

Competition in Congressional Primaries

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Abstract

Competition among candidates or parties is a necessary condition for democracy. But who counts as a candidate and what counts as competition? This paper departs from the use of on-ballot measures and instead draws on campaign receipts to weight the relative strength of candidates. I leverage preprimary fundraising totals in U.S. House primaries from 1980 to 2018 to calculate the number of viable candidates in a race. When the quality of competition is viewed through a fundraising lens, it looks markedly worse than on-ballot measures suggest. The decrease in competitors is evident across primary types, but the difference between the two measures is largest in the primaries where competition is thought to be the most vibrant. Open-seat primaries in safe districts are often held up as the bright spot of competition, yet even here, the number of viable competitors is quite low. I find that the number of candidates decreases by nearly half with the viable candidates measure, from 4.9 on-ballot candidates to 2.6 viable candidates. On-ballot measures are especially likely to overstate the degree of competition in recent years. The findings provide additional empirical support for the widespread sentiment that electoral competition in America is not as healthy as we would hope.

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Competition among candidates or parties is a necessary condition for democracy (Dahl 1956, 1971; Key 1949; Schlesinger 1966; Schumpeter 1942). But who counts as a political candidate and what counts as political competition? The competitive struggle for the people’s vote is so central to our understanding of democratic government that the makeup of the ballot and the outcomes of elections have, mostly implicitly, come to dominate our depictions of the state of electoral competition. Political scientists have relied on vote totals and electoral margins to examine core questions in the study of American politics and representation, such as whether citizens are able to hold their elected officials accountable and whether elections are living up to democratic ideals (i.e., Achen and Bartels 2016; Ansolabehere et al. 2001; Bonica and Cox 2018; Canes-Wrone et al. 2002; Fraga and Hersh 2018; Hirano and Snyder 2019).¹ It is almost exclusively through the lens of the ballot that scholars have evaluated the nature and quality of competition in the United States over the short and long run.

For the past few decades, academics and political observers have raised concerns about changes in competition as well. A series of influential articles in the 1970s first called attention to the “vanishing marginals” and the rise in incumbent vote share that unfolded over the late 20th century.² By several indicators, competition has diminished, but the most commonly used measure is the decline in the number of close electoral contests—those won with 55 or 60 percent of the vote. By the 60 percent threshold, about 40 percent of seats were in the marginal range between 1952 and 1964, but this figure has decreased steadily since, reaching exceptionally low levels of 12 and 14 percent in 2002 and 2004, respectively (Abramowitz et al. 2006; Jacobson 2006). Congressional Quarterly’s estimates of House seats in play each cycle illustrate a similar pattern, with the number falling from more than 80 competitive seats in 1982 to around 40 in 2004. The 2018 elections were a high point in the modern era, with 75 seats rated as toss-up or leaning to one party by Cook Political Report, but the historical trend in levels

¹Others have instead examined the impact of competition on other variables, such as voter turnout, political engagement, and government responsiveness (i.e., Ansolabehere et al. 1992; Cox and Munger 1989; Gimpel et al. 2007; Griffin 2006; Lipsitz 2011; Patterson and Caldeira 1983, see also Gerring et al. 2015).

²There is a large body of research on the decline in close elections and the rise in the incumbency advantage (i.e., Abramowitz 1991; Alford and Hibbing 1981; Ansolabehere et al. 1992; Cox and Katz 1996; Erikson 1971, 1972; Ferejohn 1977; Fiorina 1977; Gelman and King 1990; Jacobson 1987; Mayhew 1974; Tufte 1973, but see Jacobson 2015 for a recent update).

of competition has been a downward one.

In light of the decline in close general election contests, scholars have begun to explore the state of competition in primary elections. Hirano and Snyder (2019) provide the most comprehensive study of primaries to date, and they use four different measures of competition: 1) the percentage of primaries that were contested; 2) the percentage of primaries that were competitive, where the winner received less than 57.5 percent of the vote; 3) the number of candidates in the race; and 4) the votes cast for all losing candidates as a percentage of the total votes (Hirano and Snyder 2019, 39-40). They analyze primaries from 1900 to 2016, and find that, across this period, the level of competition is highest in open-seat primaries and in constituencies with a partisan advantage. Furthermore, they demonstrate that in open-seat primaries, candidates who have the requisite qualifications to hold office are more likely to win. Their view of primary competition is an optimistic one, and the authors conclude that primaries contribute to the electoral system by selecting high-quality candidates and by allowing candidates to compete in constituencies that would otherwise lack competition.

This paper similarly examines the quality of competition in primary elections but adopts a different starting point. I depart from the use of on-ballot measures and instead consider candidates as potential threats. A measure of perceived threat more closely corresponds to how competition is viewed by voters, journalists, and the candidates themselves, and it better captures the core function that candidates serve in democracies. Studies of comparative politics have long grappled with how to evaluate competition among political parties, and I draw on their insights to provide a new measure of competition in the American context. Yet unlike their work, I use fundraising figures rather than vote shares to weight the relative strength of candidates. I leverage preprimary campaign receipts in U.S. House primaries from 1980 to 2018 to calculate the number of viable candidates in a race. Fundraising totals provide a better picture of electoral threat than do post-hoc vote totals, though the strong correlation between the two adds further validity to the measure.

When the quality of primary competition is viewed through fundraising rather than the ballot, it looks markedly worse than recent research suggests. The decrease in competitors is evident across primary types, but the difference between the two measures is largest in the primaries where competition is thought to be the most vibrant. Open-seat primaries in safe districts are often held up as a bright spot in an era of declining general election competition—i.e., although incumbents rarely face competitors, they must run against multiple high-quality contenders in order to be selected initially—yet even here, the number of viable competitors is quite low. I show that the number of candidates decreases by nearly half when we use the viable candidates measure, from 4.9 on-ballot candidates to 2.6 viable candidates. On-ballot measures are especially likely to overstate the degree of competition in recent years due to the marked increase in long-shot candidates in Republican primaries. The findings provide additional empirical support for the prevailing narrative that electoral competition in America is not as healthy as we might hope.

A fundraising-based measure also opens up a variety of opportunities to examine questions that would be difficult or impossible to study with vote totals. For one, because fundraising is a good indicator of success, we can use preelection fundraising measures to predict election outcomes and party gains and losses across cycles. We can even leverage quarterly reports to create a dynamic measure of competition within the campaign cycle and include those who dropped out before the election. Second, because fundraising can be aggregated in various ways, we can also rank the fundraising ability of legislators within or between parties to assess their relative stature in the party or chamber and its implications for the distribution of party rewards. We could additionally explore the relationship between fundraising and legislative effectiveness and any tradeoffs that might arise between dialing for dollars and passing legislation. In sum, a fundraising-based measure of competition can spark new questions in the study of elections and representation, yet at the same time shed light on the grave implications of this specific measure for the quality of democracy more generally.

Measuring Candidates and Competition

Political scientists in the American context have given little attention to how candidates and competition could or should be measured, but previous studies typically, albeit implicitly, limit their analyses to those who appear on a ballot. There are several likely reasons why the on-ballot lens has gained widespread acceptance. First, while the data collection of on-ballot candidates and election outcomes is time-consuming, it is relatively straightforward across contexts. Candidates are on the ballot, votes are tallied, and some win and others lose. Second, election returns are likely a close approximation of perceived viability prior to the election, at least among the candidates who were voted on. Third, on-ballot measures also have theoretical appeal given that vote totals have the most direct consequences for policy outcomes and the makeup of legislative institutions. Yet the ballot-centered lens has limitations as well, and there is good reason to ask how other measures alter our understanding of politics.

The question of what counts as a political party has been the subject of significant discussion in comparative politics research (Cox 1997; Laakso and Taagepera 1979; Lijphart 1994; Molinar 1991; Taagepera and Shugart 1993). In multi-party systems, there is wide variation in levels of party support, and scholars have sought to account for these differences in their measures. Laakso and Taagepera (1979) were the first to create a measure of the effective number of parties. The measure is defined as follows:

$$N = \left(\sum p_i^2 \right)^{-1}, \quad (1)$$

where p_i is the share of votes or seats won by the i th party. The advantage of using the effective, rather than the actual, number of parties is that it distinguishes significant parties from less significant ones. Each party weights itself by being squared, with small parties contributing less to the index and large parties contributing more (see also Shugart and Taagepera 2017; Taagepera and Shugart 1993).

Yet unlike previous studies of candidates and parties within the United States or cross-nationally, the starting point here is neither seats nor votes. I instead use preprimary reports to generate a fundraising-

based measure of the number of viable candidates. The measure is similar to the equation above:

$$N_F = \frac{\left(\sum_{i=1}^n f_{ipjt}\right)^2}{\sum_{i=1}^n f_{ipjt}^2}, \quad (2)$$

where f_{ipjt} is the amount of money raised by candidate i in primary p in district j at time t .³ Candidates are similarly weighted based on the amount of money they raised in the preprimary period. In races where campaign receipts are evenly distributed among candidates, the number of viable candidates is the same as the number of candidates on the ballot. In races where one candidate raises a large majority of receipts, the number of viable candidates is slightly larger than one. A measure that incorporates fundraising disparities across candidates better captures how competition is viewed by voters, journalists, and the candidates themselves, and it more closely approximates the core purpose that candidates serve in democracies. It is the possibility of defeat that keeps other candidates and officeholders in check and fosters a vibrant exchange of ideas on the campaign trail.

The main expectation is that when candidacies are measured through a fundraising lens, primaries are far less competitive than recent research suggests. In all U.S. House elections from 1980 to 2018, primary winners raise an average of 86 percent of the total money in the preprimary period, and if unopposed candidates are excluded, the average share for winners is 68 percent. Among nonincumbent primary winners, these figures are 76 and 55 percent, respectively. The gap between those at the top and bottom is large, with primary losers raising a mere 13 percent of total preprimary receipts, on average.⁴ Even the top-raising losers raise an average of 23 percent of preprimary receipts, and the median is much lower at 12 percent. Moreover, a large number of candidates have virtually no shot at winning. Nearly 20 percent of all on-ballot candidates and 25 percent of nonincumbents did not even file a fundraising report with

³This is a commonly used formula in the weighting literature (see Kish 1965). I also calculated the Herfindahl index and the results are the same, but the number of viable candidates measure allows for clearer comparisons with recent work.

⁴Nonincumbents who lose raise an average of 13 percent; the rare incumbents who lose raise an average of 51 percent, compared to opposed winning incumbents who raise an average of 90 percent. This sizable difference among winning and losing incumbents further suggests that fundraising patterns are a good reflection of incumbent vulnerability as well.

the Federal Election Commission, indicating that they raised less than \$5,000. Candidates who raise less than \$5,000 are not perceived as competitive by today's standards, and they further highlight the need to separately consider others who are perceived to be viable.

The difference between the number of on-ballot and viable candidates will be more pronounced as the number of long-shot candidates increases. Open-seat primaries in safe districts attract the most candidates, but there is a sizable disparity between the amount raised by winners and losers in these races as well. Winners raise 42 percent of preprimary receipts, and top-raising losers raise an average of 31 percent. However, the remaining losers raise a dismal 6 percent of receipts, on average, and they constitute nearly *three-fourths* of the losers. Measures that weight candidates as equals particularly overstate the number of competitors in these primaries as a result. This implication is important both as the quality of competition is lauded in these contexts and as lawmakers are increasingly likely to be elected in safe districts. Whereas 42 percent of officeholders were elected in advantaged-party districts in the 1980s, this figure rose to to 68 percent in the 2010s. Among winners in open seats, 50 percent came from advantaged-party districts in the 1980s, compared to 64 percent in the 2010s.

The influence of money in American elections makes fundraising an especially appropriate starting point for measuring viability. Ballot-based measures can indicate which races were likely viewed as competitive, but only after the election has occurred. Ferejohn (1977, 166) similarly alluded to the imperfections of vote-share measures of competition over four decades ago, noting that they have “the defect of suggesting that what might be called the vulnerability of a seat is related in some way to vote margin.”⁵ In the current political environment, fundraising is the most commonly used indicator of viability and strength prior to the election. When candidates raise money, the media and political observers take note. And before the national parties are willing to invest in a race, candidates are expected to first demonstrate an ability to fundraise. Organizations such as EMILY's List tend to endorse those

⁵The concept of interest here is perceived viability, but the results with a vote-share measure of the number of viable candidates calculated with the same formula as above are provided in Table A.1. The vote-share measure of viable candidates is correlated with the fundraising-based measure at 0.83. The vote-share measure also suggests that the level of competition is higher than the fundraising-based measure indicates.

who are already ahead in the money chase. One advantage of using fundraising is that receipts are raised prior to the election but are still highly predictive of election outcomes.

Indeed, money is perhaps the single most valuable resource for candidates who want to win.⁶ Candidates who raise the most preprimary receipts win the primary 92 percent of the time; if we exclude unopposed candidates, the top fundraiser wins 80 percent of the time.⁷ Fundraising also offers a more nuanced and often better measure of viability than other attributes associated with victory patterns. Jacobson’s (1989) measure of candidate quality—a binary indicator of those who held elected office previously—is the most widely used in the study of congressional elections, and a long line of research has shown that experienced candidates are more likely to win, on average, than inexperienced candidates (Hirano and Snyder 2019; Jacobson 1989; Jacobson and Kernell 1983).⁸ Yet fundraising is at least as good a predictor of outcomes as experience. Fifty-two percent of experienced nonincumbents won the primary, compared to 85 percent of nonincumbents who raised the most receipts; among opposed nonincumbents, these values are 42 percent for experienced candidates and 69 percent for top fundraisers.⁹ Fundraising patterns can capture variation within experienced and inexperienced candidates and could be helpful in years when experience is viewed as less desirable (Porter and Treul 2018).¹⁰

The question of what makes a candidate viable is not new, nor is the notion that fundraising is an indicator of likely success.¹¹ Yet fundraising in primary elections has received far less empirical attention

⁶The correlation between primary vote share and share of preprimary receipts is 0.91. For unopposed candidates, the correlation is 0.83.

⁷The victory rates of opposed incumbents and nonincumbents who raise the most are 98 and 69 percent, respectively.

⁸Hirano and Snyder (2019) instead draw on a measure of “relevant” officeholding experience to account for job-specific differences between legislative and executive positions (see also Hirano and Snyder 2014). Elite endorsements are another way to measure viability, but previous experience is a more commonly used measure at the congressional level.

⁹We can analyze the data beyond the top fundraisers as well, but they all reveal the same pattern. For example, among nonincumbents who raised at least 20 percent of preprimary receipts, 73 percent won the primary; among opposed nonincumbents who raised at least 20 percent of preprimary receipts, 56 percent won the primary. However, the fundraising threshold should be sufficiently high so that it is still highly correlated with winning. In a later section, I further examine experienced candidates and viable candidates who meet the 20 percent threshold.

¹⁰In other work, I analyze the relationship between fundraising, experience, and primary vote share. In advantaged-party open-seat primaries, experienced candidates receive a 10 point increase in primary vote share, all else equal. A one standard deviation increase in preprimary receipts results in a 14 point increase in primary vote share for inexperienced candidates and a 21 point increase for experienced candidates. Candidates benefit more from fundraising than they do from experience, though the positive interaction indicates that experienced candidates receive a greater boost from fundraising than inexperienced candidates. All of these relationships are significant at $p < 0.05$.

¹¹Scholars have examined the relationship between money and viability since the FEC first began collecting campaign finance data in the 1970s. Most agree that challenger spending is positively associated with both House and Senate outcomes (but see Levitt 1994), though the marginal returns to incumbents have been a contested subject of debate

than fundraising in general elections. While a strong fundraising haul is unlikely to trump partisanship in a general election, primary outcomes are less predictable. Bonica (2017, 2020) argues that previous studies showing minimal returns of fundraising reflect a focus on general elections, and he uncovers a substantial effect of early money in primaries. He shows that lawyers are nearly 100 times more likely to be elected to Congress than the average citizen, and that their competitive advantage is driven by early fundraising from their professional networks. There is still a concern that money is endogenous to winning, but less so in the primary due to the absence of partisan cues. Moreover, Bonica (2017) provides evidence of a causal relationship between early fundraising and primary outcomes, drawing on professional degree type and average income in the candidate's zip code to instrument for fundraising.

To be sure, there are limitations of using fundraising-based measures of competition as well. First and foremost are the temporal constraints. While reformers sought to regulate political spending in the early 20th century, the campaign finance provisions of these laws were largely ignored.¹² The passage of the Federal Election Campaign Act (FECA) in 1971 initiated fundamental changes in federal campaign finance laws. The 1974 amendments to the law established the Federal Election Commission, an independent agency that administers the reporting system for campaign finance disclosures. Congress adopted additional amendments in 1979 that simplified reporting requirements, and the 1980 cycle is the first election year when disclosures are readily available. As a result, the time frame of analyses based on fundraising are unable to match the historical breadth of studies that draw on the ballot and vote totals. The second limitation is that a fundraising-based measure is contingent on an association between money and election outcomes. In the current context, the connection is overwhelmingly apparent, but in places where fundraising is either not associated with perceived viability or mandated to be more equitable across candidates, other measures would be more useful.

(i.e., Gerber 1998; Green and Krasno 1988, 1990; Jacobson 1980, 1990; Krasno and Green 1988). Money has also been directly incorporated into measures of quality (Bond et al. 1985; Cohen et al. 2008; Ragsdale and Cook 1987), but the core difficulty of using expenditures to measure quality is that it mixes potential ability with the outcome of the election. Here, the association between fundraising and outcomes is a strength since we are interested in measuring competition rather than victory rates.

¹²For a brief history of federal election campaign laws, see <https://transition.fec.gov/info/appfour.htm>.

A measure of viability that is rooted in fundraising is also likely to be worrisome from a normative perspective. Fundraising is one of the main hurdles that candidates face, and the need to raise millions of dollars has important consequences for who runs as well as who wins (Bonica 2020; Carnes 2018; Hall 2019). In addition, the measure leads to unorthodox conclusions about representation that are not rooted in levels of constituent support. Whereas victories reflect an endorsement of the quality of representation from constituents, there are no similar geographical bounds on fundraising. This may nonetheless be a more accurate measure of representation in a money-driven era of nationalized elections. Canes-Wrone and Miller (2020) find that members of Congress who receive a greater percentage of out-of-district contributions are, in fact, more responsive to the national donor base. However, it is important to note that these concerns reflect pathologies in contemporary elections rather than a shortcoming of the measure itself.

In sum, the central contribution of this paper is to depart from on-ballot measures of competition and instead leverage preprimary fundraising totals to capture viability and threat in congressional primaries. The current state of primary competition is particularly important in light of the decline in close general elections and the notion that the heart of electoral competition has shifted to the primary stage. The main expectation is that elections are far less competitive than recent research suggests due to fundraising disparities among candidates. Moreover, the difference between on-ballot and fundraising-based measures is also likely to widen as the number of long-shot candidates increases—or in the same primaries that have been held up as examples of healthy and vibrant contestation. We especially need to know how the best case scenarios of competition look with a measure that accounts for differences among candidates on the dimension that matters most in American elections today: the ability to raise money.

Data and Method

The scope is not limited to congressional elections, but I use the broader trends in primary competition in U.S. House elections detailed in Hirano and Snyder (2019) to provide a comparison with the number

of viable candidates measure introduced here. The analyses thus follow the same structure as those in Hirano and Snyder (2019). Competition is measured at the race level, and primaries are divided into several types based on seat type and partisan leaning. I draw on a dataset of more than 30,000 U.S. House candidates who filed fundraising reports with the Federal Election Commission (FEC) and/or were on the primary ballot from 1980 to 2018. I collected the full sample of on-ballot primary candidates from the America Votes series and the FEC website. Those who were not on the ballot but raised money are from the FEC database and Bonica’s (2014) Database on Ideology, Money in Politics, and Elections (DIME). The dataset used here includes the FEC candidate identifier, the FEC committee identifier (when available), and the DIME identifier for each candidate to facilitate merges across datasets. All of the preprimary fundraising data are from FEC reports.¹³

There are significant challenges associated with collecting preprimary fundraising data and thus measuring competition based on preprimary receipts. The first hurdle was merging the candidates with FEC data, which was made possible with the identifiers noted above.¹⁴ The other challenge is related to FEC reporting requirements. The FEC has collected quarterly and preprimary reports since 1980, but the document did not ask candidates to provide the total amount raised in the entire preprimary period (election cycle-to-date) until 2002. Thus, from 2002 on, I use the total preprimary amount reported by the candidate. From 1980 to 2000, I use the sum of the amount reported in each quarterly period before the primary and the amount in the preprimary report, which covers the first day of the current quarterly period through the 20th day before the election.¹⁵ I validated these measures with the post-2002

¹³The dataset also includes overall fundraising totals from the DIME data, which allows for additional checks on preprimary values. Virtually all of those in the DIME dataset who raised no money overall did not file preprimary reports, which increases our confidence in the zero values of preprimary receipts in these cases.

¹⁴Of the 30,500 candidates in the dataset, 23,000 have non-zero values of preprimary receipts and of total campaign receipts. Another 5,800 have zero values of preprimary receipts and of total campaign receipts. The preprimary receipts are correlated with total FEC receipts at 0.90; for primary losers (who thus did not continue to raise money after the primary), this increases to 0.96. There are approximately 1,700 candidates with non-zero values of total FEC receipts but zero values of preprimary receipts. Of these 1,700 candidates, 700 were unopposed primary winners and are coded as raising all of the money in the primary. The preprimary figures were further validated by summing all of the reports filed by the candidate in a cycle and matching these totals to their overall FEC totals. This ensures that the zero values in the preprimary stage are zero values rather than an error. In the analyses below, 345 of the 15,861 districts, or 2 percent, have missing values on the viable candidate measure because no candidate in the primary reported raising money.

¹⁵In the 1980s and 1990s, candidates sometimes filed mid-year reports instead of quarterly reports; I use mid-year reports when quarterly reports are not available. Candidates who did not file a preprimary report or any quarterly report before

preprimary totals provided by the candidates. The preprimary totals that I generated with quarterly and preprimary reports are correlated with the preprimary totals reported by the candidates at 0.99 so I am confident in the validity of these totals in the pre-2002 period.

I use preprimary totals to calculate the number of viable primary candidates, and the unit of analysis is the party primary by district and year from 1980 to 2018. Only Republican and Democratic primaries are considered here.¹⁶ There are approximately 15,800 observations, though the number decreases to 15,500 in the analyses of viable candidates due to missing observations on preprimary receipts in about 2 percent of the races. The analyses focus on two main factors that are widely known to affect primary competition: seat type and district partisanship. Like Hirano and Snyder (2019), partisan balance is coded as disadvantaged if the party received less than 42.5 percent of the district vote share in the current or previous presidential election, balanced if the party received between 42.5 and 57.5 percent, and advantaged if the party received more than 57.5 percent.¹⁷ I follow their classification of primary races into seven types: (i) advantaged-party open-seat primaries; (ii) advantaged-party incumbent-contested primaries; (iii) parties-balanced open-seat primaries; (iv) parties-balanced challenger-party primaries; (v) parties-balanced incumbent-contested primaries; (vi) disadvantaged-party open-seat primaries; and (vii) disadvantaged-party challenger-party primaries.¹⁸

The dependent variables are the number of candidates on the ballot and the number of viable candi-

the primary and were not unopposed primary winners are coded as raising no money.

¹⁶Like Hirano and Snyder (2019, 39), primaries in which no candidate ran for the nomination are counted as uncontested, with zero candidates on the ballot and zero viable candidates. Unlike them, I include cases in which a nomination was made by convention and count these as uncontested; however, they note that the patterns are similar when conventions are excluded or counted as uncontested. The 13 cases in which the general election winner or future general election winner (i.e., Bernie Sanders in 1988) is an Independent are also excluded. Unopposed primaries with missing values of preprimary receipts are coded as having one viable candidate in the race. It is unclear how Hirano and Snyder (2019) code blanket primaries; here they are considered by party in order to account for district partisanship. Because vote totals are tabulated at the primary level in blanket primaries, the total number of candidates is calculated at the primary level as well, so the average number of candidates is higher. The results are the same if blanket primaries are excluded.

¹⁷Jacobson's measure of presidential vote share is used to measure the partisan leaning of the district. The Hirano and Snyder (2019, 38) measure of partisan balance is based on statewide general election data and presidential election returns aggregated at the congressional district level. Their measure is likely very similar to the one here in light of the nationalization of elections in recent decades.

¹⁸Like Hirano and Snyder (2019, 39), I exclude advantaged-party challenger-party primaries and disadvantaged-party incumbent-contested primaries. The full sample of 17,400—2 primaries in 435 districts over 20 cycles—diminishes by 1,557 as a result; another 26 primaries with Independent general election winners are excluded; and an additional 44 duplicate primaries when districts were redrawn (i.e., Texas in 1996 and 2006) are included. The total number of observations in the candidate models is thus 15,861.

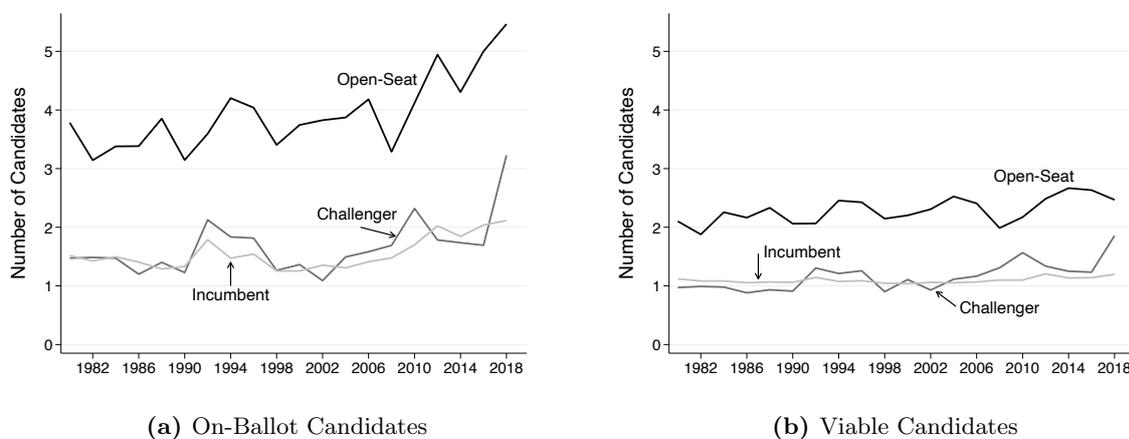
dates based on fundraising. I also calculate the difference between the two, measured as the number of on-ballot candidates minus the number of viable candidates. Positive values thus indicate the additional number of competitors expected with the on-ballot measure than the viable candidate measure. We are interested in the number of candidates in the seven primary types noted above. Each model includes a dummy variable for open-seat and challenger-party primaries, with incumbent-contested primaries as the baseline. To measure party balance, I include indicators for parties-balanced and advantaged-party primaries, with disadvantaged-party primaries as the baseline. I include an interaction between open-seat primaries and party balance and between challenger-party primaries and party balance. I present separate models of the predicted number of on-ballot and viable candidates so each can be assessed separately. The difference measure is helpful for illustrating where the disparity between the two measures is largest, or in other words, where the on-ballot measure is likely to overstate the quality of competition the most. All of the models include district and year fixed effects to account for time-invariant attributes of the district and election-specific trends.

The dataset includes the previous political experience for all of the candidates as well, which allows for comparisons between measures based on those traditionally defined as “quality” candidates and the viable candidate measure introduced here. Porter and Treul (2018), Pettigrew et al. (2014), and Hassell (2018) generously provided or made publicly available measures of the political backgrounds of on-ballot primary candidates from 1980 to 1988, from 2000 to 2010, and from 2004 to 2014, respectively. Gary Jacobson generously shared background data of general election candidates for this entire period. I collected background data for the remaining years and for the candidates in which the coding differed across datasets. All of these follow Jacobson’s (1989) measure, which is whether the individual held previous elected office. The bulk of the analyses focus on the on-ballot and fundraising measures of competition, but I also consider differences between the number of experienced and viable candidates.

Descriptive Trends Over Time

Before turning to the results, I first present the average number of on-ballot and viable primary candidates from 1980 to 2018.¹⁹ The left graph in Figure 1 shows the number of on-ballot primary candidates, and the right graph shows the number of viable primary candidates. The data are broken down into incumbent-contested primaries, challenger-party primaries, and open-seat primaries. Two main patterns emerge. First, the number of viable candidates is noticeably lower across primary types than the number of on-ballot candidates. The average number of on-ballot primary candidates is 1.6 in incumbent-contested primaries, 1.7 in challenger-contested primaries, and 3.9 in open-seat primaries. By comparison, the average number of viable candidates in each category is 1.1, 1.2, and 2.3, respectively. The largest difference between the two measures is in open-seat primaries.²⁰

Figure 1: Number of On-Ballot and Viable Candidates Over Time and By Seat Type



Note: The left graph shows the number of candidates on the ballot, and the right graph shows the number of viable candidates calculated with preprimary receipts. On-ballot candidate data are from the America Votes series and the FEC. Viable candidate data are from preprimary and quarterly fundraising reports filed with the FEC.

Second, differences between the two measures with respect to over-time change are more pronounced

¹⁹Following Hirano and Snyder (2019, 181), these graphs focus on competition in advantaged-party and parties-balanced primaries since elected officials are most likely to come from these races. Figure A.2 presents averages for general election candidates based on total fundraising figures. The trends are consistent with the decline in general election competition that has been documented with vote shares.

²⁰The number of on-ballot candidates is correlated with the number of viable candidates at 0.78.

in recent election cycles. Whereas the number of on-ballot candidates in open-seat primaries has increased across seat types from 2008 on, the number of viable candidates has not followed a similar trend. From 1980 to 2006, the average number of on-ballot candidates in incumbent-contested primaries, challenger-party primaries, and open-seat primaries is 1.4, 1.5, and 3.7, respectively. By comparison, these figures increase to 1.9, 2.1, and 4.5, respectively, in the period from 2008 to 2018. The average number of viable candidates has remained more stable over this period, particularly in incumbent-contested and challenger-party primaries, and the recent increase in open-seat competitors is less stark as well. The surge in challenger-party competition in 2018 reflects the atypically high levels of entry and fundraising success of Democratic candidates in these contexts in particular. More generally, the patterns indicate that our assessment of competition varies based on the measures we use. The next section incorporates the partisan balance of the district and explores how on-ballot and fundraising measures of competition differ across primary types.

Results

We are interested in the relationships among primary type, partisan balance of the district, and the number of on-ballot candidates and viable candidates. The data are broken down into the seven types of primaries outlined above. I present separate models for on-ballot candidates, viable candidates, and the difference between the two. The results are provided in Table 1. As we would expect, the number of both on-ballot and viable candidates is significantly higher in open-seat primaries, and particularly in open-seat primaries in advantaged-party constituencies. A shift from disadvantaged-party (baseline) to parties-balanced and advantaged-party primaries is associated with an increase in the number of on-ballot and viable candidates alike. However, the coefficients are much smaller when competition is measured with fundraising. We can see in Model 3 that the difference between the on-ballot and fundraising measures is positive and significant across primary types, indicating that the on-ballot measure is likely to overstate the degree of competition in House primaries and in some contexts more than others.

Table 1: Number of On-Ballot and Viable Candidates, By Seat Type and Party Balance

	(1) Number of On-Ballot Candidates	(2) Number of Viable Candidates	(3) Difference (On-Ballot – Viable)
Open-Seat	1.41** (0.07)	0.68** (0.03)	0.76** (0.05)
Challenger-Party	0.17** (0.03)	0.06** (0.01)	0.09** (0.02)
Parties-Balanced	0.38** (0.03)	0.18** (0.02)	0.22** (0.03)
Advantaged-Party	0.39** (0.04)	0.20** (0.02)	0.21** (0.03)
Open-Seat x Balanced	0.50** (0.08)	0.29** (0.04)	0.18** (0.06)
Open-Seat x Advantaged	1.83** (0.09)	0.83** (0.04)	0.98** (0.07)
Constant	2.00** (0.20)	1.06** (0.09)	0.91** (0.15)
<i>N</i>	15,861	15,516	15,516

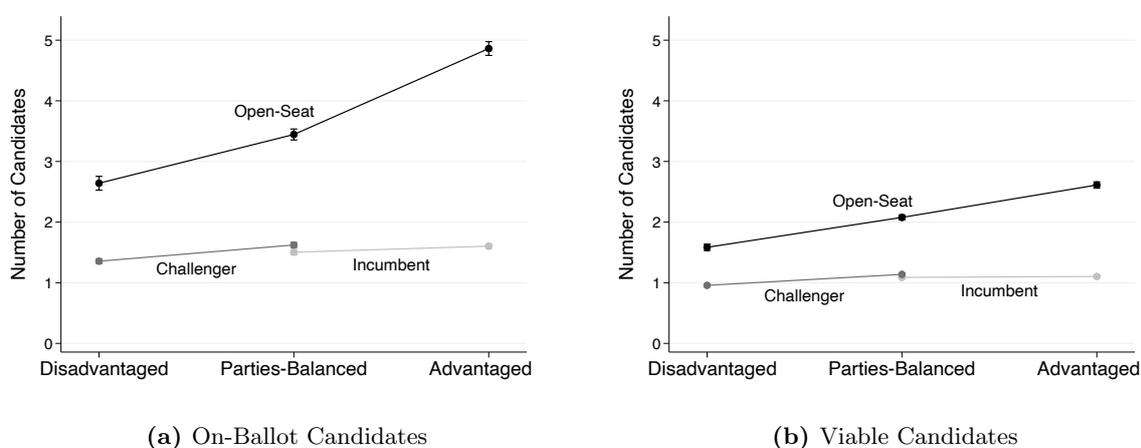
Note: Results are from OLS regressions from 1980 to 2018. Standard errors are in parentheses. The baseline categories are incumbent-contested primaries and disadvantaged-party constituencies. The models include district and year fixed effects. * $p < 0.05$, ** $p < 0.01$.

Figure 2 shows the predicted number of candidates by primary type and the partisan balance of the district. The graphs follow the same structure as those in Hirano and Snyder (2019) to allow for comparison. The left graph presents the number of on-ballot candidates, and the patterns closely correspond to those in Hirano and Snyder (2019, 179).²¹ The right graph shows the number of viable candidates based on fundraising figures. As noted above, the number of on-ballot and viable candidates reaches its height in open-seat primaries in advantaged-party constituencies. However, the difference between the

²¹See Figure A.3 for the specific values. The main comparison is with the bottom left graph (number of candidates). The values in open seats are slightly higher here, which is likely due to differences in the time periods of study. Their data extend from 1950 to 2016, whereas the data here are from 1980 to 2018 when the number of on-ballot candidates in open-seat primaries is higher (Hirano and Snyder 2019, 183). However, the general patterns are clearly similar. I additionally calculated the same four measures of primary competition outlined in Hirano and Snyder (2019) but with fundraising totals. The paper focuses on the number of viable candidates, but these additional measures are provided in Figure A.4 for comparison. In virtually all of the scenarios, measures based on fundraising reveal lower levels of competition than those based on vote shares.

two measures is also most pronounced in these primaries. The number of candidates decreases by nearly half when we consider candidates based on their fundraising totals, from 4.9 on-ballot candidates to 2.6 viable candidates.²² This finding is concerning because these same primaries are held up as the best case scenarios of electoral competition (Hirano and Snyder 2019).

Figure 2: Electoral Competition Diminishes with Viable Candidates Measure, Especially in Advantaged-Party Open-Seat Primaries



Note: The left graph shows the number of candidates on the ballot, and the right graph shows the number of viable candidates calculated with preprimary fundraising figures. Values are from Models 1 and 2 in Table 1.

A similar decrease in competition emerges in the other types of primaries as well, but not to the same degree. In parties-balanced open-seat primaries, the predicted number of candidates decreases from 3.4 on-ballot candidates to 2.0 viable candidates. In disadvantaged-party open-seat primaries, there are 2.6 on-ballot candidates, on average, compared to 1.6 viable candidates. The low levels of competition in challenger-party and incumbent-contested primaries are not as surprising. In parties-balanced challenger-party primaries, the number of on-ballot candidates is 1.6, compared to 1.1 viable candidates. Similarly, in disadvantaged-party challenger primaries, the number of competitors decreases from 1.4 on-ballot candidates to 1.0 viable candidates. In advantaged-party incumbent-contested primaries, competition

²²Figure A.5 shows the values with the difference dependent variable in Model 3.

also looks worse through a fundraising lens, but again not by a similar margin as open-seat primaries (1.6 on-ballot candidates vs. 1.1 viable candidates). And in parties-balanced incumbent-contested primaries, the disparity between the two measures is only 0.4 candidates (1.5 on-ballot candidates vs. 1.1 viable candidates). All of these differences are statistically significant.

Viability and Political Experience

We might also want to consider other measures of candidate viability, namely previous political experience. A long line of research has shown that experienced candidates enter races more strategically and are more likely to be successful than inexperienced candidates, on average (i.e., Carson et al. 2007; Hirano and Snyder 2019; Jacobson 1989; Jacobson and Kernell 1983). We might be interested in how competition looks when we consider the number of experienced candidates and those who reach a certain fundraising threshold. Here I examine the number of candidates who raised at least 20 percent of the total share of preprimary funds.²³ Across primary types, 95 percent of primary winners raised at least 20 percent of the total share of preprimary funds; if we exclude unopposed races, this figure is 88 percent.²⁴ In advantaged-party open-seat primaries where primary competition is highest, 451 of the 544 total primary winners across this period, or 83 percent, raised at least 20 percent of all preprimary funds in the race. Of these 544 primary winners, 379, or 70 percent, had prior political experience.²⁵ Put differently, those who raise at least 20 percent of preprimary funds fare better, on average, than those with previous political experience. In advantaged-party open-seat primaries, 41 percent of quality candidates won the primary, compared to 53 percent of those who raised at least 20 percent of preprimary funds.

²³Because a candidate's share of fundraising decreases as the number of candidates increases, the fundraising share measure differs from the number of on-ballot candidates, viable candidates, or quality candidates measures, where the number increases in more competitive races. As discussed previously, the average share of preprimary receipts for winners is well over 50 percent, but the 20 percent threshold is sufficiently low to include the vast majority of winners yet high enough to narrow the focus to more likely winners than either a lower fundraising threshold or the quality candidate measure.

²⁴Of the 663 individuals in this 5 percent who did not raise 20 percent of preprimary funds, only 131 won the general election. By comparison, of the 13,662 primary winners who raised at least 20 percent of preprimary funds, 7,852 won the general election. The 131 individuals who raised less than 20 percent of total preprimary receipts make up a mere 1.6 percent of the 7,983 primary winners who won the general election.

²⁵Of the 379 experienced candidates who won, 315, or 83 percent, raised at least 20 percent of preprimary funds; of the 165 inexperienced candidates who won, 136, or 82 percent, raised at least 20 percent of preprimary funds.

Most of the races where the winner did not raise 20 percent of preprimary funds are atypical. For example, in the 2010 Democratic open-seat primary in Florida's 17th congressional district, there were seven experienced candidates on the ballot. They each raised less than 20 percent of the total share of preprimary funds due to the overwhelming fundraising advantage of wealthy businessman, physician, lawyer, and movie producer Rudy Moise, who reported nearly \$2,000,000 in preprimary funds compared to the \$320,000 preprimary haul of the eventual winner, former Florida state senator and current House representative Frederica Wilson.²⁶ Wilson received 34 percent of the primary vote, nearly double Moise's 16 percent, and the third and fourth place candidates received 12 and 10 percent. There were 9 total candidates on the ballot, 7 on-ballot candidates with political experience, 2.6 viable candidates based on their fundraising totals, and 1 candidate who raised at least 20 percent of all preprimary funds. It is not exactly clear how competition should be measured, but with respect to fundraising patterns, these cases are the exception rather than the rule: in general, candidates who raise the most money usually win, and those who win almost always raise at least 20 percent of preprimary receipts.

We are again interested in the relationships among primary type, partisan balance of the district, and the number of experienced candidates and candidates who raised at least 20 percent of preprimary funds. I present separate models for experienced candidates, candidates who meet the 20 percent threshold, and the difference between the two measures. Positive values on the difference measure indicate that the number of candidates is higher with the experience measure, and negative values indicate that the number of candidates is higher with the fundraising measure. The results are provided in Table 2. The baseline categories are incumbent-contested and disadvantaged-party primaries. The number of experienced candidates is lower, on average, in disadvantaged-party open-seat and challenger-party primaries, and we similarly see an increase in experienced candidates in parties-balanced and advantaged-party primaries. The number of experienced candidates again reaches its height in party-advantaged open-seat primaries.

²⁶Moise funded 70 percent of his campaign. Self-funded candidates are a small minority of candidates. Data from the Center for Responsive Politics shows that in 2018, 26 candidates spent more than \$1 million of their own money, or 1.3 percent of the more than 1,950 candidates on the ballot. Only 6 of these 26 candidates won.

The relationships in Model 2 are similar to those in Table 1, though the coefficients are smaller due to the threshold measure of viability. We can see in Model 3 that the difference between the experienced and fundraising measures is positive in some primary types but negative in others, unlike the differences between the on-ballot and viable candidate measures above.

Table 2: Number of Experienced and Viable Candidates, By Seat Type and Party Balance

	(1) Number of Experienced Candidates	(2) Number of Viable Candidates	(3) Difference (Experienced – Viable)
Open-Seat	-0.20** (0.03)	0.48** (0.03)	-0.65** (0.03)
Challenger-Party	-0.75** (0.01)	0.04** (0.01)	-0.78** (0.02)
Parties-Balanced	0.18** (0.01)	0.13** (0.01)	0.05** (0.02)
Advantaged-Party	0.21** (0.02)	0.17** (0.02)	0.05* (0.02)
Open-Seat x Balanced	0.49** (0.04)	0.09** (0.03)	0.37** (0.04)
Open-Seat x Advantaged	1.13** (0.04)	0.32** (0.04)	0.79** (0.05)
Constant	1.10** (0.09)	1.09** (0.08)	0.01 (0.10)
<i>N</i>	15,861	15,516	15,516

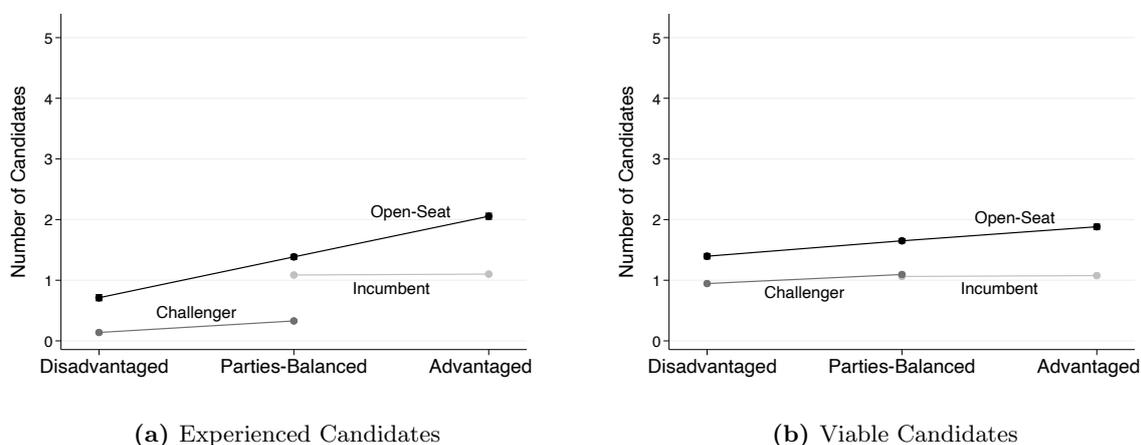
Note: Results are from OLS regressions from 1980 to 2018. Standard errors are in parentheses. The baseline categories are incumbent-contested primaries and disadvantaged-party constituencies. The models include district and year fixed effects. * $p < 0.05$, ** $p < 0.01$.

Figure 3 plots the number of experienced candidates and viable candidates who meet the 20 percent fundraising threshold across the seven primary types examined here. Consistent with the findings in Hirano and Snyder (2019), the number of experienced candidates is much lower than the number of on-ballot candidates shown above.²⁷ However, the number of candidates who meet the 20 percent fundraising

²⁷The number of experienced candidates in Hirano and Snyder (2019, 201) is lower due to the use of relevant experience

threshold is lower yet. In advantaged-party open-seat primaries, the number of experienced candidates is 2.1, and the number of candidates who raise at least 20 percent of all preprimary receipts is 1.8. While the number of viable competitors is still statistically higher in advantaged-party open-seat primaries than in other primaries, the differences are much less pronounced than in the other figures. The similarity across primary types is consistent with a picture of congressional elections where, almost all of the time, the number of candidates who might be expected to win is dismally low.

Figure 3: Small but Statistically Significant Disparity Between the Number of Experienced and Viable Candidates in Advantaged-Party Open-Seat Primaries



Note: The left graph shows the number of experienced candidates on the ballot, and the right graph shows the number of candidates who raised as least 20 percent of all preprimary funds. Values are from Models 1 and 2 in Table 2.

At the same time, the number of candidates who raise money is higher than the number of experienced candidates in disadvantaged-party and parties-balanced open-seat primaries. The number of candidates who raise money is also higher in disadvantaged-party and parties-balanced challenger-party primaries.²⁸ However, while these candidates are viable in the primary, they are highly unlikely to win in the general election. Because experienced candidates enter more strategically, their lower numbers reflect the long odds of a general election victory. Indeed, only 1 and 9 percent of the general election candidates who won

versus any previous elected office experience, but the general patterns are the same. The figures here also differ in that they include incumbent-contested primaries.

²⁸Figure A.6 shows the values with the difference dependent variable in Model 3.

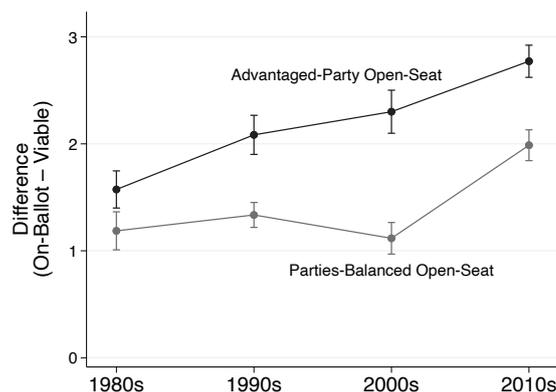
in disadvantaged-party and parties-balanced challenger-party primaries, respectively, won in the general election. By comparison, 50 and 91 percent of those who won in parties-balanced and advantaged-party open-seat primaries, respectively, prevailed in the general election. The general election victory rate of those who won in parties-balanced and advantaged-party incumbent-contested primaries (virtually all of whom were incumbents) is 90 and 99 percent, respectively. Viability here has been conceptualized within the context of primary elections, but future work may also want to consider viability in terms of the likelihood of being elected to office and thus winning the general election. We could leverage FEC reports that are filed by candidates in the days leading up to the general election to similarly examine viability among general election candidates.

Patterns of Competition Over Time

The top fundraisers have long had an advantage at the ballot box, and failing to account for fundraising in measures of competition would overstate the quality of competition in previous decades as well as today. Yet as more incoming officeholders are elected from advantaged-party and parties-balanced open-seat primaries, the notion that competition is not only robust but also increasing in these contexts has important implications for how we evaluate the quality of electoral competition. This final section examines differences in the expected number of on-ballot and viable candidates by decade and explores why the number of viable competitors has not followed a similar upward trajectory as the number of on-ballot candidates. I use the same model as in Tables 1 and 2 to first highlight differences between the measures by decade, and I interact seat type and partisan balance with an indicator variable for each decade (1980s, 1990s, 2000s, and 2010s). The full model is provided in Table A.2. Figure 4 presents the difference between the two measures for parties-balanced and advantaged-party open-seat primaries by decade. The difference is apparent across this period, but it is significantly higher in the 2010s than in the 1980s, 1990s, and 2000s. In parties-balanced open-seat primaries, the expected difference between the two measures is 1.2 in the 1980s, compared to 2.0 in the 2010s. In advantaged-party open-seat primaries,

the expected difference is 1.6 in the 1980s and 2.8 in the 2010s. In other words, while on-ballot measures overstate the quality of competition across this time period, the degree of this overstatement is higher today than in the 1980s.

Figure 4: Difference Between On-Ballot and Fundraising-Based Measures, By Decade



Note: The graph shows the difference between the number of on-ballot and viable candidates in advantaged-party and parties-balanced open-seat primaries from 1980 to 2018, by decade. Positive values indicate the additional number of competitors expected with the on-ballot measure than the viable candidate measure.

This pattern is driven by the recent increase in the number of on-ballot candidates, rather than a decrease in the number of viable candidates.²⁹ The top fundraisers have fared similarly over time in terms of their share of receipts, raising an average of 58 and 52 percent in opposed advantaged-party open seats in the 1980s and 2010s, respectively, and 66 and 61 percent in opposed parties-balanced open seats in the 1980s and 2010s, respectively. Yet the implication that the decline in general election competition has been replaced by increasing primary competition is not apparent when we use a fundraising lens. Rather, much of the rise in on-ballot competitors is driven by candidates who have little chance of winning, and the gains in on-ballot candidates have had a limited substantive impact on competition as a result.³⁰ In

²⁹The average number of candidates who raised 20 percent of preprimary funds in parties-balanced open-seat primaries is 1.6 in the 1980s and 1.7 in the 2010s. In advantaged-party open-seat primaries, the average is 1.8 in the 1980s and 1.9 in the 2010s. Moreover, the average margin of victory in parties-balanced open-seat primaries is 41 percent in the 1980s, compared to 35 percent in the 2010s, a drop but still far from what is traditionally considered competitive. In advantaged-party open-seat primaries, the average margin of victory is 33 percent in the 1980s, compared to 27 percent in the 2010s. Neither difference is statistically significant.

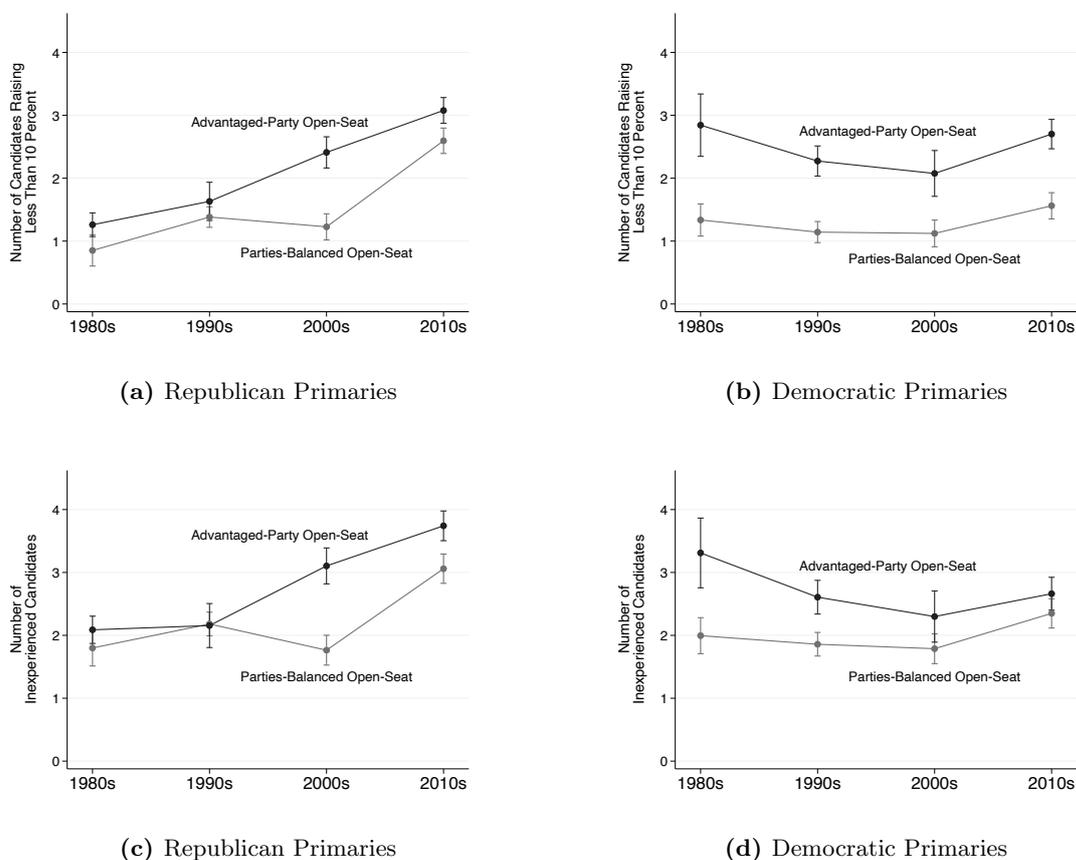
³⁰The fundraising distributions are provided in Figures A.7 and A.8 for advantaged-party and parties-balanced open-seat primaries by decade.

parties-balanced open seats, there was an average of 1.0 candidates who raised less than 10 percent of preprimary receipts in the 1980s, compared to 2.1 candidates in the 2010s. In advantaged-party open seats, this number increased from 1.6 in the 1980s to 2.9 in the 2010s.

What is more, the growing disparity is driven largely by Republican primaries. Figure 5 shows the number of candidates who raised less than 10 percent of preprimary receipts (top panel) and the number of inexperienced candidates (bottom panel) for Republican and Democratic candidates in parties-balanced and advantaged-party open-seat primaries by decade. Raising less than 10 percent of preprimary receipts is a lower bar than being inexperienced, and inexperienced candidates in advantaged-party and parties-balanced open-seat primaries raise an average of 14 and 20 percent of preprimary funds, respectively. In Republican primaries, the number of candidates in advantaged-party open-seat primaries who raised less than 10 percent of preprimary receipts more than doubled during this period, from 1.3 in the 1980s to 3.1 in the 2010s. The number of inexperienced candidates similarly rose from an average of 2.1 in the 1980s to 3.7 in the 2010s. On the Democratic side, the number of inexperienced and long-shot candidates even declined in the 1990s and 2000s, before slightly increasing in the 2010s. The two parties are on distinct temporal trajectories with respect to the entry of long-shot and inexperienced candidates.

One puzzle that emerges from the party-specific results is why more long-shot candidates, and especially on the Republican side, are launching congressional bids in these same districts today even though they fail to raise the funds needed to mount a credible campaign. A full exploration of this question is beyond the scope here, but Arceneaux et al. (2020) find that the density of Fox News in a congressional district altered the perceptions of high-quality potential Republican candidates and increased their likelihood of running for Congress. While their focus is on experienced Republican challengers, it may be that Fox News density is associated with the entry of inexperienced candidates as well. It is also clear that the exponential increase in the amount of money needed to win has not deterred Republican candidates from running for office, and the downward trend in the number of long-shot Democratic candidates has

Figure 5: Number of Long-Shot and Inexperienced Candidates, By Decade and Party



Note: The left graph shows the number of experienced candidates on the ballot, and the right graph shows the number of candidates who raised as least 20 percent of all preprimary funds. Values are from Models 1 and 2 in Table 2.

recently shifted course as campaign costs have continued to soar.³¹ Our main interest here is not why the number of on-ballot candidates has increased, but rather how a fundraising-based measure of competition alters our view of competition. There is ample evidence that our measures affect how we view the state of primary competition and also provide a different picture of changes in competition over time.

³¹However, the high price tag of running for Congress is likely to deter some potential candidates more than others (Bonica 2020; Carnes 2018; Hall 2019).

Conclusion

The central finding of this paper is that once competition is viewed through the lens of potential threats, it is difficult to reach the conclusion that American elections are living up to democratic ideals. The notion that several plausibly viable candidates are vigorously competing against each other for voter support is not borne out when competition is measured with fundraising patterns. This is less surprising in incumbent-contested primaries, challenger-party primaries, and contexts where the party is disadvantaged electorally. Yet even in advantaged-party open-seat primaries—the best case scenarios of competition—the number of viable candidates ranges from 1.8 on the low end to 2.6 on the high end. In these contexts, the number of viable candidates is expected to be two or three times less than the number of candidates on the ballot. Moreover, the difference between the on-ballot and viable candidate measures has increased in recent decades, with the top fundraisers faring just as well but an increasing number of long-shot candidates at the bottom of the pack, particularly in Republican primaries.

While the analysis here suggests that Hirano and Snyder (2019) overstate the degree of competition in House primaries, they do rightly call attention to its importance for democracy. Candidate entry is critical for inducing competition and ensuring accountability, and there is a clear association between the number of viable competitors and electoral margins. In opposed advantaged-party open-seat primaries, the average margin of victory in primaries with less than the mean of 2.8 viable candidates is 28 percentage points, compared to 15 points in primaries with more ($p < 0.01$). In opposed incumbent-contested primaries, the average victory margin in primaries with less than the mean of 1.3 viable candidates is 64 points, compared to 35 points in primaries with more ($p < 0.01$). Incumbents rarely lose in primaries, and even excluding unopposed primaries, they win 96 percent of the time. However, the percentage of incumbents who win drops from 99.6 percent in primaries with fewer than 1.3 viable candidates to 91.8 percent in primaries with more than 1.3 viable candidates. In primaries with at least 2 viable candidates, incumbent victory rates decrease further to 86.5 percent.

Beyond aggregate levels of competition, the measure of viability introduced here opens up a variety of opportunities to study not only electoral outcomes, but also dynamic changes in candidate strength over the course of an election cycle. We can use the fundraising-based measure to predict gains in party wins and losses over time, to quantify electoral upsets, and to better understand why some candidates drop out and others remain in the race. We can also incorporate demographic variables and analyze which candidates have a fundraising advantage in the crucial preprimary stage and whether that has changed over time. For example, we might be interested in how candidates from historically underrepresented groups fare in preprimary fundraising today compared to the 1980s. We could also draw on Bonica's (2014) candidate ideology data to examine the preprimary fundraising success of moderates compared to their more extreme competitors across a period of rising partisan polarization.

Fundraising totals can be used to examine differences among elected officeholders as well. New York representative Alexandria Ocasio-Cortez has raised more than \$12.7 million in the 2020 election cycle alone. By comparison, fellow Democratic freshmen Abigail Spanberger (VA) and Kendra Horn (OK) have raised \$4.9 million and \$3.7 million, respectively, and are running in far more competitive races. While it would be difficult to similarly rank members based on vote shares, fundraising figures provide an opportunity to examine the within-party stature of legislators and explore how fundraising matters for the distribution of party goods. We can additionally study tradeoffs between legislating and fundraising and see whether the top fundraisers are also the most effective legislators or whether one of these roles ultimately gives. In short, as long as money has such an overwhelming impact on American politics, a fundraising-based measure of viability and strength allows us to examine a wide range of questions about elections and representation.

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Appendix

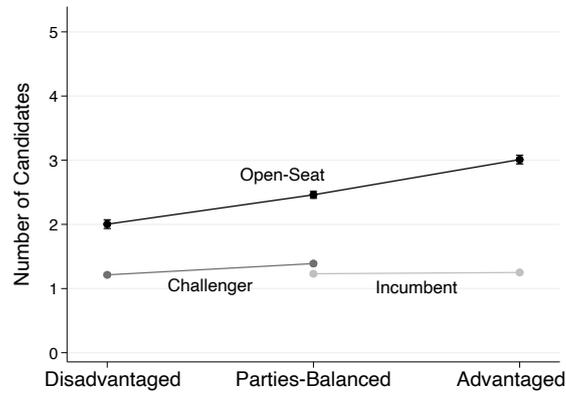
Table A.1: Vote-Based Measures of Viable Candidates, By Seat Type and Party Balance

	(1) Viable Candidates (Vote-Based)	(2) Difference (On-Ballot-Vote-Based)	(3) Difference (Vote-Based-Money-Based)
Open-Seat	0.94** (0.04)	0.47** (0.04)	0.27** (0.03)
Challenger-Party	0.19** (0.02)	-0.01 (0.02)	0.10** (0.01)
Parties-Balanced	0.20** (0.02)	0.18** (0.02)	0.04** (0.01)
Advantaged-Party	0.21** (0.03)	0.18** (0.02)	0.03* (0.02)
Open-Seat x Balanced	0.26** (0.05)	0.24** (0.05)	-0.04 (0.03)
Open-Seat x Advantaged	0.80** (0.05)	1.04** (0.05)	-0.04 (0.03)
Constant	1.37** (0.12)	0.62** (0.11)	0.28** (0.08)
<i>N</i>	15,861	15,861	15,516

Note: Results are from OLS regressions (1980-2018). Standard errors are in parentheses. The dependent variable in Model 1 is the number of viable candidates calculated with primary votes rather than fundraising totals, with candidates similarly weighted by primary vote share. The dependent variable in Model 2 is the difference between the number of on-ballot candidates and the number of viable candidates calculated with primary votes. The dependent variable in Model 3 is the difference between the vote-based and fundraising-based measures of the number of viable candidates. The baseline categories are incumbent-contested primaries and disadvantaged-party constituencies. The models include district and year fixed effects. * $p < 0.05$, ** $p < 0.01$.

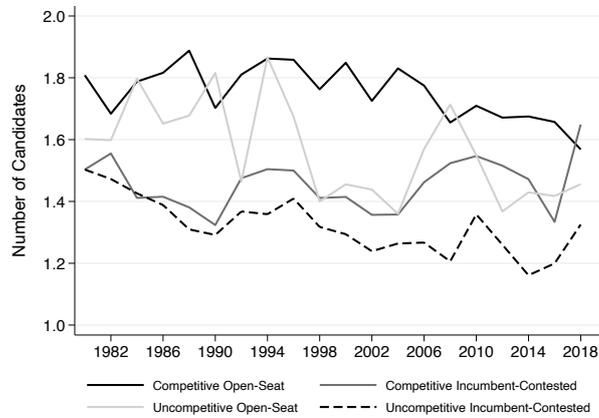
The coefficients in Model 1 reflect the patterns in the paper, with the number of candidates highest in advantaged-party open-seat primaries. Model 2 shows that the number of on-ballot candidates is higher than the number of viable candidates calculated with primary vote totals, and again particularly in advantaged-party open-seat primaries. We can see in Model 3 that the number of viable candidates calculated with primary vote totals is closer to the number of viable candidates calculated with fundraising totals, but the vote-share measures also indicate higher levels of competition in open-seat primaries than the fundraising-based measures. The fundraising-based measure of competition reveals the lowest levels of competition. The predicted values for Model 1 are provided in Figure A.1.

Figure A.1: Vote-Based Measures of Viable Candidates, By Seat Type and Party Balance



Note: The graph shows the number of viable candidates with vote share measures calculated from Model 1 in Table A.1.

Figure A.2: Decline in General Election Competition with Viable Candidates Measure



Note: The graph shows the average number of major-party general election candidates measured with the fundraising totals of general election candidates. The data are broken down by competitive and uncompetitive open-seat and incumbent-contested races (categories are measured the same as above). The data can only range from 1 to 2; in the full sample, the mean is 1.37, and the standard deviation is 0.36. The trends are consistent with the literature on the decline in general election competition measured with vote shares.

Figure A.3: Four Measures of Primary Competition Reported in Hirano and Snyder (2019)

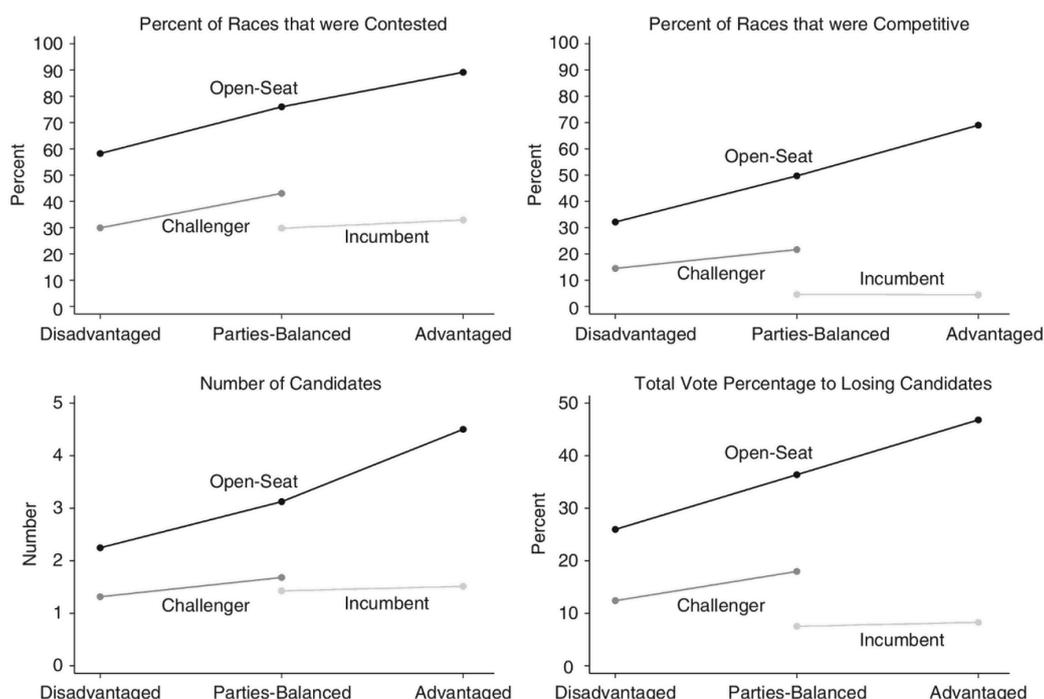
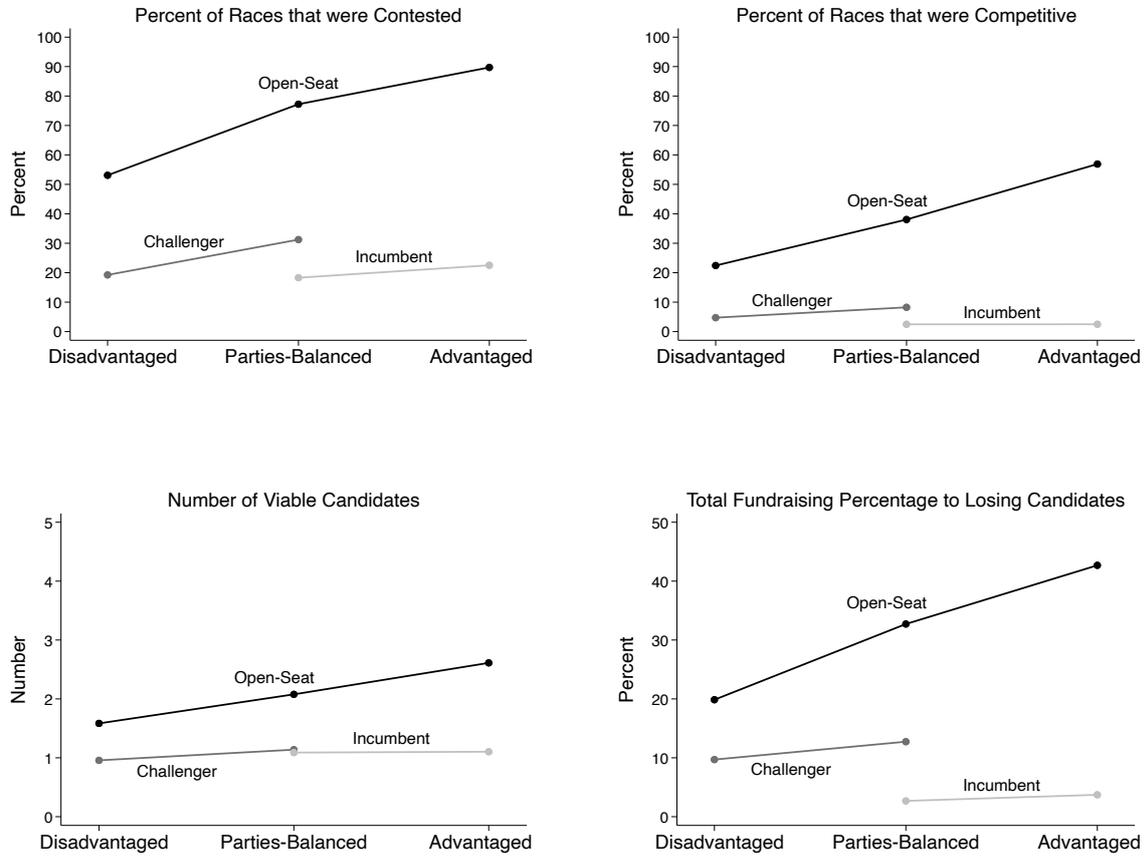


FIGURE 7.4 Primary Competition for the US House by Party Type and Incumbency

Note: This figure is taken from Hirano and Snyder (2019, 179). The top left graph shows the percentage of primaries that were contested, where at least two candidates received more than 1 percent of the vote. The top right graph shows the percentage of primaries that were competitive, where the winner received less than 57.5 percent of the vote. The bottom left graph shows the number of candidates who received more than 1 percent of the vote. The bottom right graph shows the votes cast for all losing candidates as a percentage of the total votes.

One question for future work is what percentage of the primary vote should be used to measure a competitive race. In general elections, a 57.5 percentage point threshold is appropriate as the vote is typically divided between two major-party candidates. However, in the case of primaries, it may be better to instead define competitive races by the margin of victory, such as less than 15 percentage points. The number of competitive primaries also decreases when a 15-point victory margin is used. While 70 percent of primary winners in advantaged-party open-seat primaries won with less than 57.5 percent of the vote (top right graph), 49 percent of these winners won by less than 15 percentage points. Thus, even in the best case scenarios of competition, only half are competitive by a conventional margin of victory measure.

Figure A.4: Four Measures of Primary Competition with Preprimary Fundraising Totals, Following Hirano and Snyder (2019)

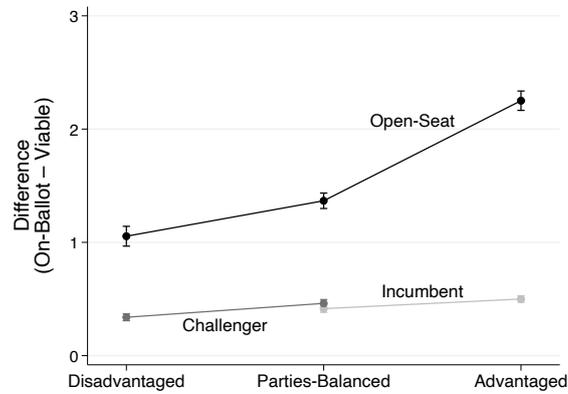


Note: This figure includes the same measures of competition as Hirano and Snyder (2019, 179), but calculated with preprimary fundraising totals. The top left graph shows the percentage of primaries that were contested, where at least two candidates raised more than 1 percent of preprimary receipts. The top right graph shows the percentage of primaries that were competitive, where the top fundraiser raised less than 57.5 percent of preprimary receipts. The bottom left graph shows the number of viable candidates calculated with preprimary fundraising figures (as discussed in the paper). The bottom right graph shows the money raised by all losing candidates as a percentage of total preprimary receipts.

The percentages of contested races measured with votes and fundraising are correlated at 0.67 (top left graphs in Figures A.3 and A.4). The percentages of competitive races measured with votes and fundraising are correlated at 0.54 (top right graphs). The numbers of on-ballot and viable candidates are correlated at 0.78 (bottom left graphs). The total vote and fundraising percentages to losing candidates are correlated at 0.75 (bottom right graphs).

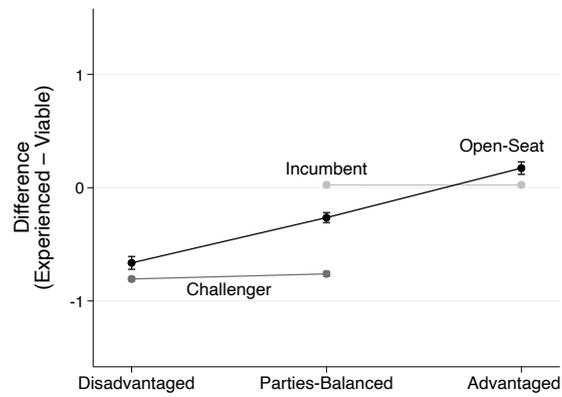
This paper focuses on the number of viable candidates, but there are a variety of ways to calculate competition with fundraising totals as well. In virtually all of the scenarios, measures based on fundraising reveal lower levels of competition than those based on vote shares, though the magnitude differs across primary types.

Figure A.5: Difference in Number of Candidates With On-Ballot and Viable Measures



Note: Values are calculated from Model 3 in Table 1. The graph shows the difference in the expected number of on-ballot and viable candidates across primary types. Values indicate the additional number of candidates expected with the on-ballot measure.

Figure A.6: Difference in Number of Candidates With Experienced and Viable Measures



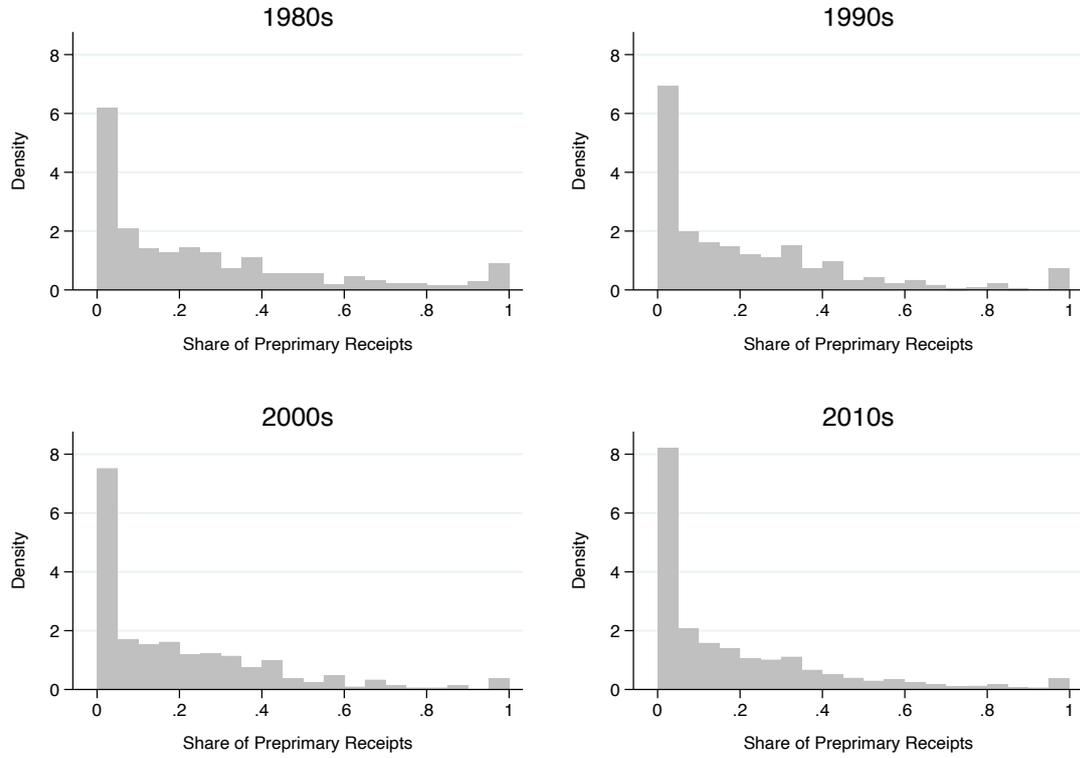
Note: Values are calculated from Model 3 in Table 2. The graph shows the difference in the expected number of experienced and viable candidates across primary types. Positive (negative) values indicate the additional number of candidates expected with the experienced (viable) candidate measure.

Table A.2: Difference Between Number of On-Ballot and Viable Candidates, By Decade

	Difference (On-Ballot – Viable)
Open-Seat	0.61** (0.11)
Challenger-Party	0.08 (0.05)
Parties-Balanced	-0.01 (0.05)
Advantaged-Party	-0.04 (0.07)
1990s	-0.26** (0.08)
2000s	-0.22** (0.08)
2010s	0.02 (0.09)
Open-Seat x 1990s	0.34* (0.16)
Open-Seat x 2000s	-0.04 (0.16)
Open-Seat x 2010s	0.25 (0.15)
Challenger-Party x 1990s	0.09 (0.06)
Challenger-Party x 2000s	-0.03 (0.07)
Challenger-Party x 2010s	-0.05 (0.07)
Parties-Balanced x 1990s	0.30** (0.07)
Parties-Balanced x 2000s	0.17* (0.07)
Parties-Balanced x 2010s	0.37** (0.07)
Advantaged-Party x 1990s	0.30** (0.09)
Advantaged-Party x 2000s	0.16 (0.09)
Advantaged-Party x 2010s	0.43** (0.10)
Open-Seat x Balanced	0.23 (0.14)
Open-Seat x Advantaged	0.64** (0.14)
Open-Seat x Parties-Balanced x 1990s	-0.24 (0.18)
Open-Seat x Parties-Balanced x 2000s	0.01 (0.19)
Open-Seat x Parties-Balanced x 2010s	0.16 (0.18)
Open-Seat x Advantaged-Party x 1990s	0.13 (0.20)
Open-Seat x Advantaged-Party x 2000s	0.83** (0.21)
Open-Seat x Advantaged-Party x 2010s	0.50** (0.19)
Constant	1.07** (0.16)
<i>N</i>	15,516

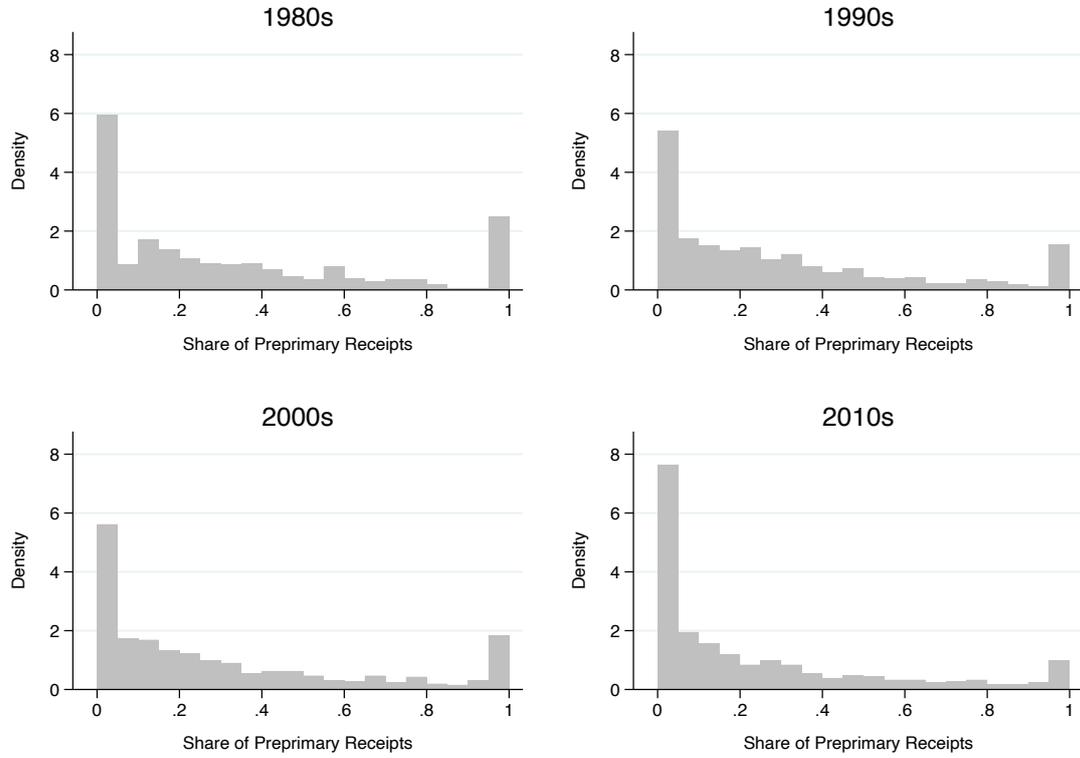
Note: Results are from OLS regressions (1980-2018). Standard errors are in parentheses. The baseline categories are incumbent-contested primaries and disadvantaged-party constituencies. The models include district and year fixed effects. * p<0.05, ** p<0.01.

Figure A.7: Distribution of Preprimary Receipts In Advantaged-Party Open-Seat Primaries, By Decade



Note: The graph shows the distribution of candidates' share of preprimary receipts in advantaged-party open-seat primaries by decade.

Figure A.8: Distribution of Preprimary Receipts In Parties-Balanced Open-Seat Primaries, By Decade



Note: The graph shows the distribution of candidates' share of preprimary receipts in parties-balanced open-seat primaries by decade.