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Buying in: Testing the Rational Model of Candidate Entry

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Abstract: Most studies of candidate entry focus on the general election challenger, ignoring all other candidates. This limits the study of entry in two ways. First, results are not generalizable. Variables which have been found to correlate with the presence of an experienced challenger in the general election might not correlate with amateur entry, or the entry of incumbent-party challengers. Second, existing tests of the “Rational Model of Candidate Entry” are weak tests. Studies regularly find a correlation between the presence of experienced challengers in the general election and the out-party’s prospects of winning, but this is not a sufficient condition of the model. Amateurs are also more likely to run when the probability of winning is high, and if this correlation is as strong as that between experienced challenger entry and the prospects of winning, this would violate a prediction of the model. I address both issues by separately estimating the entry of experienced challengers and amateurs. Two primary results follow. First, evidence indicates strong support for the rational model. Second, correlates of entry are different for different types of challengers.

Electoral challengers play a key role in the maintenance of democracy. Representation is meaningful only in the presence of real electoral competition, and competition is real only if incumbents are challenged by alternative candidates. However, despite challengers' important role in the democratic process, existing research on the decision to seek office is very narrow. The dominant share of studies relating to this question actually investigate something subtly different. They search for conditions under which an incumbent faces a strong candidate in the general election (e.g., Squire 1989, Jacobson 1989). Empirically, this is a narrower question, as it focuses on a small segment of the population of political challengers.

This narrow focus has affected the study of candidate entry in two ways. First, the literature's findings – and thus our conception of which factors influence candidate entry – are biased toward strong general election challengers. These challengers are not representative of challengers as a whole; as a result, extant findings are not generalizable. Second, tests of the Rational Model of Candidate Entry are weak. These tests look for – and regularly find – a correlation between a strong general-election challenger and good electoral prospects for the challenging party. This condition is necessary, but not sufficient, for the model. Amateurs also behave rationally (Canon 1990, 1993; Banks and Kiewiet 1989, Roberds and Roberts 2002), so the model predicts a similar relationship between amateur entry and electoral prospects. Further, the rational model predicts that the correlation between electoral prospects and challenger entry is stronger among experienced challengers than amateurs (Jacobson and Kernell 1983, Banks and Kiewiet 1989). Thus, it is possible for existing empirical findings to hold and for the rational entry model to be flawed anyway: if the correlation between prospects and entry is equally strong among experienced challengers and amateurs, this would violate the model.

This paper addresses both issues by taking a novel approach to the study of candidate entry. I conduct an empirical analysis which looks at all major-party electoral challengers: I sort them by type based on their electoral situation, then estimate the number of each type who seeks office. This design addresses the generalizability problem by incorporating the full population of challengers. It also addresses the model testing problem by producing four “all else equal” comparisons between experienced and amateur candidates. For each comparison, the rational model predicts that the correlation between electoral prospects and candidate entry is stronger among experienced challengers than it is among amateurs. This prediction is supported in the analysis of all four groups.

The paper proceeds as follows. Section 1 discusses the need to extend the study of candidate entry to candidates beyond those who make it to the general election. Section 2 investigates the predictions of the rational entry model, arguing that previous work has not subjected the rational entry model to the strongest possible test. Section 3 sets up the empirical test, and Section 4 introduces the independent variables used to estimate challenger entry. Section 5 discusses the results of the regressions, and Section 6 specifically investigates the “Rational Model Hypothesis.” Section 7 concludes the paper.

Section 1 – Expanding the Study of Challenger Entry

Most work on challenger entry focuses on general election challengers. In studies of House races, the most common research strategy is to estimate a dichotomous variable indicating whether an incumbent’s general-election challenger has previously held elective office, which is taken to be an indicator of candidate quality (Bianco 1984; Bond et al 1997; Box-Steffensmeier 1996; Hersch & McDougal 1994; Jacobson 1989; Squire 1989). Some studies have employed

more complicated (Goodliffe 2001; Carson 2005) or less complicated (Banks and Kiewiet 1989; Robeck 1982) analytical techniques, or have employed more nuanced measures of challenger quality (Bond et al 1985; Krasno & Green 1988). However, in each case the analysis remains focused on whether general-election challengers are politically strong.¹

These analyses study only a narrow slice of the House challenger population, which is not randomly selected from the population of challengers. The set of “experienced general election challengers” includes only candidates who meet four criteria: win the primary election, are not members of the incumbent’s party, challenge an incumbent, and have political experience.² The result of this winnowing process is that studies of general-election challengers do not focus on challenger entry. Rather, they estimate the probability with which an experienced challenger wins the challenging-party primary, and identify variables that correlate with experienced challenger victory. Moreover, they do this without conditioning on who enters this primary election.

Though it might be reasonable to infer that these same variables correlate with the probability of an experienced out-party candidate entering a race³, the same cannot be said of other candidates who face different strategic circumstances. To make the broadest of generalizations, challengers might be sorted by three variables. First, challengers differ *a priori* in their ability to win office. In practice, having held elective office at any point prior to running has been taken to indicate electoral strength; following Jacobson (1989) and others, I speak of “amateur” and “experienced” candidates to indicate those who are weak and strong, respectively. Second, candidates differ in whether they face an incumbent in the primary or the general election; hence candidates might be divided into those who belong to the incumbent’s party and those who belong to the out party. Finally, candidates who do not have to face an incumbent at

all run in a substantially different campaign environment altogether, so I separate open-seat candidates from those challenging incumbents.

This tripartite coding yields eight candidate types: incumbent-party experienced challengers who contest incumbent-defended seats, and those who contest open seats; incumbent-party amateurs who contest incumbent-defended seats, and those who contest open seats; out-party experienced challengers who contest incumbent-defended seats, and those who contest open seats; out-party amateurs who contest incumbent-defended seats, and those who contest open seats. Of these, only one – out-party experienced challengers who contest incumbent-defended seats – have been subjected to significant empirical scrutiny.

Section 2 –The Rational Model of Candidate Entry

According to the rational model of candidate entry (Black 1972, Jacobson and Kernell 1981), rational politicians are most likely to run for office when the probability of winning is highest, all else equal. Empirical tests of the model primarily search for correlations between (a) the probability with which a strong (experienced) challenger appears in the general election, and (b) favorable electoral conditions for the challenging party. Universally, studies find the correlation, and these results have been interpreted as showing strong support for the model.

However, a close examination of the model indicates that this correlation is not sufficient to show that the model accurately predicts behavior. The utility of seeking office (Black 1972) can be expressed as

$$U_O = (PB) - C$$

where P = the probability of winning, B = the benefits of holding the office being sought, and C = the cost of running. Black notes that the cost of running includes both the material costs

associated with seeking office *and* the value of any currently-held political office which the candidate must sacrifice in order to seek election to a new one. Thus the currently-held office is a “stake” which an experienced challenger invests in the pursuit of a higher office, and loses if he loses the election. Further, the size of this stake varies directly with the value of the office the potential candidate must give up. Leaving a low-value office (say, member of the school board) imposes a lower cost than leaving a high-value office (seat in the state legislature). This disparity in the cost term creates a comparative static: holding constant the benefits of the office being sought, as the stake grows the probability of winning the new seat must also rise in order for the expected utility to be high enough to induce entry into the race (Jacobson and Kernell 1981, 22-24; Canon 1990, 20-40). This same logic applies to candidates who do not need to give up an office to enter a race, i.e., political amateurs. They have no base office and thus invest no political stake in their runs for office.⁴ This makes the cost of running lower for amateurs than for experienced candidates, all else equal (Banks and Kiewiet 1989).

Because candidates’ costs differ systematically, it follows that the probability of winning necessary to induce entry also differs systematically. Specifically, the level of P needed to produce an expected utility high enough to induce an experienced challenger to enter should be higher than the corresponding level of P for an amateur (holding B constant). Empirically, this means that amateurs are more likely to enter low-prospects races than experienced challengers, and over large numbers of observations we should observe that the correlation between electoral prospects and entry is stronger among experienced challengers than it is among amateurs. Throughout the paper, I refer to this as the “Rational Model Hypothesis.” This hypothesis indicates that a correlation between experienced-challenger entry and electoral prospects is not sufficient to test the Rational Entry model. If the correlation between amateur entry and the

probability of winning is equally strong as that between experienced challenger entry and the probability of winning, the Rational Model Hypothesis is violated.

A more concrete expression of the Rational Model Hypothesis holds that experienced challengers – particularly those pursuing long-term careers in politics – have significant career incentives to run only when they have a good chance of winning. They pay high opportunity costs for entering a race (Hain et. al. 1981, Abramson et. al. 1987), and pay significant penalties if they lose (others might consider them “damaged goods,” harming their future chances of winning office). Amateurs who consider running for office are less likely to make their careers in politics, so fewer of them face these incentives. Thus, the average amateur finds the prospect of running in a difficult race more attractive (or more specifically, less unattractive) than the average experienced challenger. This disparity results in amateurs being more likely to run in relatively hopeless races against strong incumbents. When it appears that an incumbent might go uncontested, local party leaders often recruit a standard-bearer for the party. These are almost universally amateurs, because experienced challengers are unwilling to pay the costs of running if victory is not a reasonable possibility. Typically, these recruited candidates do not do well in the election – incumbents go uncontested precisely because they are unlikely to lose – and lower the average “electoral favorability” of amateur-contested races as a group (Canon 1993).

One final issue to consider is interaction among challengers. Each challenger’s decision to enter is likely to be related to others’ decisions, as the competitive field is shaped primarily by who is running for office. Two theories describe the nature of this interaction. Banks and Kiweiet (1989) argue that when an experienced challenger runs for office, this deters amateurs from running. Weak challengers, they hold, maximize their probability of winning the election by running where they do not have to face a strong challenger in the primary, even if this means

facing a strong incumbent in the general election. Thus, weak challengers avoid running when a strong challenger of the same party enters, and the theory predicts a negative correlation between the entry of the two types of candidates. Canon (1993) offers an alternate theory, arguing that strong challengers know more about incumbent strength than weak challengers. If a strong challenger makes an entry decision before a weak one, the weak challenger learns about the incumbent by observing the strong challenger. As a result, the weak challenger often mimics the strong challenger: enter when the strong challenger enters, stay out when the strong challenger stays out. Canon's theory predicts a positive correlation between the entry of strong and weak challengers. I test these opposite empirical predictions in the analysis presented below.

Section 3 – Testing the Rational Model

To extend the study of candidate entry to all types of political challengers, and to evaluate the “Rational Model Hypothesis” derived above, I conduct a series of estimations in which the unit of analysis is an election to an individual seat in the U.S. House of Representatives. Dependent variables are the number of major-party challengers of each type discussed above who seek office.⁵ Data are taken from elections to the House of Representatives from 1980 through 1998 in occupied seat elections, and 1978 through 1998 in open-seat elections⁶ The dependent variables are count data, for which OLS provides biased estimates (King 1989). Thus, I employ poisson and, where overdispersion is present, negative binomial regression.⁷

As discussed above, candidates are divided along the following lines: politically experienced from amateur (where any candidate who had ever held elective office prior to seeking election is coded as experienced); incumbent-party from out-party, and open seat candidates from challengers to occupied seats.⁸ This yields eight candidate types, or four dyads

of otherwise similar experienced and amateur candidates: incumbent-party challengers to occupied seats; out-party challengers to occupied seats; incumbent-party candidates in open seats; and out-party candidates in open seats. Each dyad offers an independent test of the rational model hypothesis. The specific empirical prediction is that within each pair of estimations, the coefficient on the independent variable(s) which reflects challengers' probability of winning is larger in magnitude in the estimation of experienced challenger entry than in the estimation of amateur entry.

To operationalize the probability of winning office, I employ OLS to estimate the incumbent party's share of the two-party vote in the general election (separately for incumbent-defended seats and open seats). Independent variables include indicators of local political factors (lagged incumbent vote share and presidential candidate vote share), indicators of national political factors (presidential approval and yearly change in the gross national product), and dummy variables indicating the year.⁹ Next, I obtain predicted values of the incumbent party's general election vote share for each district in each year. Because these predicted values are a function of independent variables which are observable to prospective candidates, they are an appropriate proxy for the prospective candidates' evaluations of the incumbent party's electoral prospects. In the next stage of the analysis, I estimate the number of challengers who enter the race, and include the incumbent party's predicted vote share, named *projected vote*, as an independent variable (Romero 2004).¹⁰

The hypothesized relationships are similar for each dyad. For out-party challengers to occupied seats, the coefficient on *projected vote* should be negative: good prospects for the incumbent party produce a low probability of victory for out-party candidates, so fewer should run. The Rational Model Hypothesis predicts that the coefficient is more strongly negative (i.e.,

lower) in the experienced challenger estimation than in the amateur estimation. Second, for out-party candidates to open seats, the coefficient should be similarly negative: even in the absence of an incumbent, if the incumbent party's candidate is projected to do well, fewer out-party challengers should run. The Rational Model Hypothesis predicts the same thing here: the coefficient should be more strongly negative (i.e., lower) in the experienced-challenger estimation than in the amateur estimation. Third, for incumbent-party candidates to open seats, the coefficient on projected vote should be positive: more candidates should run when the prospects for their party are good. Here, the Rational Model Hypothesis predicts that the coefficient in the experienced-candidate estimation is higher than the coefficient in the amateur-candidate estimation.

The fourth group, incumbent-party challengers to occupied seats, requires a more nuanced approach. Here, the projected incumbent-party vote share in the general election is not, by itself, a good indicator of the probability with which a challenger wins the seat. One other factor limits these challengers' electoral prospects: facing the incumbent in the primary election. Any analysis of the probability with which an incumbent-party challenger can win election must therefore also include an indicator of the incumbent's primary-election vulnerability. I employ the incumbent's lagged primary election vote share as an independent variable. It should correlate negatively with incumbent-party challenger entry: a large primary election vote share reflects electoral strength and should scare off potential same-party challengers the next time around. Once primary-election vulnerability is controlled for, *projected vote* remains a measure of the incumbent-party candidate's general election prospects. Once again, more candidates should enter when the probability of winning is highest; so the coefficient should be positive and significant. Thus, in this fourth dyad, the Rational Model Hypothesis makes two predictions:

first, that the coefficient on the incumbent's lagged primary vote share is more strongly negative (i.e., lower) in the experienced challenger estimation than in the amateur estimation; and second, that the coefficient on *projected vote* is higher in the experienced challenger estimation than in the amateur estimation.

Section 4 – Independent Variables

Because I am also *substantively* interested in the variables comprising the estimation of the incumbent party's projected general election vote share, I estimate two equations for each challenger type: one containing the independent variables used in the incumbent vote share regression reported in Table A1, and one in which the projected incumbent-party vote replaces them. In this section, I discuss the independent variables used in the estimations. In addition to these, I also include dummy variables indicating the year in which the election took place.

In the full model, five variables reflect local political conditions. First is the incumbent's share of the two-party vote in the most recent general election, *lagvotegen*. As discussed above, studies have found a strong relationship between lagged incumbent vote and experienced out-party entry (Bond et al 1985; Krasno & Green 1988, Bianco 1984). In addition to the expected relationship in races for incumbent-occupied seats, *lagvotegen* should correlate with challenger entry in open seats as well. It acts as an indicator of the partisan balance in the district.¹¹ Thus, in open seats *lagvotegen* should be positively correlated with incumbent-party challenger entry and negatively correlated with out-party challenger entry. The second variable is *presvote*, the share of the two-party vote received by the incumbent-party's presidential candidate within the incumbent's district. This captures constituency preferences independent of the House member's vote share; studies find a significant negative relationship between the vote share received by the

presidential candidate of the incumbent's party and the quality of the House incumbent's general election opponent (Bianco 1984; Bond et al 1985, Squire 1989).¹² Accordingly, the measure should be positively associated with the entry of incumbent-party challengers and negatively associated with the entry of out-party challengers in all of the estimations.

Three variables are included only in the estimations of entry into incumbent-occupied seats. First, I account for a likely relationship between incumbent-party challenger entry and the incumbent's primary election vulnerability – discussed above – with *lagvoteprim*, the incumbent's share of the vote in the most recent primary election. Where incumbents seek reelection, smaller primary election vote shares should attract more incumbent-party challengers in the subsequent election. Candidates nominated by state party conventions are coded as having received 100% of the primary vote share, unless they also contested a primary election in the same year. Second is a dummy variable that indicates whether the incumbent has been involved in a *scandal* during the term of office immediately prior to the election being measured.¹³ The effect of scandal on candidate behavior is little-studied; most analyses focus on how scandal affects voters' behavior (e.g., Welch and Hibbing 1997, Brown 2006). I expect the coefficient on *scandal* to be uniformly positive: the presence of scandal should weaken an incumbent's support level broadly, drawing challengers of all types into the election. The second is *war chest*, which reflects the amount of cash the incumbent's reelection committee has at the beginning of the campaign season, logged.¹⁴ Scholars, journalists and political practitioners have long theorized that incumbent war chests discourage challenger entry, though the results from empirical tests are mixed (e.g., Box-Steffensmeier 1996; Goodliffe 2001).

I also account for the effect of money in the estimation of candidate entry into open seats. The effect of an expensive open seat race should be similar to that of facing an incumbent with a

large war chest: fewer candidates should run when the race is going to be expensive. As an indicator of expected cost, I include *lagged spending*, the total amount of money spent in the district by the general election candidates in the prior election. The coefficient on *lagged spending* should be negative in the estimations of entry into open seats.

I employ two indicators of national political conditions (Jacobson and Kernell 1981). *Approve* is the percent of Gallup poll respondents saying that they approve of the job the president is doing one year prior to the election.¹⁵ Jacobson (1989) finds a significant relationship between presidential approval and out-party experienced challenger entry, though his findings are limited to Democratic challengers. The second variable is an indicator of national economic performance: *GDP* is the percentage change in the gross domestic product in the period from two years prior to one year prior to the election. Large growth indicates a strong economy, which generally benefits the party of the president. Jacobson (1989) and Squire (1989) both find correlations between the state of the national economy and out-party experienced challenger entry. Both variables are coded as indicated for districts with incumbents of the president's party, and negatively for incumbents who are not of the president's party. House incumbents of the president's party should benefit from a strong economy and a popular president, while incumbents of the out-party should suffer from these conditions.

Several variables reflect structural conditions. *South* is a dummy variable coded 1 if the House district is in a state which was a member of the confederacy, and 0 otherwise. Southern politics is characterized by lower levels of political competition (Squire 1989, Box-Steffensmeier 1996), so the coefficient on *South* is predicted to be negative. *Endorse* is a dummy coded 1 if the state party organization endorses a candidate in primary elections, and 0 otherwise. This practice discourages entry by other candidates: the party provides resources to the endorsed candidates

and in some cases have institutional roadblocks in place to keep other candidates from running (Jewell and Morehouse 2001). As a result, the coefficient on *endorse* should also be negative. *Democrat* is a dummy coded 1 if the incumbent is a Democrat, 0 otherwise. A number of studies have found that experienced Democratic challengers are more likely to appear in general elections than experienced Republican challengers (Bianco 1984, Bond et al 1985, Squire 1989, Box-Steffensmeier 1996, Hersch and McDougal 1994). Here, I test whether the relationship generalizes across challenger types. Finally, *size* is a measure of the size of the state the incumbent represents, coded as the number of House seats in the state's delegation. This is included to control for the count nature of the dependent variables: states with larger populations may have larger candidate pools than smaller states. Larger candidate pools would naturally produce more candidates.

A third set of variables accounts for whether the House district has been significantly redrawn since the prior election, a factor that has surprisingly gone unexplored in previous studies of challenger entry. *Districtgain* is a dummy coded 1 if the state gained at least one House seat since the last election, and *districtlose* is a dummy coded 1 if the state lost at least one House seat since the last election. I employ the separate categories because each creates different incentives for challengers. In states that gained seats, the new districts create a larger than normal number of opportunities for challengers to run in the absence of an incumbent; thus the coefficient on *districtgain* should be positive. However, in states that lose seats there are a surfeit of incumbents and thus fewer opportunities for challengers to run without facing one (or two). The coefficient on *districtlose* should be negative.

Fourth, to control for incumbent career effects (Fenno 1978) I include the incumbent's *age* in years and years of *seniority* in the House. Squire (1989) finds no significant relationship

between either variable and out-party experienced challenger entry. However, Hersch and McDougal (1994) find that experienced challengers are more likely to run against older incumbents. The rational model makes no clear prediction about these variables.

Finally, I test the Banks-Kiewiet (1989) and Cannon (1993) theories of interaction among challengers by including two independent variables in the amateur regressions. One is the number of experienced candidates of the incumbent's party who enter (*incparty*). The second is the number of experienced candidates of the out party who enter (*outparty*). Banks and Kiewiet, in arguing that experienced challengers deter amateurs from entering, predicts these variables will be negative and significant. Canon, in theorizing that amateurs learn from watching experienced challengers, predicts that these variables will be positive and significant.

Section 5 –Results

Results are presented in Tables 1–4. Table 1 presents models of incumbent-party challenger entry into incumbent-defended seats. Table 2 presents models of out-party challenger entry into incumbent-defended seats. Table 3 presents models of incumbent-party challenger entry into open seats. Table 4 presents models of out-party challenger entry into open seats. Robust standard errors clustered on states are reported. In all four tables, results for the year dummies are omitted. This section discusses the results of these regressions. To facilitate the discussion, I organize it around the independent variables rather than the models as a whole.

[Tables 1–4 about here]

The variables which reflect local political conditions adhere closely to the predictions of the rational entry model. *Lagvotegen* is significantly related to the entry of both experienced and amateur out-party challengers in occupied seats (Table 2, or T2), which comports with previous

findings. However, it is not significantly related to the entry of incumbent-party challengers in occupied seats (T1). This is a novel finding, although it also is in accordance with the model, as discussed above. In open seats, *lagvotegen* correlates positively with the entry of experienced incumbent-party candidates and negatively with the entry of experienced out-party candidates (T3 and T4, respectively). Unexpectedly, however, the variable is less-strongly related to the entry of amateurs: the coefficient is marginally significant for out-party amateurs (T4), and not significant at all for incumbent-party amateurs (T3).

Second, *presvote* is significant and in the expected direction in all eight estimations. The presidential candidate's vote is positively related to the entry of incumbent-party challengers, and negatively related to the entry of out-party challengers. This is true for both amateur and experienced challengers, who run in occupied or open seats. Third, *scandal* is likewise significant and in the expected direction in each of the estimations in which it is included, indicating that incumbents who are involved in scandals attract more challengers than others. Fourth, the coefficients on *war chest* are negative and significant in the estimations of experienced challenger entry (T1 and T2), regardless of party. However, the variable is not significantly related to the number of amateur challengers who enter races, of either the incumbent's or the other party. Correspondingly, *lagged spending* is negative in each estimation of entry into open seat races, as expected. However, the variable rises to conventional levels of statistical significance only in the estimation of amateur incumbent-party challengers (T3). Finally, the rational model predicts that the *lagvoteprim* is significantly related to the entry of incumbent-party challenges, but not out-party challengers. Accordingly, the coefficients are not significant for out-party challengers (T2), but negative and significant for amateur and

experienced incumbent-party challengers (T1). Thus, the number incumbent-party challengers increases when the incumbent won a close primary in the previous election cycle.

In contrast, the national-level variables present some anomalous results. Favorable national conditions are considered to be electorally helpful to House incumbents. Here, favorable conditions for incumbents are indicated by the appearance of few challengers, so the coefficients on *approve* and *GDP* are predicted to be negative. For *Approve*, this is the case only two out of eight times (the T1 and estimation of amateurs and the T3 estimation of experienced challengers). Indeed, in all four estimates of incumbent-party challengers the variable is negative as predicted. Thus it appears that these challengers respond to presidential approval as the rational model says they should, even if the relationships are not always very strong. On the other hand, the anomaly appears when we turn to out-party challengers. *Approve* is positive and significantly related to the entry of out-party challengers into incumbent-defended seats (both experienced and amateur, T2), as well as out the entry of out-party amateurs into open seats (T4). This unexpected finding may be the result of a spurious correlation, as one year is a strong outlier on *Approve*. George Bush's approval rating prior to the 1990 elections was 80%, a full 14 points higher than the approval rating for any other election in this dataset. That year also saw very low levels of out-party challengers in House races across the nation.¹⁶

The second model which indicates national-level variables, *GDP*, likewise produces weak results, but the significant findings coincide with the rational model's predictions more consistently. It is negative and significant only in the estimates of amateur out-party challengers running in both occupied and open seats (T2 and T4). This indicates that – among out-party challengers – amateurs take the national economy into account in making their entry decisions, but experienced challengers do not (perhaps focusing more closely on local factors – see Note

19). Conversely, one coefficient is signed opposite of predicted – more experienced incumbent-party challengers enter when the economy is doing well (T1). This might be an indication that these challengers view a favorable economy as being helpful to their own electoral prospects, rather than the incumbent's.

The institutional variables reveal some interesting differences among the candidate types. For instance, two differences between experienced and amateur challengers emerge. The first of these is the effect of state party endorsements. *Endorse* is negative and significant in all of the estimations of amateur entry, but none estimations of experienced challenger entry. Thus it seems that party endorsements result in fewer amateurs contesting House elections, but no significant change in experienced challenger behavior. The second difference between amateurs and experienced challengers comes in the relationship between state size and entry. In all four estimations of amateur entry, *size* is positive and significant: more amateurs enter races for office in larger states. For experienced challengers, the relationship is reversed (fewer enter in large states), and less-reliably significant (marginally in T1, and not at all in T3).

A different pattern emerges when we turn to *South*. The variable is negative and significant for all types of challengers running in occupied seats (T1, T2), but for none of those running in open seats (T3, T4). This indicates that regional differences, long theorized about and tested for, are confined – at least where challenger entry is concerned – to occupied seats. Southern incumbents face fewer challengers than incumbents from elsewhere. However, there are no regional differences in terms of entry into open seat races.

The redistricting variables reveal differences both between amateurs and experienced challengers and between open and incumbent-occupied seats. First, note that wherever the redistricting variables are significant they are in the expected direction: positive for *districtgain*

and negative for *districtloss*. However, in incumbent-defended seats, experienced challengers entry is significantly related to *districtgain* only, while amateurs' entry is significantly related to *districtloss* only (T1, T2). Thus, experienced challengers appear to be encouraged when their states gain districts, but do not act noticeably different when their states lose districts.

Conversely, amateurs appear to be discouraged from running when their states lose districts, and do not act noticeably different when their states gain districts. Looking at open seat races, the only significant result is opposite the findings for occupied seats. Experienced challengers of the incumbent's party are less likely to run in an open seat if their state has lost districts (T3). This might be due to the possibility of facing a displaced incumbent, even in a nominally open seat.

Interesting differences also show up in the incumbent career-stage variables. Increased incumbent age is associated with more incumbent-party challengers – both amateur and challenger – entering races in occupied seats (T1). *Tenure* is not significantly related to incumbent-party challenger entry in these races, but high seniority is associated with fewer out-party challenger entry (experienced, but not amateur, T2). *Age* is not significantly related to out-party challenger entry. Neither variable is significantly related to entry in open seats.

The coefficients on *Democrat* indicate that Democratic incumbents face more incumbent-party challengers (T1) and fewer out-party challengers (T2) than Republican incumbents. Both coefficients point to the same substantive trend: more Democratic challengers run against incumbents than Republican challengers, and this is true for both experienced and amateur candidates. Looking at open seats, there is no difference between the parties when it comes to incumbent-party challenger entry (T3), indicating that both parties defend their open seats with equal vigor. However, fewer Democrats enter as out-party candidates in open seats (T4), which

might indicate some partisan differences in the way candidates attempt to capture the other party's open seats.

Finally, the coefficients on the experienced challenger dummy variables provide support for both Canon (1993) and Banks and Kiewiet (1989). In each estimation, the coefficient on *incparty* is positive and significant, indicating that more amateurs – of every type – run when experienced challengers of the incumbent's party enter races. This is predicted by the signaling game posited by Canon. Indeed, the positive results in open seats even extend the application of Canon's theory: more amateurs enter when an incumbent-party experienced challenger enters in both incumbent-defended seats (as predicted by Canon) and open seats (on which Canon is silent). On the other hand, the results of Table 2 indicate that when experienced challengers of the out-party seek office in incumbent-defended seats, fewer out-party amateurs enter. This result is predicted by Banks and Kiewiet (1989); moreover, a close reading of Banks and Kiewiet reveals that this is the *only* prediction made by their model. Banks and Kiewiet look exclusively at the case of two challengers of one party deciding whether to enter when the incumbent is of the opposite party. Their prediction of a negative relationship between strong- and weak-challenger entry applies only to this case; thus their theory is supported in full.

These results bring up an interesting difference between amateurs of the out-party and amateurs of the incumbent party. Why would out-party amateurs be less likely to enter when having to face an experienced challenger in the primary, but incumbent-party amateurs be *more* likely to enter under the same circumstances? One possible answer lies in the number of difficult elections. An out-party amateur who runs against an experienced challenger when the incumbent is seeking reelection must face two difficult elections (experienced in the primary, incumbent in the general). Note that *outparty* is not significant in the open seat models, indicating that

avoidance is not a factor when there is no prospect of facing an incumbent in the general election. This is the case for incumbent party challengers, regardless of the incumbent's entry decision: there is never a prospect of facing an incumbent in the general election. Rather, there is only a difficult primary election.

Section 6 – Evaluating the Rational Model Hypothesis

The results discussed above indicate that challenger entry correlates with the challenger's probability of winning; this holds true regardless of the challenger's party status or strength, or whether or not the seat is open. The rational model predicts these results, but the model also predicts that in each case the relationship should be stronger among experienced challengers than among amateurs.

There are five tests of this hypothesis. In all four estimations *projected vote* is an indicator of the probability with which the incumbent (or the incumbent-party's candidate) wins the general election. In Table 1, *projected vote* is positive and significant for both experienced and amateur challengers. That is, more challengers enter when their party is likely to do well in the general election, other factors controlled for. Table 1 also contains a second test variable. *Lagvoteprim* indicates the incumbent's level of primary-election vulnerability, and also the probability with which an incumbent-party challenger can win the primary. The coefficient is negative for both experienced challengers and amateurs, though significant only for amateurs. In Table 2, *projected vote* is negative and significant for both types of challengers. When the incumbent is projected to do well in the general election, few out-party challengers – both amateur and experienced – run. In Table 3, *projected vote* is positive and significant for both types of challengers, indicating that more incumbent-party candidates run in open seats when

their party is projected to do well. In Table 4, the variable is negative and significant, meaning that out-party challengers behave in the same manner.

In all of the above cases the magnitude of the coefficient that indicates the challengers' prospects should be higher for experienced challengers entry than for amateurs. Indeed, this is true in all five cases. To test the significance of these differences, I re-estimated each "Model 2" from Tables 1-4 using seemingly unrelated estimation (Weesie 1999). This allowed me to simultaneously estimate the number of experienced and amateur challengers entering each type of election, and conduct a Wald test of the hypothesis that the coefficients of interest are equal to one another. Seemingly unrelated estimation also has the advantage of accounting for different estimation techniques (poisson and negative binomial) employed in the estimation of amateur and experienced challenger entry. Results are presented in Table 5. In all five cases we can reject the null hypothesis of no difference with a high level of confidence.

[Table 5 about here]

Section 7 – Conclusion

In this paper I have sought to expand the study of challenger entry. Prior studies are narrow in focus in that they do not include the entry of all types of challengers; most focus on the probability with which an experienced challenger emerges in the general election. This narrow focus has limited the study of challenger entry in two ways. First, results are biased; correlates of challenger entry which have been identified in these studies are, more precisely, correlates of experienced out-party challenger entry in incumbent-occupied seats. Second, the Rational Model of Challenger Entry has not been subjected to as strong a test as possible. The often-observed correlation between the emergence of an experienced general-election challenger and out-party electoral prospects is a necessary condition, but not a sufficient one. Rather, the model

predicts that the relationship between experienced-challenger entry and electoral prospects is stronger than the relationship between amateur entry and electoral prospects.

The central findings of this paper apply directly to these limitations. First, this paper is one of a handful to apply the rational model to amateur entry. Amateur entry correlates with favorable electoral conditions, as well as other factors which the rational entry model predicts. These results expand the scope of the model by adding a previously under-examined group of political actors to the list of those whose actions generally conform to the model's predictions. Second, the correlation between candidates' prospects of winning and entry is not as strong among amateurs as it is among experienced challengers. This also is directly predicted by the model. This paper is the first to test this prediction.

A third finding is the striking amount of variation in the variables which correlate with the entry of different types of candidates. Fourteen independent variables are used to estimate the probability of entry of eight types of candidates; only two of these (*presvote* and *projected vote*) are significant in all eight estimations, and none never reaches statistical significance. This variation implies two things. First, the decision to run is not equivalent for all candidates; there are meaningful differences between experienced and amateur candidates, between occupied-seat challengers and those running in open seats, and between incumbent-party and out-party candidates. Previously, these differences have been obscured by the tendency to focus on the general election for tests of the rational entry model. Including all types of candidates in an analysis of candidate entry, however, brings these differences to light.

These differences manifest themselves in many ways, and lead to the second implication: many of the differences are not clearly predicted by the rational entry model. Thus, the theoretical origins of many of the individual results presented here are murky, giving rise to a

host of potential research questions. For instance, why is it that fewer challengers contest races in the South when an incumbent defends the seat, but there is no regional distinction when it comes to open seats? Why do incumbent-party challengers seem to focus on incumbents' ages, while out-party candidates focus on their tenure? What accounts for differences between experienced and amateurs in the degree to which their probabilities of entry correlate with national political conditions? Why is there a significant correlation between experienced challenger entry and state-level redistricting *gains*, but none between entry and state-level losses not? And why is the reverse true among amateurs? These questions, and more, might prove to be fruitful avenues for further research.

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Table 1

Entry of Incumbent-Party Challengers into Occupied Seats 1980-1998

	Experienced Challengers		Amateurs	
	Model 1	Model 2	Model 1	Model 2
lagvotegen	-.002 (.006)	--	-.000 (.001)	--
presvote	.029*** (.007)	--	.003** (.001)	--
approve	-.119 (.176)	--	-.067*** (.018)	--
GDP	2.03^ (1.17)	--	.261 (.201)	--
projected vote	--	.039*** (.009)	--	.004* (.016)
lagvotepri	-.011* (.005)	-.012** (.004)	-.002** (.001)	-.002** (.001)
endorse	-.271 (.225)	-.319 (.229)	-.173*** (.021)	-.175*** (.021)
south	-.400^ (.217)	-.543** (.206)	-.173*** (.022)	-.186*** (.022)
state size	-.015^ (.008)	-.014^ (.008)	.004*** (.001)	.004*** (.001)
districtgain	1.20** (.386)	1.26** (.387)	-.006 (.067)	-.001 (.065)
districtloss	.063 (.375)	.030 (.370)	-.289*** (.057)	-.290*** (.064)
age	.188^ (.011)	.022* (.011)	.004** (.001)	.004** (.001)
tenure	-.003 (.014)	-.006 (.014)	.002 (.002)	.002 (.002)
Democrat	.890*** (.210)	.645*** (.176)	.163*** (.021)	.158*** (.019)
scandal	1.84*** (.305)	1.85*** (.297)	.229*** (.068)	.235*** (.068)
warchest	-.097** (.036)	-.107** (.035)	.012 (.009)	-.013 (.009)
incparty	--	--	.353*** (.04)	.357*** (.065)
outparty	--	--	.038 (.029)	.037 (.027)
constant	-4.06*** (.769)	-4.73*** (.812)	.124 (.089)	.041 (.125)

alpha	2.85*** (.737)	2.79 (.729)	--	--
N	3667	3667	3667	3667
chi-squared	228***	211***	439***	409***

Table 2
Entry of Out-Party Challengers into Occupied Seats 1980-1998

	Experienced Challengers		Amateurs	
	Model 1	Model 2	Model 1	Model 2
lagvotegen	-.025*** (.004)	--	-.008*** (.001)	--
presvote	-.036*** (.005)	--	-.006*** (.001)	--
approve	.378*** (.102)	--	.165** (.030)	--
GDP	-.224 (.684)	--	-1.05*** (.189)	--
projected vote	--	-.084*** (.008)	--	-.021*** (.002)
lagvoteprim	-.001 (.002)	-.001 (.002)	-.001 (.001)	-.001 (.001)
endorse	.061 (.099)	.060 (.198)	-.322*** (.034)	-.337*** (.344)
south	-.446*** (.108)	-.436*** (.107)	-.416*** (.039)	-.425*** (.038)
state size	-.021*** (.004)	-.021*** (.004)	.006*** (.001)	.007*** (.001)
districtgain	.779*** (.194)	.773*** (.192)	.076 (.071)	-.134 (.087)
districtloss	-.048 (.193)	-.041 (.191)	-.318*** (.071)	-.509*** (.081)
age	.000 (.005)	.001 (.005)	-.002 (.002)	-.001 (.002)
tenure	-.019* (.008)	-.019* (.009)	.003 (.003)	.002 (.003)
Democrat	-.443*** (.100)	-.391*** (.088)	-.047 (.032)	-.071* (.030)
scandal	1.10*** (.200)	1.09*** (.202)	.230^ (.121)	.238* (.117)
warchest	-.030* (.015)	-.029* (.014)	.010 (.006)	.009 (.006)
incparty	--	--	.302*** (.073)	.275*** (.072)
outparty	--	--	-.255*** (.058)	-.267** (.058)
constant	2.81*** (.456)	5.39*** (.613)	1.54*** (.142)	1.86*** (.239)
alpha	.054	.062	--	--

N	(.122)	(.112)		
	3667	3667	3667	3667
chi-squared	387***	379***	369***	438***

Table 3
Entry of Incumbent-Party Challengers into Open Seats 1978-1998

	Experienced Challengers		Amateurs	
	Model 1	Model 2	Model 1	Model 2
lagvotegen	.006* (.003)	--	.001 (.002)	--
presvote	.011* (.004)	--	.007^ (.004)	--
approve	-.148^ (.077)	--	-.034 (.081)	--
GDP	-.487 (.706)	--	-.674 (.558)	--
projected vote	--	.018*** (.005)	--	.007* (.003)
endorse	-.170 (.156)	-.182 (.164)	-.674*** (.17)	-.599*** (.162)
south	-.121 (.105)	-.132 (.112)	-.092 (.131)	-.098 (.133)
state size	.157 (.104)	.130 (.095)	.012* (.004)	.010* (.005)
districtgain	-.245 (.264)	-.300 (.264)	.171 (.235)	.194 (.227)
districtloss	-.821*** (.195)	-.867*** (.186)	-.206 (.174)	-.100 (.185)
age	-.001 (.004)	-.006 (.004)	.001 (.005)	.001 (.005)
tenure	.004 (.006)	.0001 (.004)	.005 (.006)	.003 (.004)
Democrat	.004 (.006)	.005 (.006)	.004 (.005)	.003 (.005)
lagged spending	-.716 (.689)	-.746 (.669)	-.832* (.420)	-7.11^ (4.32)
incparty	--	--	.141*** (.038)	.142*** (.037)
outparty	--	--	.041 (.047)	.040 (.046)
constant	-.653 (.441)	-1.02* (.501)	.829^ (.437)	.841* (.460)
alpha	--	--	.224 (.044)	.227 (.044)
N	509	509	509	509
chi-squared	493 (df=24)	250 (df=21)	374 (df=26)	374 (df=23)

Table 4
Entry of Out-Party Challengers into Open Seats 1978-1998

	Experienced Challengers		Amateurs	
	Model 1	Model 2	Model 1	Model 2
lagvotegen	-.009* (.004)	--	-.005^ (.003)	--
presvote	-.031*** (.006)	--	-.012** (.004)	--
approve	.041 (.123)	--	.209** (.078)	--
GDP	-.829 (.877)	--	-1.34* (.568)	--
projected vote	--	-.047*** (.007)	--	-.024*** (.005)
endorse	-.078 (.128)	.061 (.129)	-.593*** (.112)	-.526*** (.135)
south	-.178 (.166)	-.101 (.179)	-.075 (.090)	-.073 (.103)
state size	-.015* (.006)	-.013* (.005)	.012*** (.004)	.012** (.004)
districtgain	.080 (.332)	-.067 (.373)	-.109 (.208)	-.073 (.167)
districtloss	-.110 (.427)	-.152 (.417)	.018 (.209)	.014 (.197)
age	-.007 (.008)	-.008 (.008)	-.000 (.004)	-.003 (.004)
tenure	.014 (.010)	.013 (.011)	-.001 (.005)	.0002 (.006)
Democrat	-.375** (.135)	-.237^ (.130)	-.157* (.075)	-.112 (.067)
lagged spending	-1.23 (.092)	-1.18 (.090)	-1.98 (3.92)	-.303 (.386)
incparty	--	--	.070* (.032)	.068* (.032)
outparty	--	--	-.010 (.047)	-.004 (.051)
constant	1.54^ (.821)	1.47^ (.876)	2.00*** (.370)	2.10*** (.373)
alpha	--	--	.053 (.039)	.064 (.041)
N	509	509	509	509
chi-squared	248 (df=24)	185 (df=21)	343 (df=26)	285 (df=23)

Table 5
Relationship Between Challenger Entry and Probability of Winning
Experienced vs. Amateur candidates

	Test variable	Coefficient	p > chi2
Incumbent party challengers in occupied seats			
Experienced	<i>lagvoteprim</i>	-.012***	.000
Amateur		-.002**	
Experienced	<i>projected vote</i>	.045***	
Amateur		.005***	.017
Out party challengers in occupied seats			
Experienced	<i>projected vote</i>	-.086***	
Amateur		-.021***	.000
Incumbent party challengers in open seats			
Experienced	<i>projected vote</i>	.018***	
Amateur		.007*	.028
Out party challengers in open seats			
Experienced	<i>projected vote</i>	-.047***	
Amateur		-.024***	.006

Notes

¹ A few studies consider other challengers as well, though these are also subject to critique.

Squire (1989b) and Wrighton and Squire (1987) study uncontested House races; here the dependent variable also takes account of amateur out-party challengers, though it treats them as equivalent to experienced challengers and still excludes incumbent-party challengers. Canon (1993) estimates the number of amateurs who enter races, but does not differentiate between incumbent- and out-party amateurs (Tables 4, 5A, 5B). Roberds and Roberts (2002) differentiate between weak and competitive amateurs. Romero (2004) separately estimates the number of strong- and weak-party candidates entering House races, but studies only out-party challengers.

² Once again, there are a few exceptions. Goodliffe (2001) differentiates between amateurs and experienced challengers in general election races, and Bond et al (1985) and Krasno and Green (1988) operationalize experience continuously. Additionally, the subject of challenger entry into open-seat races is the subject of at least two studies, Bond et al (1997) and Bianco (1984). See also Note 1.

³ This is true because out-party strong-challenger entry correlates with the out-party's prospects of winning the general election.

⁴ Of course, office-seeking amateurs may have to give up non-political activities in order to seek or hold office. These include business and professional duties, as well as personal. Thus, it is not accurate to say that they pay no opportunity cost to seeking office; only that they pay no *political* opportunity cost. For more detailed examinations of how potential candidates decide whether to seek office, see Lazarus (2005) and Maestas et al (2006).

⁵ The rational model of candidate entry makes predictions at the individual level; therefore, the most consistent test of the model would test at the same level. This would involve identifying all

people who consider running for office and observing whether they do. This would allow for a dichotomous estimation of the probability with which each prospective challenger enters.

Unfortunately, it is very difficult to identify those who think about seeking office and then decide not to, so there is a substantial barrier to conducting that analysis. The research method employed here is an imperfect solution: assume that a similar potential-candidate pool exists for each political office under study, and count the number of challengers who enter. To make this plausible, I limit the empirical analysis to elections to a single type of office, a seat in the U.S.

House of Representatives. Maisel and Stone (1997) and Fox and Lawless (2004) apply a second solution, surveying a population which is likely to include a high number of potential candidates.

⁶Differences are due to the availability of campaign finance data. The inclusion or exclusion of the extra round of elections does not substantively alter results.

⁷ I exclude from the analysis races involving incumbents who are not members of one of the two major parties. Additionally, I exclude races in which the incumbent did not seek reelection, but did so involuntarily. This includes incumbents who died in office, were legally precluded from seeking reelection, and Robert Drinan of Massachusetts. In addition to being a member of Congress, he was also a Catholic priest, but in 1980 the Pope ordered him not to seek reelection.

⁸ I collected the dichotomous experience variable from Congressional Quarterly Weekly Report, which from 1976-1998 reported each candidate's profession along with primary election results. CQWR lists not only current professions, but also indicates if a candidate is a former officeholder at the time of the election. From these reports, I observed each candidate's level of experience; those reported to be a current or former officeholder were coded as being "experienced" and all others as being not experienced.

⁹ No single empirical indicator completely captures the concept, “probability of incumbent loss in the general election;” it is influenced by too many disparate factors. Thus, the best approximation is to create a measure out of observable data. There are two principle problems associated with this. One is that a future event (in this case, general election vote share) is being used to predict something that occurs prior (challenger entry). To mitigate this, I chose independent variables which reflect information that is available to potential challengers prior to the election. Second is the robustness of the projected vote measure: if it is sensitive to changes in the specification of the model, then any results drawn from its use are suspect. To address this, I estimated more than a dozen specifications of each vote share model, obtaining predicted values for each one. I performed two robustness checks using these measures. First, I checked the correlation matrix: each alternative vote projections correlates with the measure used in the manuscript at $r=.938$ or better, indicating that they each contain roughly the same information. Second, I conducted the seemingly-unrelated analysis using the alternative measures. In each case, results were all but identical to those presented in the manuscript. Results of both the original estimation and the robustness checks are available from the author upon request.

¹⁰ Romero employs the same technique as I do, but employs OLS in his estimation of the number of challengers who seek office. This biases results in estimates of count variables (King 1989).

¹¹ Although it may also indicate the level of personal vote for the outgoing incumbent

¹² Some average several previous vote totals to obtain a measure of the normal vote.

¹³ I am indebted to Lara Brown (2001) for the use of her list of House incumbents who were involved to a scandal. My list differs from hers in only one respect; she omits House members involved in the 1992 House Banking scandal, viewing it as a institutional-level event, rather than

one which affected individual members differently. On the other hand, I include the 22 House members who were censured by the Ethics committee as having been involved in a scandal.

¹⁴ For this data, I am indebted to Jay Goodliffe (2001).

¹⁵ Gallup measures presidential approval monthly, and a researcher must strike a balance when selecting which monthly poll to use. If the selected poll is too close to the election, it will have occurred after many potential challengers have made their entry decisions. If the poll is too distant, it will have been conducted far in advance of many decisions, and will have had little influence. Though there is no consensus on this issue, one year seems appropriate.

¹⁶ Of the 12 years included in the dataset, 1990 was the second-lowest year in terms of aggregate out-party challenger entry. This is true for both amateurs and experienced challengers. If the regressions are re-run while excluding 1990, the sign on the coefficient switches, and the coefficient is significant in the estimation of amateur entry into incumbent-occupied seats.