)	.13(.18)
Redistricting	-.01(.01)*	-.01(.01)*
Scandal	.73(.72)	.75(.71)
Constant	.57(.85)	.52(.84)
N	767	767
Pseudo R <sup>2</sup>	.05	

*Note: \*p<.10, \*\*p<.05, \*\*\*p<.01*

Table 7 shows similar results to Table 3, with ideological extremity depressing the chances of facing a primary opponent. The weak scandal variable drops out of significance while redistricting retains a small effect. Both partisan strength and ballot restrictive state have a large amount of power over the probability of facing a partisan challenger. It seems both in terms of number of challengers and probability of facing a challenger of any kind, the best predicting variables are district factors (partisanship, state, redistricting) rather than factors controllable by the member.

<b>Table 8: Discrete Change (Dichotomous Model)</b>				
<b>Variable</b>	<b>Iteration 1 (Min-Max)</b>	<b>Iteration 1 (0- 1)</b>	<b>Iteration 2 (Min-Max)</b>	<b>Iteration 2 (0- 1)</b>
<i>Party/Majority</i>	-.031	-.034	-.026	-.029
<i>Residence</i>	-.050	-.058	-.044	-.052
Terms	-.039	-.002	-.028	-.001
Ideological Extremity	-.299	-.265	-.221	-.199
<i>Power Committee</i>	-.001	-.001	-.008	-.008
Money Raised	.015	.000	.011	.000
Age	.016	.000	.012	.000
Personal Vote	-.080	-.002	-.059	-.001
Partisan Strength	.507	.006	.411	.005
<i>Ballot Restrictive State</i>	-.123	-.123	-.149	-.149
<i>Blanket Primary State</i>	.024	.024	.017	.017
Redistricting	-.184	-.003	-.146	-.002
<i>Scandal</i>	.158	.158	.078	.078
N	767	767	767	767
Discrete change was computed with continuous variables held to their means, while all dichotomous variables were held to their minimum (iteration 1) or maximum (iteration 2) values. Dichotomous variables are listed in italics for reader convenience.				

Given the similarity between the logistic and rare events logistic results, the additional analysis was run on the logistic model for convenience. Table 8 shows similar, if somewhat muted, results from the previous discrete change analysis. Partisan strength of the district continues to dominate the landscape with smaller effects for ideological extremity and much smaller effects for ballot restrictive states. Part of the reason for the weaker effects in this analysis is the fact that the dichotomous model has lost some of the information from the previous model (i.e. places with three challengers are now considered to be the same as places with one challenger). Looking at Table 9, we see the strongest effect again for ballot restrictive state and ideological extremity (a dichotomous and short range variable respectively). Partisan strength looks smaller by comparison but that stems

from the range of the variable. Imagine as district goes from partisan strength of 1 (very unsafe) to 10 (fairly safe), the chance of a partisan challenger increases by 43%. Scandal looks very powerful but the result is statistically non-significant in the logistics regression. Table 10 presents the fit statistics for this model, again, an underwhelming illustration of the difficulty in gaining traction on the issue of all challengers.

<b>Table 9: Percent Change in Odds Ratio (Dichotomous Model)</b>	
<b>Variable</b>	<b>Percent Change</b>
Party/Majority	-16.2%
Residence	-25.3%
Terms	-1%
Ideological Extremity	-78.2%
Power Committee	-5.3%
Money Raised	0.0%
Age	0.2%
Personal Vote	-0.8%
Partisan Strength	4.3%
Ballot Restrictive State	-56.7%
Blanket Primary State	13.5%
Redistricting	-1%
Scandal	107.3%
N	767

<b>Table 10: Model Fit: All Challengers (Dichotomous)</b>	
McFadden's $R^2$	0.046
Likelihood Ration $R^2$	0.046
McKelvey Zavoina $R^2$	0.086
Aldrich-Nelson $R^2$	0.045
Wald Test $R^2$	0.065

The previous analysis has dealt with all primary challengers, whether quality or symbolic. At this stage we will examine only the quality challengers. Theory predicts that this group is more likely to engage in strategic action. Since the dependent variable is dichotomous, this model will run with logistic regression. This data suffers from the same problems as the previous model, only to a more extreme extent, necessitating the use of a rare events model.



<b>Table 11: Probability of Facing a Quality Primary Challengers 2000 and 2002 elections</b>		
<b>Variable</b>	<b>Logit Model Coefficient (Robust S.E.)</b>	<b>Rare Events Model Coefficient (Robust S.E.)</b>
Party/Majority	-.52(.47)	-.49(.46)
Residence	-.69(.52)	-.58(.52)
Terms	.01(.04)	.02(.03)
Ideological Extremity	-5.12(1.76)***	-4.76(1.73)***
Power Committee	-1.55(.41)***	-1.38(.41)***
Money Raised	-.00(.00)	-.00(.00)
Age	-.04(.02)*	-.03(.02)*
Personal Vote	-.02(.02)	-.02(.02)
Partisan Strength	.08(.02)***	.08(.02)***
Ballot Restrictive State	.46(.28)	.48(.28)*
Blanket Primary State	.93(.24)***	.91(.24)***
Redistricting	.01(.01)	.01(.01)
Scandal	1.96(.86)**	2.05(.85)**
Constant	1.59(1.79)	1.39(1.76)
N	767	767
Pseudo R <sup>2</sup>	.16	

*Note: \*p<.10, \*\*p<.05, \*\*\*p<.01*

Looking at the results in Table 11, we observe a considerable amount of strategic behavior going on among quality challengers. Potential candidates clearly survey the environment looking for an opening before entering a primary contest. Similarly, for all candidates, the partisanship of the district plays a role in the possibility of facing a challenge. If a quality challenger believes that they may face another difficult race in November, then they are unlikely to mount a campaign against an incumbent. Ideological moderation is also a potential sign that the member may be out of step with views of the primary electorate.\*\*

Unlike symbolic or protest challengers, quality challengers will be far more likely to view scandal or potential scandal as a sign that the incumbent is vulnerable. Such candidates will also be far less likely to challenge a member of a power committee, since

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\*\* For a practical example of this phenomena at the Senate level, look at the current Rhode Island Republican primary.

such a member is likely to have greater potential resources, both among potential donor and national party elites.

Blanket primary states seem to attract a greater number of potential quality challengers, while ballot restrictive states still have a minor positive effect. One possible explanation is that the free-for-all nature of the blanket primary leads possible candidates to conclude that their chances for upset are higher. That quality challengers are more likely in ballot restrictive states should not be a surprising result, since the institutional barriers will be less relevant to such candidates. The weak negative effect of age suggests that possible candidates will be more likely to challenge younger members, regardless of the number of terms served.

<b>Table 12: Discrete Change (Quality Challengers Dichotomous Model)</b>				
<b>Variable</b>	<b>Iteration 1 (Min-Max)</b>	<b>Iteration 1 (0-1)</b>	<b>Iteration 2 (Min-Max)</b>	<b>Iteration 2 (0-1)</b>
<i>Party/Majority</i>	-.016	-.026	-.043	-.063
<i>Residence</i>	-.020	-.037	-.061	-.101
Terms	.014	.001	.024	.001
Ideological Extremity	-.271	-.269	-.401	-.398
<i>Power Committee</i>	-.032	-.032	-.195	-.195
Money Raised	-.083	-.000	-.141	-.000
Age	-.082	-.006	-.135	-.008
Personal Vote	-.042	-.001	-.071	-.002
Partisan Strength	.417	.002	.561	.003
<i>Ballot Restrictive State</i>	.022	.022	.025	.025
<i>Blanket Primary State</i>	.056	.056	.042	.042
Redistricting	.025	.000	.043	.000
<i>Scandal</i>	.192	.192	.061	.061
N	767	767	767	767

Discrete change was computed with continuous variables held to their means, while all dichotomous variables were held to their minimum (iteration 1) or maximum (iteration 2) values. Dichotomous variables are listed in italics for reader convenience.

Looking at the variables that were significant in the previous model, we see similar results to the previous change analysis. Partisan strength again looks to be the dominate predictor, with ideological extremity also showing a powerful effect. Whether or not the member sits on a power committee plays a smaller role in depressing the chance of a quality challenger. Interestingly, when one moves from the dichotomous variables being held at their minimum to their maximum, the effect of the power committee variable triples. Clearly, the effect of sitting on a power committee varies greatly with other factors. Living in a blanket primary state has a small positive effect on the probability of facing a quality challenger. Unlike the power committee variable, this effect is largely similar in the two iterations. Scandal has a positive effect but not one nearly as large as partisan strength or ideological extremity. The borderline predictor, age, has a small negative effect, but the result is not significant.

Moving the percent change analysis in table 13, a different relationship seems to emerge. Congressmen can largely reduce their chances of facing a quality challenger by moving to the ideological extreme. Being put on a power committee also has a large role in reducing the chance of such challenges. Partisan strength is almost doubly important to quality challengers as it is to all challengers. Using the previous example, as a district goes from partisan strength of 1 (unsafe) to 10 (fairly safe), the member would be 85% more likely to face a quality challenger. Living in a blanket primary state also significantly increases the probability of facing a quality challenger. The most powerful effect comes from the scandal variable, which has percent change four times larger than any other variable. Clearly staying out of ethical trouble is one of the best things a member can do to avoid quality challengers.

<b>Variable</b>	<b>Percent Change</b>
Party/Majority	-40.3%
Residence	-49.8%
Terms	1.5%
Ideological Extremity	-99.4%
Power Committee	-78.9%
Money Raised	-0.1%
Age	-3.5%
Personal Vote	-2.4%
Partisan Strength	8.5%
Ballot Restrictive State	58.3%
Blanket Primary State	152.3%
Redistricting	1.0%
Scandal	613.2%
N	767

According to the standard model fit criteria, the model does far better at predicting quality challengers than predicting all challengers. While the pseudo  $R^2$  values are clearly not enormous, given the peculiarities of trying to predict the probability of someone taking an enormous political gamble, they are a satisfying result. Clearly, a rational political elite will not undertake a campaign against an incumbent lightly, so there are many factors and combinations of factors that may come into play.

McFadden's $R^2$	0.161
Likelihood Ratio $R^2$	0.057
McKelvey and Zavoina $R^2$	0.382
Aldrich-Nelson $R^2$	0.055
Wald Test $R^2$	0.132

#### CONCLUSION AND DISCUSSION

These results paint an interesting picture about the contexts that lead to primary contests for incumbents. It is obvious that ballot access rules play a role in whether an incumbent faces a quality or symbolic/protest challenger. For both types of challengers, the partisan strength of the district plays an important part, with safer seats logically being more sought after. Interestingly, getting a seat in the majority party does not seem to have an effect.

When dealing with quality challengers, membership on a power committee seems to discourage primary contests. Overall, the model dealing with quality challengers is clearly superior to those that include all challengers. That result is unsurprising given the fact that the larger sample includes many candidates that may not be behaving strategically at all.

From the point of view of the incumbent trying to hold onto their seat, there is a bit of helpful information. While there is little that a member can do to ensure being placed on a power committee or having the state legislature redraw boundaries in an advantageous way, the member should take care to avoid scandal or the appearance of scandal. Beyond that, the member needs to place themselves carefully on the ideological spectrum. Clearly moving too far to the extreme risks serious challenger from the opposing party, but moving too close to the center may lead to a primary challenge. The strategic incumbent should work to find a position between the ideal points of the primary and general election constituencies. This result is consistent with the frequent criticisms of the median voter theorem, while offering an empirical illustration of competing constituencies within a given district.

While this research has offered some new insight into the specific contextual factors that may lead to primary challenges, it suffers from some limitations. For instance the sample, while including a decent number of cases only includes two congressional cycles. In the future, this research could be extended to include a greater number of years. It is important to analyze whether the results above are only contemporary or are lasting. Additionally, while scandal is included in the model, the measure undoubtedly underestimates the number of accusations of scandals due to the institutional stigma against bringing charges

on fellow members. Future research might find a better operationalization of scandal, one which both casts a wider net as well as captures the gradations of scandal.

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