

The Large Effects of a Small Win: How Past Rankings Shape the Behavior of Voters and Candidates

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Abstract

Candidates' placements in polls or past elections can be powerful coordination devices. Using a regression discontinuity design in French two-round elections, we show that candidates who place first by only a small margin in the first round are more likely to stay in the race, win, and win conditionally on staying in than those who come in a very close second. The impacts are even larger for ranking second instead of third, and also present for third instead of fourth. Rankings' effects are largest when candidates have the same political orientation (making coordination more important), but remain strong when two candidates only qualify for the second round (and coordination is not needed). They stem from allied parties agreeing on which candidate should drop out, voters coordinating their choice, and the “bandwagon effect” of desiring to vote for the winner. We find similar results in two-round elections of 19 other countries.

Keywords: Strategic voting, Coordination, Bandwagon effect, Regression discontinuity design, Elections

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1 Introduction

Elections are massive coordination games. While some voters make their choice based only on their own preferences (e.g., Spenkuch, 2018; Pons and Tricaud, 2018), others will strategically shift their support away from their preferred candidate toward one they like less but expect to have a better chance of winning (e.g., Duverger, 1954; Myerson and Weber, 1993; Cox, 1997). Similarly, candidates can decide whether or not to enter the race based on the fraction of the electorate they expect to vote for them versus their competitors. They might choose to stay out of the race if they foresee that they will receive few votes or that their presence could divide their camp and undermine their cause.

Predicting the behavior of the entire electorate and adjusting one’s own decisions accordingly is challenging both for voters and candidates. Opinion polls and previous electoral results may be useful sources of information. However, despite a large body of evidence that the overall informedness of political actors matters (e.g., Hall and Snyder, 2015; Le Pennec and Pons, 2020), little is known about which specific pieces of information they use to make their decisions, and how coordination between them actually happens.

In this paper, we focus on one specific type of information: the ranking of candidates by performance in polls, previous elections, or a previous round of the same election. While past and predicted vote shares provide detailed information on the distribution of preferences, rough-hewn candidate rankings can serve as a coordination device in and of themselves. When more than two candidates are in the running, their past rankings can be used by strategic voters as a focal point to coordinate on the same subset of candidates. Past rankings can also be used by sister parties to determine which of their candidates should drop out in order to increase their collective chance of victory. These mechanisms, which we henceforth refer to as “strategic coordination,” can be reinforced by behavioral forces such as a “bandwagon effect”: voters who gain satisfaction by being on the winning side might decide to “jump on the bandwagon” and rally behind candidates who won or had a higher rank in the past.

Elections using a two-round plurality voting rule are an ideal setting to estimate the impact of rankings and identify the underlying mechanisms. Our main sample includes a total of 22,557 individual races in 26 French local and parliamentary elections from 1958 to 2017. In these elections, up to three or four candidates can qualify for the second round. This enables us to measure the effect on second-round outcomes of placing first in the first round (instead of second), second (instead of third), and third (instead of fourth). In addition, all candidates who qualify for the second round can decide to drop out of the race. We can thus estimate the impact of first-round rankings both on voter choice in the second round and on candidate decision to run. To separate the effect of rankings from the effect of differences in vote shares (e.g., Knight and Schiff, 2010), we use

a regression discontinuity design (RDD) and compare the likelihood of running, the likelihood of winning, and the second round vote share obtained by candidates who received close-to-identical numbers of votes in the first round but ranked just below or just above one another.

Our empirical design draws on studies measuring the impact of candidate placements *across separate elections*. Following Lee (2008), many papers have examined the impact of ranking first (instead of second) on future elections and shown that winners of close contests generally benefit from an incumbency advantage when they run again (e.g., Ferreira and Gyourko, 2009; Eggers et al., 2015; Erikson and Titunik, 2015; Fiva and Smith, 2018).¹ Anagol and Fujiwara (2016) focus on a second discontinuity. They show that ranking second (instead of third) in past elections also increases a candidate’s likelihood to run in the next one and win it – effects they attribute to strategic coordination by voters.²

By contrast, we estimate the effects of candidate rankings *across electoral rounds*, which offers several key advantages. First, studying two rounds of the same election helps us isolate the direct effect of rankings from reinforcing effects that are more likely to matter when considering elections separated by several years, such as increased notoriety of the higher-ranked candidates, their lower likelihood of being replaced by another candidate of their party, and the effect of being in office (for candidates who won the previous election). We show that rankings substantially affect the outcome of elections, independently of any such reinforcing mechanism. Placing first instead of second increases candidates’ likelihood to win the race by 5.8 percentage points. This result suggests that the advantage enjoyed by incumbents in future elections, which is generally attributed to the effect of holding office, may also be driven by the pure effect of ranking first. Placing second instead of third has an even larger effect, of 9.9 percentage points, and coming in third instead of fourth has an effect of 2.2 percentage points, from a baseline of only 0.5 percent.

A second key advantage of our setting is that it enables us to pin down the mechanisms responsible for the effects of rankings. While candidates’ ability to participate in future races is generally not constrained by the results of previous elections, qualification for the second round of two-round elections is, instead, entirely determined by first-round results. Therefore, we observe the full set of possible competitors in the second round, which helps us interpret each qualified candidate’s decision to stay in the race or drop out and decipher parties’ strategies and coordination, on which there is little causal evidence to date. Furthermore, the number of candidates who obtain the qualification varies from two to four in the elections we study. Comparing races with different sets of qualified candidates allows us to cleanly separate the contribution of strategic coordination and behavioral mechanisms to rankings’ effects.

¹Many papers studied the incumbency advantage before Lee (2008), but using methods different from regression discontinuity designs (e.g., Erikson, 1971; Gelman and King, 1990; Cox and Katz, 1996; Ansolabehere et al., 2000).

²Laboratory experiments have also found that voters tend to coordinate on candidates placed higher in polls or in previous rounds of an election game (Forsythe et al., 1993; Bouton et al., 2016).

Specifically, our exploration of mechanisms begins by assessing the extent to which the overall effects on winning are driven by candidate or voter choice. We find that placing first instead of second, second instead of third, and third instead of fourth increases candidates' likelihood to stay in the race by 5.6, 23.5, and 14.6 percentage points, respectively. These effects are larger for candidates affiliated to a political party, suggesting that candidates' decisions to run in the second round or not are constrained by their parties. Yet, candidates' decision to stay in the race does not account for the full effects on winning. We estimate the effects of rankings on voter choice conditional on candidates' presence in the second round using a bounding strategy, in order to deal with the fact that lower- and higher-ranked candidates who decide to stay in the race may be of different types. We find that placing first instead of second increases a candidate's vote share by more than 1.3 percentage points and likelihood of winning conditional on staying in the race by more than 2.9 percentage points. The lower bounds on the effects of ranking second instead of third (resp. third instead of fourth) are 4.0 and 6.9 percentage points (resp. 2.5 and 3.0). Variations in effect size across different precincts of the same district provide suggestive evidence that effects on voter behavior are driven by active voters rallying behind higher-ranked candidates more than by the differential mobilization of nonvoters.

To uncover the mechanisms responsible for the effects of rankings on candidate and voter choice, we go one step further and check how effect size varies with the number and type of candidates who qualify for the second round.

We first show that the effects are much larger when the higher- and lower-ranked candidates have the same political orientation. This can come from the fact that shared orientation makes voter and candidate coordination against ideologically distant candidates who also qualified more desirable, but also from the fact that it makes rallying behind the higher-ranked candidate less costly, whatever the underlying motive may be.

Second, to investigate the extent to which coordination explains our results, we focus on elections in which three or more candidates qualify for the second round (and rankings can be used to coordinate on a subset of them) and compare the effects of placing first instead of second depending on the challenge posed by the third candidate. We find that the effects on running and winning decrease with the gap between the second and third candidates' vote shares. This suggests that coordination between the first and second candidates (which is more critical when the gap with the third is narrower) explains part of the effects. In addition, the effects of placing first instead of second are larger when the ideological distance between the top-two candidates is lower than their distance with the third candidate (making coordination between the top two more desirable).

Third, to test whether strategic coordination suffices to explain our results, we turn to elections in which the third candidate does *not* qualify. In these elections, there is no need or even possibility for coordination against a lower-ranked candidate. All voters should vote for their preferred

candidate among the top two, and candidates do not risk contributing to the victory of a disliked competitor by running. Nonetheless, the effects of ranking first instead of second on running and on winning, conditional on running, remain large. By contrast with previous studies, we infer that strategic coordination cannot fully account for the impact of rankings. Instead, our results first indicate that candidate dropouts are not only driven by the desire to avoid the victory of a third candidate. In addition, effects conditional on staying in the race reveal that the desire to be on the winning side is an important driver of voter behavior and that it generates a bandwagon effect swaying many elections. A complementary interpretation for the effects on vote choice is that voters update their beliefs about the quality of candidates who qualify for the second round based on their placements in the first. However, this interpretation can only hold if voters are unaware that the higher- and lower-ranked candidates obtained nearly identical vote shares, in elections at the threshold. While social learning may contribute to the effects of rankings, we provide evidence that its role is likely to be limited.

Finally, we consider the possibility that factors other than voter choice drive the effects of rankings on a candidate's likelihood of winning and on their vote share conditional on staying in. We show that the effects are unlikely to be explained by differences in the campaign expenditures of the higher- and lower-ranked candidates or by the decisions of other qualified candidates to stay in the race or drop out. Furthermore, we collected a total of 76,679 election-related newspaper articles which were released between the two rounds of all local and parliamentary elections since 1997. We do not find any effect on the amount of newspaper coverage of higher- versus lower-ranked candidates. After reading and annotating a random subset of articles, we also find that the media do not cover higher-ranked candidates more favorably, either.

The effects of past rankings are present both for left-wing and right-wing candidates, sizable in both local and parliamentary elections, and as large today as in previous decades. Moreover, we check the external validity of our results in a separate sample of 105 parliamentary elections in 19 countries since 1850. This sample includes all elections for upper or lower house of parliament in the world which use a two-round plurality rule and for which we were able to find results at the constituency level, using a large number of sources. While this sample totals much fewer races than the French sample (4,075 against 22,557) and the corresponding data are less rich and of lower quality, on average, they enable us to verify that our results are not specific to the French context. Similarly as in French elections, we find that ranking first instead of second, and second instead of third, have large effects on candidates' likelihood of winning, of 7.6 and 15.8 percentage points respectively; the effect of placing first is larger when the third candidate poses more of a challenge for the top two, pointing to the role of strategic coordination; and placing first has an effect even when the third candidate does not qualify for the second round, indicating that other mechanisms than coordination, such as the bandwagon effect, contribute to rankings' effects in other countries

as well.

Beyond two-round elections, our estimates carry implications for any election in which pre-electoral information on candidate rankings is available from previous rounds or opinion polls. Overall, our analysis reveals that rankings are a public signal of paramount importance, influencing the choices of many voters and candidates. We further shed light on the motivations underlying the decisions of political actors. While rankings facilitate strategic coordination among parties and voters, which can in turn enhance the representativeness of elected leaders, they also unleash behavioral effects, which may have the opposite consequence. The effects of rankings should enter in consideration when debating voting rules and regulating the polling industry, as they are likely to be magnified in voting systems with two rounds or other forms of sequential voting, and when poll results are released just before the election. Furthermore, our results have important implications for campaign strategies: The importance of ranking high early gives candidates strong incentives to front-load some of their voter outreach efforts even if the effects of persuasive communication may decay over time.

1.1 Contribution to the literature

Our paper contributes to a large political economy literature investigating how voters choose elected officials, and to a smaller but equally important literature studying how parties' strategies constrain the set of candidates among whom voters choose.

Many empirical studies focus on the tension between expressive and strategic motives of voting (e.g., Fujiwara, 2011; Eggers, 2015; Spenkuch, 2015), and seek to estimate the fractions of citizens voting based on likely outcomes of the election versus those voting based solely on their preference among candidates (e.g., Alvarez and Nagler, 2000; Kawai and Watanabe, 2013; Spenkuch, 2018; Eggers and Vivyan, 2020). In Pons and Tricaud (2018), we use a subset of French two-round elections used in the present paper, and exploit variation in the presence of a third candidate in the runoff to assess the extent to which voters behave expressively or strategically.

Importantly, voters who want to be strategic still need to decide which equilibrium to focus on. Indeed, models of strategic voting show that voter coordination tends to lead to equilibria in which two candidates receive most of the votes, but that multiple equilibria of this type generally exist (Palfrey, 1989; Myerson and Weber, 1993; Cox, 1997). In that case, public signals may facilitate convergence to a unique equilibrium. Fey (1997) establishes that a sequence of opinion polls providing information about the distribution of preferences and strategies in the electorate can bring voters to focus on the same pair of candidates. Myatt (2007) finds that a single poll observed by everyone may suffice to generate full coordination (where only two candidates obtain votes) if it is sufficiently precise.

Building on this theoretical work on equilibrium selection, we study how voter coordination works in practice and document the importance of a specific signal: candidate rankings. We show that rankings enable the decentralized coordination of strategic voters by serving as focal points: voters are more likely to coordinate on higher-ranked candidates even in the extreme case where these candidates obtained exactly the same vote share as lower-ranked ones.

Beyond the trade-off between expressive and strategic voting, voter choice can also be influenced by the desire to be on the winning side (Simon, 1954; Fleitas, 1971; Bartels, 1988). Voters rallying behind the predicted winner will generate a “bandwagon effect” further increasing her lead, which has been documented by several laboratory experiments (e.g., Morton and Williams, 1999; Hung and Plott, 2001; Morton and Ou, 2015; Agranov et al., 2018). Outside of the lab, bandwagon voting can take place in sequential elections (when late voters learn the choices of early ones) as well as in simultaneous voting (when voters learn the intentions of others through polls or discussions). Bartels (1985) and McAllister and Studlar (1991) report that many voters declare favoring candidates they deem most likely to win, but the authors note that people’s assessment of candidate chances may be affected by their voting intention. This concern of reverse causality is absent from studies documenting systematic over-reporting of voting for the winner in post-electoral surveys (e.g., Wright, 1993; Atkeson, 1999), a pattern nonetheless consistent with interpretations other than the desire to side with the winning candidate, such as respondent selection effects (Gelman et al., 2016) and social desirability bias. Such survey-specific factors cannot explain the findings of Morton et al. (2015), who compare electoral results in French territories overseas between elections in which these territories voted before or after the overall election outcome had been made public through exit polls. While this natural experiment is one of the best pieces of evidence of bandwagon voting, the fact that the reform took place simultaneously in all overseas territories makes it difficult to disentangle its effect from concomitant factors.

We build on this body of work and bring causal evidence on the bandwagon effect using electoral results of a large number of individual races.³ Our results showing a preference to vote for the winner bring empirical support for models assuming that voters gain utility from this choice (Hinich, 1981; Callander, 2007, 2008).⁴ Another (complementary) alternative interpretation for voters’ tendency to rally behind leading candidates, including in races in which there is no need

³Similarly to our setting, Kiss and Simonovits (2014) study the bandwagon effect in two-round elections in Hungary. Differently from our strategy, they compare the size of the difference between the first and second candidates’ vote shares in the first and second rounds. They interpret the increase in the winning margin as evidence that first-round results had a bandwagon effect on second-round vote choices. However, differences between the first and second rounds other than the availability of first-round results could drive this pattern.

⁴The bandwagon effect of candidate rankings is akin to the effects measured in other contexts beyond elections, such as asset rankings on trading behavior (Hartzmark, 2015), hospitals’ rankings on their number of patients and revenues (Pope, 2009), employees’ rankings on their sales (Barankay, 2018), and students’ rankings on their academic performance (Murphy and Weinhardt, 2020).

for strategic coordination, is social learning. Voters may use (discrete) rankings as a heuristic about the (continuous) distribution of the choice of others, in line with abundant evidence on bounded rationality (Tversky and Kahneman, 1981; Kahneman, 2003). In turn, they may interpret others' vote choice as a signal about candidate valence and update their own preferences accordingly (e.g., Banerjee, 1992; Feddersen and Pesendorfer, 1997). We discuss the extent to which social learning may contribute to explaining our results in Section 4.4.

Adding to our results on voter behavior, our paper brings groundbreaking evidence on the strategies of candidates and parties. On a theoretical level, most models of elections assume an exogenous pool of candidates. Models with endogenous candidate entry (Osborne and Slivinski, 1996; Besley and Coate, 1997; Solow, 2016; Dal Bo and Finan, 2018) and exit (Indridason, 2008) focus on the choice of individual candidates and pinpoint important mechanisms affecting the equilibrium number of competitors. Beyond candidates' own decision-making, agreements between their parties can also lead to candidate dropouts and restrict the set of options voters can choose from. This form of coordination may be expected to be more effective than voters', since it requires the cooperation of a smaller number of actors, with greater stakes in electoral outcomes. This essential aspect of electoral politics is difficult to study in general, because one usually only observes candidates who are actually competing, not those who considered it but decided to stay out.⁵ By contrast, since we observe the full set of candidates eligible to compete in the runoff, whether or not they actually stay in the race, we can cleanly estimate and characterize the contribution of candidate and party coordination to the effects of rankings. We find evidence that dropout agreements between parties of similar orientation are motivated by the desire to avoid the victory of a candidate of a different orientation as well as other motives, such as following the first-round choice of their supporters.

Our results on the effects of rankings on party decisions between rounds contribute to a rich literature exploring the properties of two-round voting systems (e.g., Osborne and Slivinski, 1996; Piketty, 2000; Bouton, 2013; Bordignon et al., 2016; Bouton et al., 2019; Cipullo, 2019), and they echo recent work showing that parties tend to promote candidates ranked higher by voters in open-list elections (Folke et al., 2016; Meriläinen and Tukiainen, 2016; Cirone et al., 2020) and that their likelihood to appoint a government increases when they receive more seats or votes (Fujiwara and Sanz, 2020).

The remainder of the paper is organized as follows. We provide more details on our setting and empirical strategy in Section 2. Section 3 presents our main results and Section 4 discusses the underlying mechanisms. Section 5 documents the external validity of the results and Section 6

⁵A small set of empirical studies emphasize the importance of electoral alliances between parties and examine factors conducive to coordination, but the evidence they present is only correlational (e.g., Golder, 2005, 2006; Blais and Indridason, 2007; Blais and Loewen, 2009).

concludes.

2 Empirical strategy

2.1 Setting

Our sample includes 14 parliamentary elections and 12 local elections: all parliamentary elections of the Fifth Republic from 1958 to 2017 except for the 1986 election (which used proportionality rule), and all local elections from 1979 to 2015.⁶ Each of these 26 elections took place at a different date.⁷

Every five years, parliamentary elections elect the National Assembly, the lower house of the French Parliament. In these elections, each of 577 constituencies elects a Member of Parliament. Local elections determine the members of the departmental councils, which have authority over transportation, education, and social assistance, among other areas. France is divided into 101 départements, each of which is further divided into cantons. Until a 2013 reform, local elections took place every three years. In each département, half of the cantons elected their council member in any given election, for a length of six years, and the other half of cantons participated in the next election. After the reform, all cantons participated in elections held every six years and each canton elected a ticket composed of a man and a woman.⁸ This new rule applied to the 2015 local elections. In our analysis, we consider each ticket as a single candidate, since the two candidates on the ticket organize a common electoral campaign and get elected or defeated together. Henceforth, we define both assembly constituencies and local cantons as “districts.”

Parliamentary and local elections both use a two-round plurality voting rule. A candidate can only win directly in the first round if they obtain more than 50 percent of the candidate votes and if their number of votes is also greater than 25 percent of the registered citizens. In most races, no candidate wins in the first round, the first round results are publicized, and the second round takes place one week later. In that case, the candidate who receives the largest vote share in the second round wins the election. This type of voting rule is not uncommon: next to plurality voting, uninominal elections with two rounds are among the most common electoral systems in the world (Farrell, 2011; Bormann and Golder, 2013). The specific conditions required to qualify for the

⁶We do not include local elections held before 1979 as the electoral rule allowed any candidate to run in the second round, irrespective of their vote share in the first and even if they were absent from the first.

⁷In 1988, both parliamentary and local elections were held, but in different months. The 2001 and 2008 local elections took place at the same date as mayoral elections, and the 1992, 1998, and 2004 local elections at the same date as regional elections. Our results remain very similar and, if anything, only increase in magnitude and statistical significance, when we exclude these elections (see Appendix Tables E6 and E7).

⁸The 2013 reform further reduced the number of cantons from 4035 to 2054, to leave the total number of council members roughly unchanged.

second round of French local and parliamentary elections are more unusual.

The set of candidates who qualify for the second round includes the two candidates with the highest vote share in the first round, independently of their exact vote share, as well as any other candidate with a vote share higher than a certain threshold. This rule is essential for our study design, as it enables us to estimate the impact of placing first instead of second, second instead of third, and third instead of fourth. The qualification threshold changed over time: the required vote share was 10 percent of the registered citizens in local elections, until 2011, when it was increased to 12.5 percent.⁹ In parliamentary elections, the required vote share was 5 percent of the voters in 1958 and 1962, it was changed to 10 percent of the registered citizens in 1966, and to 12.5 percent of the registered citizens in 1976.

Importantly, all qualifying candidates can decide to drop out of the race between rounds. This allows us to estimate the impact of first-round rankings both on voters' choice of candidate in the second round and on candidates' decision to stay in the second round. Candidates who choose to stay in the race do not have to pay any extra administrative fee. In the second round, voters can only cast a ballot for a candidate who stayed in. In polling booths, paper ballots bearing the names of these candidates are ordered by alphabetical order (in municipalities below 1,000 inhabitants) or by random order (in municipalities above 1,000 inhabitants), independently of first-round rankings.

2.2 Data

After excluding races with a unique candidate in the first round and those with no second round, our sample comprises 16,222 races from local elections and 6,335 races from parliamentary elections, for a total of 22,557. We obtained official electoral results from the French Ministry of the Interior for the 1993 to 2017 parliamentary elections and the 1992 to 2015 local elections, and digitized results from printed booklets for the 1958 to 1988 parliamentary elections and the 1979 to 1988 local elections.¹⁰ Appendix Table A1 gives the breakdown of the number of races by election type and year.

To measure the impact of ranking first instead of second (henceforth “1vs2”), we further exclude races in which two of the top three candidates obtain an identical number of votes in the first round (sample 1).¹¹ Indeed, we do not have any way to choose which candidate to treat as

⁹In the 2011 local elections, the threshold remained at 10 percent in the 9 cantons belonging to Mayotte département.

¹⁰We had to digitize electoral results prior to 1988 because these results were only available from the website of the CDSP (Centre de Données Socio-Politiques, <https://cdsp.sciences-po.fr/en/>), in a format aggregating the vote shares of all candidates sharing the same political label and without candidates' names. Instead, our identification strategy requires knowing the exact vote share and rank of each candidate. In addition, we use the names of candidates to infer their gender and to identify candidates who were already present in previous elections.

¹¹By “two of the top three candidates”, we mean two of the top-two candidates (i.e. the top two) if two candidates only competed in the first round, and two of the top three candidates if three or more candidates competed in the first

first, when the top two obtained the same number of votes, and which candidate to compare to the first, when the two candidates ranked below her obtained the same number of votes. To measure the impact of ranking second instead of third (henceforth “2vs3”), we restrict our sample to races where at least three candidates compete in the first round and the third qualifies for the second round, and we exclude races in which two of the top four candidates receive an identical number of votes in the first round (sample 2). To measure the impact of ranking third instead of fourth (henceforth “3vs4”), we restrict our sample to races where at least four candidates compete in the first round and the third and fourth qualify for the second round, and we exclude races in which two candidates among the second, third, fourth, and fifth obtain an identical number of votes in the first round (sample 3).

Thanks to the large set of local and parliamentary elections we consider, and to the large number of races in each election, our sample includes many close races: the vote share difference between the candidates ranked first and second (resp. second and third, and third and fourth) is lower than 2 percentage points in 2,581 races in sample 1, in 1,874 races in sample 2, and in 758 races in sample 3.

Table 1 shows descriptive statistics on the full sample. In the average race, 6.5 candidates competed in the first round, 63.6 percent of registered citizens participated in it, and 61.3 percent cast a valid vote for one of the candidates (henceforth “candidate votes”), as opposed to casting a blank or null vote. In the second round, the number of competing candidates ranged from 1 to 6, with an average of 2.1. Turnout was slightly higher than in the first round (62.8 percent on average) but the fraction of candidate votes was slightly lower (59.5 percent). Overall, the descriptive statistics reported in Appendix Tables A2, A3, and A4 indicate that close races in samples 1, 2, and 3 are very similar to other races in these samples, including in terms of voter turnout. Similarly, Appendix Figure A1 shows that second-round participation is not substantially higher in races which were close in the first round than in the rest of the sample, on average.

round. The same applies to the next restrictions.

Table 1: Summary statistics

	Mean	Sd	Min	Max	Obs.
<i>Panel A. 1st round</i>					
Registered voters	28,294	28,157	258	200,205	22,557
Turnout	0.636	0.125	0.094	0.921	22,557
Candidate votes	0.613	0.122	0.093	0.914	22,557
Number of candidates	6.5	3.1	2	48	22,557
<i>Panel B. 2nd round</i>					
Turnout	0.628	0.134	0.117	0.968	22,557
Candidate votes	0.595	0.138	0.103	0.963	22,557
Number of candidates	2.1	0.4	1	6	22,557

The statistics shown in Table 1 are at the race level. By contrast, the analysis below is conducted at the candidate level and uses exactly two observations per race, for the higher- and lower-ranked candidates. We allocate candidates to six political orientations (far-left, left, center, right, far-right, and other) based on labels attributed to them by the Ministry of the Interior.¹²

2.3 Evaluation framework

We exploit close races to estimate the impact of candidates' first-round rankings on their second-round outcomes. To measure the impact of ranking 1vs2, we use two observations per race, corresponding to the candidates placed first and second in the first round, and define the running variable X_1 as the difference between each candidate's vote share and the vote share of the other top-two candidate. For the candidate ranked first, the running variable is equal to her vote share minus the vote share of the candidate ranked second. For the candidate ranked second, it is equal to her vote share minus the vote share of the candidate ranked first:

$$X_1 = \begin{cases} \text{voteshare}_1 - \text{voteshare}_2 & \text{if ranked 1st} \\ \text{voteshare}_2 - \text{voteshare}_1 & \text{if ranked 2nd} \end{cases}$$

Similarly, for 2vs3 and 3vs4, we define the running variables X_2 and X_3 as:

¹²To attribute political labels to candidates, the French Ministry of the Interior takes into account their self-reported political affiliation, party endorsement, past candidacies, and public declarations, among other indicators. Appendix H shows our mapping between these political labels and the six orientations, for each election.

$$X_2 = \begin{cases} \text{voteshare}_2 - \text{voteshare}_3 & \text{if ranked 2nd} \\ \text{voteshare}_3 - \text{voteshare}_2 & \text{if ranked 3rd} \end{cases}$$

$$X_3 = \begin{cases} \text{voteshare}_3 - \text{voteshare}_4 & \text{if ranked 3rd} \\ \text{voteshare}_4 - \text{voteshare}_3 & \text{if ranked 4th} \end{cases}$$

We define the treatment variable T as a dummy equal to 1 if the candidate had a higher rank in the first round ($X > 0$) and 0 otherwise, and we evaluate the impact of placing higher with the following specification:

$$Y_i = \alpha_1 + \tau T_i + \beta_1 X_i + \beta_2 X_i T_i + \mu_i, \quad (1)$$

where Y_i is the outcome of interest for candidate i . We run this specification separately for 1vs2, 2vs3, and 3vs4. It estimates the impact of rankings at the limit, when both candidates have an identical vote share. Therefore, it enables us to isolate the impact of ranking from the difference in vote shares.

The specification in equation [1] uses a non-parametric approach, following Imbens and Lemieux (2008) and Calonico et al. (2014). It amounts to fitting two linear regressions on, respectively, candidates close to the left of the threshold, and close to the right. In Appendix C, we show the robustness of the results to a quadratic specification, which includes X_i^2 and its interaction with T_i as regressors. In all regressions, we cluster our standard errors at the district level.¹³

Our main specification uses Calonico et al. (2014)’s estimation procedure, which provides robust confidence interval estimators, and the MSERD bandwidths developed by Calonico et al. (2019), which reduce potential bias the most. We test the robustness of our results to using a wide range of other bandwidths, including the optimal bandwidths computed according to Imbens and Kalyanaraman (2012) and tighter bandwidths corresponding to half of the MSERD bandwidths. All these bandwidths are data-driven and, therefore, vary with the samples and outcomes used in the regressions.

2.4 Identification assumption

Our identification assumption is that all candidate characteristics change continuously around the threshold and, therefore, that the only discrete change occurring at this threshold is the shift in candidate rankings. Sorting of candidates across the discontinuity only threatens the validity of

¹³Calonico et al. (2014)’s “rdrobust” command only allows us to cluster separately on each side of the discontinuity, implying that the higher- and lower-ranked candidates competing in the same race fall in separate clusters. We check that our main results are robust to using the conventional estimation procedure (with the command “ivreg2”) and clustering the standard errors at the district level, with clusters encompassing observations located on both sides of the threshold (see Appendix Table C5).

this assumption if it occurs exactly at the cutoff, with candidates of a particular type pushed just above or just below it (de la Cuesta and Imai, 2016). This would require some candidates to be able to predict election outcomes and deploy campaign resources with extreme accuracy, which is unlikely for at least two reasons. First, unpredictable factors including weather conditions on Election Day make the outcome of the election uncertain (Eggers et al., 2015). Second, very limited information is available about voters' intentions in the first round of French parliamentary or local races. Polls specific to a given district are very rare during parliamentary elections, and nonexistent during local ones.

To bring empirical support for the identification assumption, it is customary for RDDs to check if there is a jump in the density of the running variable at the threshold, using a test designed by McCrary (2008). In our setting, this test is satisfied by construction since we consider the same set of races on both sides of the threshold and, in each race, the higher- and lower-ranked candidates are equally distant to the cutoff (see Appendix Figure A2).

Similarly, first-round variables such as district size, the total number of candidates, voter turnout, or the candidate's vote share are smooth by construction at the threshold.¹⁴

To provide additional support for the identification assumption, we consider variables whose distribution at the threshold is not mechanically symmetric: the candidate's gender; whether she ran in the previous election, in the same département and then in the exact same district; whether she won a race in the previous election, in the same département and then in the exact same district; whether she runs with or without the label of a political party;¹⁵ a set of six dummies indicating her political orientation; whether this orientation is the same as the incumbent's; the number of candidates of her orientation who were present in the first round; the number of candidates of her orientation who did not qualify for the second round; her strength in the first round, defined as the sum of first-round vote shares of all candidates of the same orientation; the total vote share of same-orientation candidates who did not qualify for the second round; and the average strength of her orientation at the national level in the first round. We conduct the following general test for imbalance. We regress the treatment variable T on these variables, use the coefficients from this regression to predict treatment status for each candidate, and test whether the predicted value jumps at the threshold. To avoid dropping observations, for each regressor, we include a dummy equal to one when the variable is missing and replace missings by 0s.

Figure 1 shows the lack of any jump at the cutoff for predicted assignment to first rank (instead

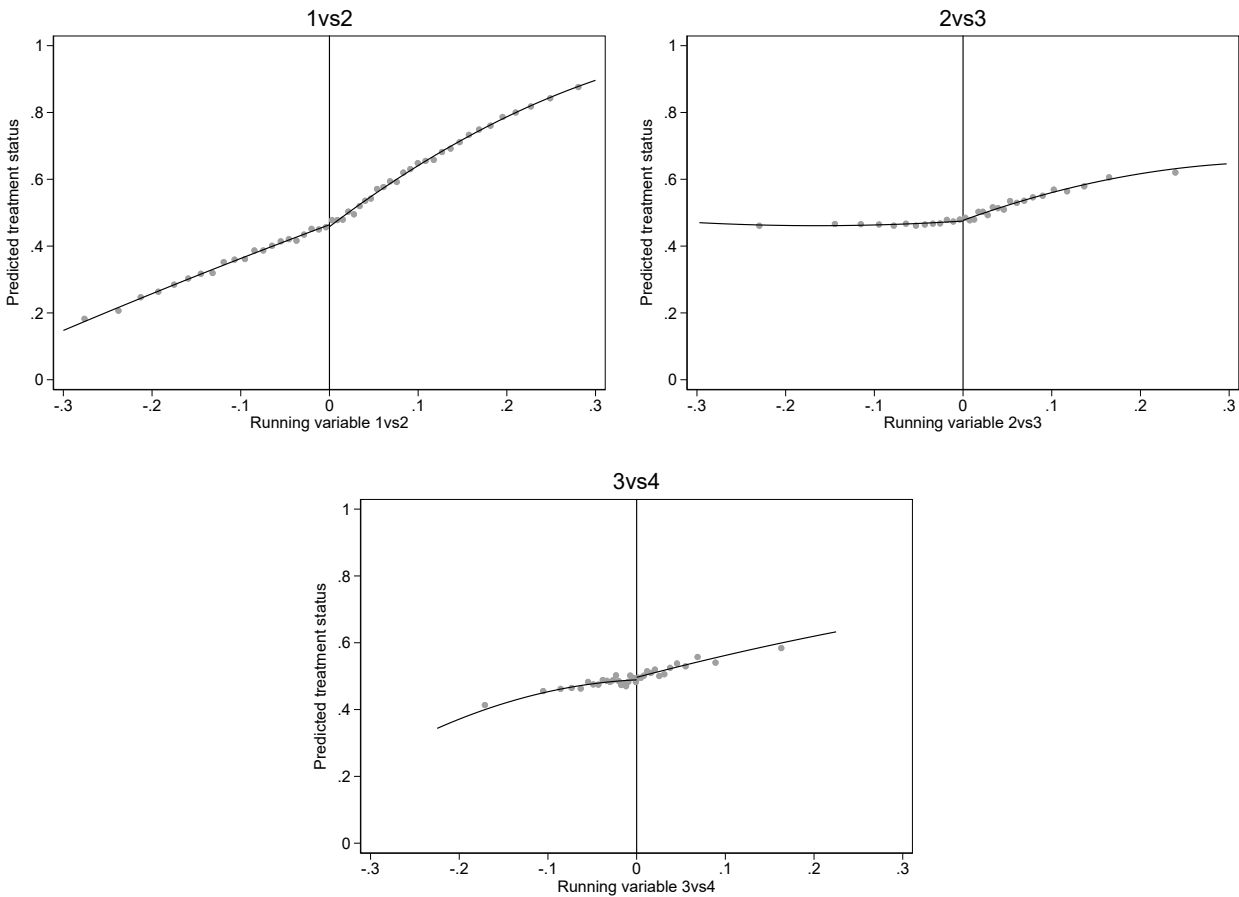
¹⁴Appendix Figure A3 plots the candidate's vote share in the first round against the running variable. We observe that in sample 1, the candidates ranked marginally first and second in the first round received around 30 percent of candidate votes at the threshold, on average. In sample 2 (resp. 3), the first-round vote share of candidates ranked marginally second and third (resp. third and fourth) was 20 percent (resp. 18 percent) at the threshold.

¹⁵We constructed this dummy variable based on the political labels attributed by the Ministry of the Interior (see Appendix H).

of second), second rank (instead of third), and third rank (instead of fourth). In this graph as well as all the graphs showing the effects of rankings, each dot indicates the average value of the outcome within a certain bin of the running variable. Observations corresponding to higher-ranked candidates are on the right of the threshold, and those corresponding to lower-ranked ones are on the left. We fit a quadratic polynomial on each side of the threshold, to facilitate visualization. As shown in Table 2, the coefficients are close to 0 and nonsignificant.

We also examine whether there is a discontinuity in any of the variables used to predict treatment, taken individually. The corresponding graphs and tables are included in Appendix B, along with a more detailed description of the placebo variables. Overall, one coefficient out of 54 is significant at the 1 percent level, 3 are significant at the 5 percent level, and 4 at the 10 percent level. Since the general balance test shows no discontinuity, we are confident that there is no systematic sorting of candidates at the threshold. In addition, the results shown in the rest of the paper are robust in sign, magnitude, and statistical significance to controlling for all the baseline variables (see Appendix Table C4).

Figure 1: General balance test



Notes: Dots represent the local averages of the predicted treatment status (vertical axis). Averages are calculated within quantile-spaced bins of the running variable (horizontal axis). The running variable (the vote share difference between the two candidates in the first round) is measured as percentage points. The graph is truncated at 30 percentage points on the horizontal axis to accommodate for outliers. Continuous lines are a quadratic fit.

Table 2: General balance test

Outcome	(1)	(2)	(3)
	Predicted treatment		
	1vs2 (sample 1)	2vs3 (sample 2)	3vs4 (sample 3)
Treatment	-0.002 (0.006)	-0.003 (0.005)	0.008 (0.007)
Robust p-value	0.618	0.406	0.320
Observations left	12,484	4,996	1,288
Observations right	12,484	4,996	1,288
Polyn. order	1	1	1
Bandwidth	0.112	0.062	0.042
Mean, left of threshold	0.462	0.480	0.489

Notes: Standard errors, shown in parentheses, are clustered at the district level. We compute statistical significance based on the robust p-value and indicate significance at 1, 5, and 10% with ***, **, and *, respectively. The unit of observation is the candidate. The outcome is the value of the treatment predicted by the baseline variables listed in the text. The independent variable is a dummy equal to 1 if the candidate placed higher in the first round. We use local polynomial regressions: we fit separate polynomials of order 1 on each side of the threshold and compute the bandwidths according to the MSERD procedure. The mean, left of the threshold gives the value of the outcome for the lower-ranked candidate at the threshold.

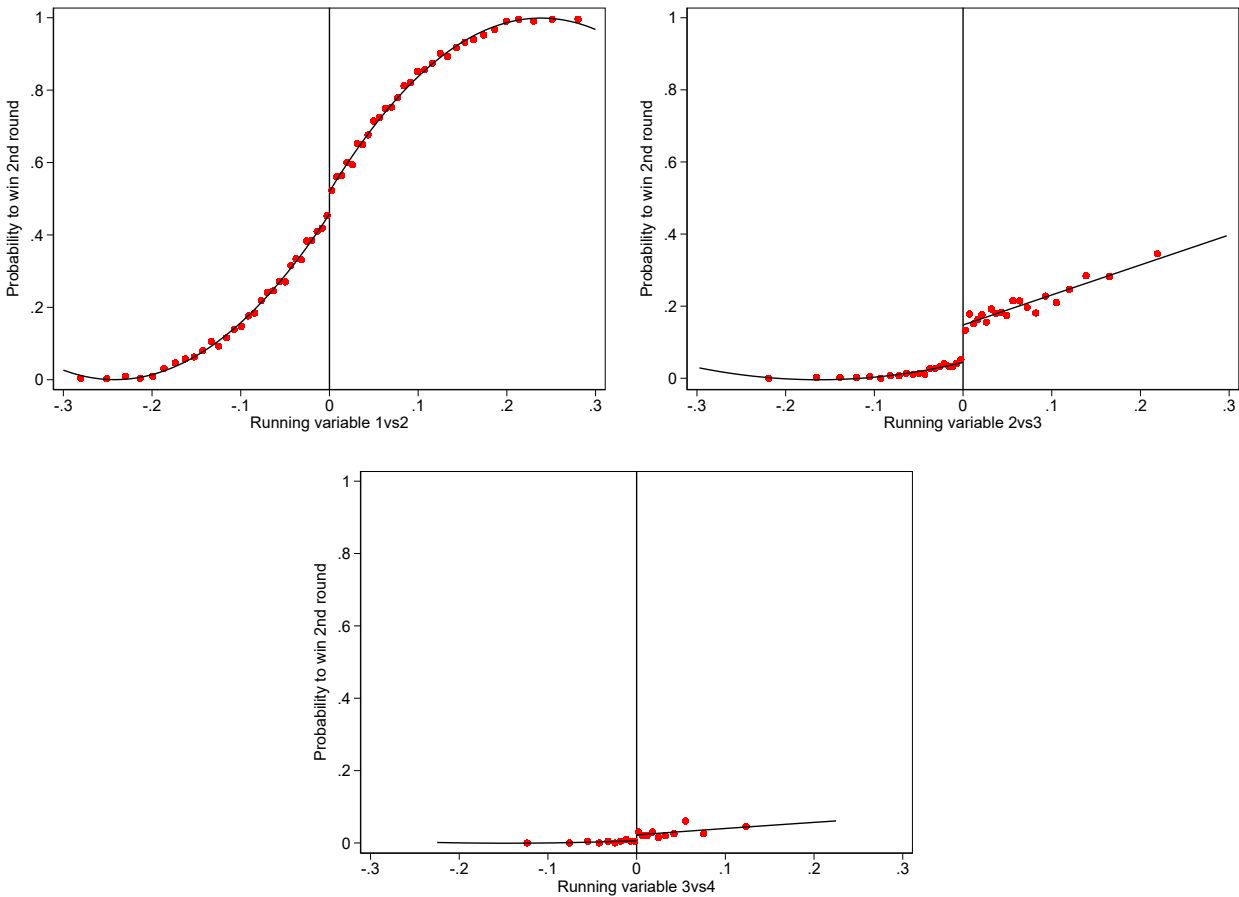
3 Main results

3.1 Impact on winning

We first measure the impact of candidates' first-round rankings on their unconditional likelihood to win the race: an outcome defined whether the candidate participates in the second round or not, and equal to 1 if the candidate wins, and 0 if she stays in the second round and loses or if she drops out between rounds.

Figure 2 plots the likelihood that the higher- and lower-ranked candidates win the election against the running variable, for each of the three discontinuities. We observe a clear jump at the cutoff in the first plot: ranking 1vs2 in the first round has a large and positive impact on winning the second. The jump is even larger for the impact of ranking 2vs3 and it remains visible for the impact of ranking 3vs4, but it is smaller: very few candidates ranked third and fourth in the first round are in a position to win the second round, limiting the scope for impact.

Figure 2: Impact on winning



Notes: Dots represent the local averages of the probability that the candidate wins the second round (vertical axis). Averages are calculated within quantile-spaced bins of the running variable (horizontal axis). The running variable (the vote share difference between the two candidates in the first round) is measured as percentage points. The graph is truncated at 30 percentage points on the horizontal axis to accommodate for outliers. Continuous lines are a quadratic fit.

Table 3 presents the formal estimates of the effects. On average, ranking 1vs2 in the first round increases the likelihood to win the election by 5.8 percentage points (column 1), which represents a 12.7 percent increase compared to the average chance of victory of close second candidates at the threshold. Ranking 2vs3 has an even larger effect, of 9.9 percentage points (column 2): it more than triples the likelihood of victory of close third candidates. The effect of ranking 3vs4 is smaller in magnitude (2.2 percentage points, column 3), but it amounts to a fifth-fold increase compared to the very small fraction of races won by close fourth candidates. The effects of ranking 1vs2 and 2vs3 are significant at the 1 percent level and the effect of ranking 3vs4 is significant at the 10 percent level.

Table 3: Impact on winning

Outcome	(1)	(2)	(3)
	Probability to win 2 nd round		
	1vs2 (sample 1)	2vs3 (sample 2)	3vs4 (sample 3)
Treatment	0.058*** (0.017)	0.099*** (0.013)	0.022* (0.011)
Robust p-value	0.004	0.000	0.052
Observations left	8,027	4,398	1,116
Observations right	8,027	4,398	1,116
Polyn. order	1	1	1
Bandwidth	0.066	0.052	0.033
Mean, left of threshold	0.458	0.048	0.005

Notes: Standard errors, shown in parentheses, are clustered at the district level. We compute statistical significance based on the robust p-value and indicate significance at 1, 5, and 10% with ***, **, and *, respectively. The unit of observation is the candidate. The outcome is a dummy equal to 1 if the candidate wins the second round. The independent variable is a dummy equal to 1 if the candidate placed higher in the first round. We use local polynomial regressions: we fit separate polynomials of order 1 on each side of the threshold and compute the bandwidths according to the MSERD procedure. The mean, left of the threshold gives the value of the outcome for the lower-ranked candidate at the threshold.

To check the robustness of the results to alternative specifications and bandwidth choices, we estimate the treatment impacts using a quadratic specification (Appendix Table C1), the optimal bandwidths computed according to Imbens and Kalyanaraman (2012) (Appendix Table C2), tighter bandwidths obtained by dividing the MSERD bandwidths by 2 (Appendix Table C3), and controlling for baseline variables (Appendix Table C4).¹⁶ All these regressions use Calonico et al. (2014)'s estimation procedure. The estimates obtained using these different specifications are very close in magnitude and they remain statistically significant. Appendix Table C5 shows that our results are also robust to using district-level clusters encompassing observations located on both sides of the threshold, with the conventional estimation procedure. Finally, the effects of ranking 2vs3 are robust to excluding races in which the second candidate is less than 2 percentage points behind the first in the first round, and the effects of ranking 3vs4 to excluding races in which the third candidate is less than 2 percentage points behind the second. This indicates that our estimates are not driven by cases in which several vote share discontinuities overlap (Appendix Tables C6 and C7).

¹⁶Appendix Figure C1 shows the robustness of the effects to a large set of bandwidth choices, using both a polynomial of order 1 and 2.

The effects of rankings on winning the race can result both from an increased likelihood to stay in the second round, as any qualifying candidate can decide to drop out, and from an increased likelihood to win the election conditional on staying in, if voters rally behind higher-ranked candidates. We now use our RDD framework to estimate the effects of rankings on both outcomes and disentangle these two channels. We also estimate the impact on vote shares conditional on staying in the race, to determine which fraction of the electorate drives the impact on winning conditional on staying.

3.2 Impact on staying in the race

Figure 3 plots both the likelihood of staying in the second round (in blue) and the likelihood of winning (in red, replicating Figure 2) against the running variable, for each discontinuity. The quadratic polynomial fit for staying in the second round indicates a large upward jump at the cutoff for ranking first instead of second (1vs2). The jump is even more dramatic for ranking 2vs3 and 3vs4, and in both cases it is larger than the discontinuity observed for winning.

Consistent with the graphical analysis, the estimates reported in Table 4 indicate that ranking 1vs2 increases qualifying candidates' likelihood to run in the second round by 5.6 percentage points (6.0 percent of the mean at the threshold on the left): while 5.9 percent of close second candidates decide not to enter the second round, almost all first place candidates do (column 1). Ranking 2vs3 and 3vs4 have larger effects: they increase running in the second round by 23.5 percentage points (41.1 percent) and 14.6 percentage points (48.7 percent), respectively (columns 3 and 5). All three effects are significant at the 1 percent level.

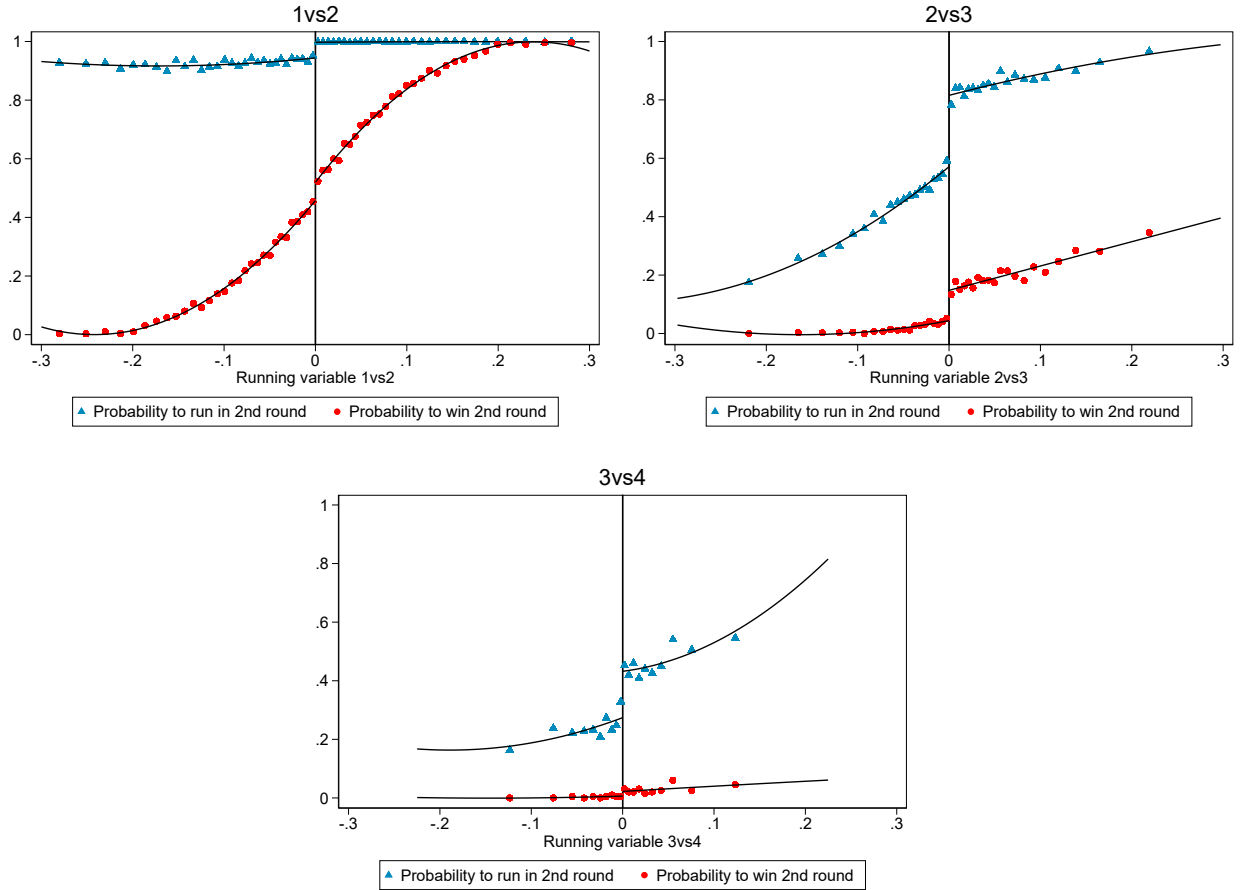
Once again, these effects have a similar magnitude and remain statistically significant when using alternative specifications, bandwidths, or estimation procedures, and when excluding races with overlapping discontinuities (see Appendix C).

The decision to stay in the race or drop out may come from candidates themselves. Staying in the second round requires time and effort, and suffering a defeat can be psychologically costly, so lower-ranked candidates may drop out more often simply because they expect to be more likely to lose. In addition, policy-motivated candidates may be willing to coordinate with each other to prevent the victory of a disliked opponent. However, there is also ample anecdotal evidence that political parties endorsing candidates often have a say in the decision whether or not to stay in the race, including in French elections (Pons and Tricaud, 2018).

The effects of rankings on running in the second round could therefore reflect in part choices that were made by parties. We find some support for this view by comparing the effects on this outcome for candidates with and without party labels. As shown in Appendix Table A5, effects of ranking 2vs3 on these two types of candidates are of similar magnitude, but ranking 1vs2 and

ranking 3vs4 increase the likelihood of staying in by about twice and thrice as much for party candidates as for non-affiliated candidates, respectively. Interestingly, Appendix Table A6 shows that incumbents are less likely to drop out of the race as a result of having a lower rank in the first round, suggesting that they are more able to withstand outside pressure to do so, including from their party.¹⁷ We discuss the role of parties and the motivations underlying their choices at greater length in Sections 4.2 through 4.4.

Figure 3: Impact on running in the 2nd round and winning



Notes: Triangles (resp. circles) represent the local averages of the probability that the candidate runs (resp. wins) in the second round (vertical axis). Other notes as in Figure 2.

¹⁷In Appendix Tables A5 and A6, the samples are restricted to candidates with a specific characteristic (running under a party label or not, and being an incumbent or not). The number of candidates satisfying these criteria varies across races. Therefore, the regressions shown in these tables include different numbers of observations on the two sides of the threshold, unlike our main regressions using exactly two observations per race. In Table A6, we define as incumbent any candidate who won a race in the same département in the last election. The results are robust to restricting the definition to candidates who won the last race in the exact same district (Table A7). We do not show the effects of ranking 3vs4 separately for incumbents and non-incumbents because the number of incumbents among close third and fourth candidates is very low.

Table 4: Impact on running in the 2nd round and winning

Outcome	(1)	(2)	(3)	(4)	(5)	(6)
	1vs2		2vs3		3vs4	
	(sample 1)		(sample 2)		(sample 3)	
	Run	Win	Run	Win	Run	Win
Treatment	0.056*** (0.005)	0.058*** (0.017)	0.235*** (0.018)	0.099*** (0.013)	0.146*** (0.040)	0.022* (0.011)
Robust p-value	0.000	0.004	0.000	0.000	0.003	0.052
Observations left	12,272	8,027	5,347	4,398	1,169	1,116
Observations right	12,272	8,027	5,347	4,398	1,169	1,116
Polyn. order	1	1	1	1	1	1
Bandwidth	0.109	0.066	0.068	0.052	0.036	0.033
Mean, left of threshold	0.941	0.458	0.572	0.048	0.300	0.005

Notes: In columns 1, 3, and 5 (resp. 2, 4, and 6), the outcome is a dummy equal to 1 if the candidate runs (resp. wins) in the second round. Other notes as in Table 3.

3.3 Impact on winning and vote shares conditional on staying in the second round

We now turn to the second channel which might underlie the impacts of rankings on winning: an increased vote share and likelihood of winning *conditional on staying* in the second round, either because active voters rally behind higher-ranked candidates or because these candidates manage to mobilize a larger fraction of their supporters.

Bounds on the conditional effects of rankings

To estimate these effects, we cannot simply run an RDD on elections in which both the lower- and higher-ranked candidates decide to remain in the second round. Indeed, the fact that close candidates qualifying for the second round are similar at the threshold does not imply that close candidates who decide to stay in the second round are similar as well.

To address this selection issue, we follow Anagol and Fujiwara (2016), who adapt Lee (2009)’s bounds method to RDDs. To estimate the impact of ranking 1vs2 on the likelihood of winning conditional on staying in the race, we first decompose it mathematically into observed and unobserved components.

Using the potential outcomes framework, we define R_0 and R_1 as binary variables indicating if the candidate runs in the second round when $T = 0$ (the candidate ranked second in the first

round) and $T = 1$ (the candidate ranked first), respectively. In the data, we only observe $R = TR_1 + (1 - T)R_0$: we know whether the candidate placed first decides to stay in the second round but not whether she would have stayed if placed second, and conversely. Next, we define W_0 and W_1 as binary variables indicating if the candidate wins in the second round conditional on staying in when $T = 0$ and $T = 1$, respectively. We only observe $W = R[TW_1 + (1 - T)W_0]$: when the candidate does not stay in the second round ($R = 0$), she does not win ($W = 0$) and we do not observe whether she would have won if she had stayed in. When she runs in the second round ($R = 1$), we observe whether the candidate ranked first in the first round wins the election but not whether she would have won if ranked second, and conversely.

We further define four types of candidates: “always takers,” who always run in the second round, whether they ranked first or second in the first round; “never takers,” who never run in the second round; “compliers,” who run in the second round if ranked first but not second; and “defiers,” who run in the second round if ranked second but not first. To derive bounds, we assume that there are no defiers: all candidates who ranked second and stay in the second round would also have stayed if ranked first. Under this assumption, we have that $R_1 \geq R_0$ and we can write the impact on the unconditional likelihood of winning (estimated in Section 3.1) as the sum of the impact on running in the second round (estimated in Section 3.2), multiplied by the likelihood that close second-place compliers would win if they entered the race; and the impact on the likelihood of winning conditional on staying (for compliers and always takers), multiplied by the probability of staying of first-place candidates at the threshold:

$$\underbrace{E(W_1R_1 - W_0R_0|x=0)}_{\text{RD effect on } W} = \underbrace{\text{Prob}(R_1 > R_0|x=0)}_{\text{RD effect on } R} \cdot \underbrace{E(W_0|x=0, R_1 > R_0)}_{\text{Unobservable}}$$

$$+ \underbrace{E[W_1 - W_0|x=0, R_1 = 1]}_{\text{Effect on win cond on being always-taker or complier}} \cdot \underbrace{E(R_1|x=0)}_{\lim_{x \downarrow 0} E[R|x]}$$

From this expression, we get:

$$\underbrace{E[W_1 - W_0|x=0, R_1 = 1]}_{\text{Effect on win cond on being always-taker or complier}} = \underbrace{\frac{1}{\lim_{x \downarrow 0} E[R|x]}}_{\text{RD effect on } R} \underbrace{[E(W_1R_1 - W_0R_0|x=0)]}_{\text{RD effect on } W} \quad (2)$$

$$- \underbrace{\text{Prob}(R_1 > R_0|x=0)}_{\text{RD effect on } R} \cdot \underbrace{E(W_0|x=0, R_1 > R_0)}_{\text{Unobservable}}$$

$E(W_0|x=0, R_1 > R_0)$ is the likelihood that close compliers would win if they remained in the race, absent treatment (i.e., when they rank second). By definition, compliers do not stay in when

they rank second (but only when they rank first). This term is thus unobservable. Since all the other terms on the right-hand side of equation [2] are observed, we can derive bounds on the effect on winning conditional on staying in by making assumptions about this term.

To obtain an upper bound, we set $E(W_0|x = 0, R_1 > R_0) = 0$, as the largest possible effect of ranking 1vs2 on winning conditional on running occurs if we assume that close second-ranked compliers would never win the second round if they decided to run. To obtain a lower bound, we replace the unobservable term by the probability that close first-ranked candidates who do choose to stay in the race win the election: 51.8 percent. The choice of this high probability (which is higher than the probability of victory of close second-ranked candidates who actually stay in, 48.6 percent) makes our lower bound conservative.

We use the same method to derive bounds on the impact of ranking 2vs3 and 3vs4 on the likelihood of winning conditional on staying in. The probabilities that close higher-ranked compliers win the election, which we use to replace the unobservable term when computing the lower bounds of both impacts, are 18.3 and 6.1 percent, respectively, which is much higher than the probability of victory of close lower-ranked candidates who do stay in the second round: 8.5 percent (resp. 1.8 percent).

To derive bounds on the effects on second-round vote shares conditional on staying in, we replace the effect on the unconditional likelihood of winning by the effect on unconditional vote shares (an outcome equal to 0 if the candidate drops out between rounds), in equation [2]. This effect corresponds to the jumps observed on Appendix Figure A4, which plots unconditional vote shares of the lower- and higher-ranked candidates against the running variable. In addition, to derive the lower bound 1vs2, we replace the unobservable term by the vote share obtained in the second round by close first-ranked compliers: 48.6 percent. Again, we use the same method for 2vs3 and 3vs4. The second-round vote share of close higher-ranked compliers, which we use to compute their lower bounds, are 36.9 and 23.1 percent respectively.

Finally, we use a bootstrapping procedure to estimate the standard errors of the bounds: we draw a sample from our districts with replacement, compute the lower and upper bounds as indicated above, repeat these two steps 10,000 times, and estimate the empirical standard deviation of both bounds.

Table 5 provides the resulting bounds and bootstrapped standard errors of the effects of ranking 1vs2, 2vs3, and 3vs4 on conditional vote shares and likelihood of winning.

Table 5: Bounds on the impact on winning and vote shares, conditional on staying in

Outcome	(1)	(2)	(3)	(4)	(5)	(6)
	1vs2		2vs3		3vs4	
	(sample 1)		(sample 2)		(sample 3)	
	Win	Vote share	Win	Vote share	Win	Vote share
Upper bound	0.059	0.040	0.122	0.147	0.050	0.100
Boot. std error	(0.024)**	(0.004)***	(0.018)***	(0.013)***	(0.026)*	(0.023)***
Lower bound	0.029	0.013	0.069	0.040	0.030	0.025
Boot. std error	(0.023)	(0.003)***	(0.015)***	(0.005)***	(0.020)	(0.012)**
Mean	0.486	0.473	0.085	0.311	0.018	0.196

Notes: We indicate significance at 1, 5, and 10% with ***, **, and *, respectively. The mean, left of the threshold gives the value of the outcome for the lower-ranked candidate at the threshold, conditional on running in the second round.

As shown in column 1, conditional on running in the second round, ranking 1vs2 in the first round increases the likelihood of winning by 2.9 to 5.9 percentage points (6.0 to 12.1 percent of the mean for candidates ranked second who run in the second round at the threshold). The upper bound is significant at the 5 percent level, but the lower bound is not. The effect on vote share conditional on running is 1.3 to 4.0 percentage points, where both the upper and lower bounds are significant at the 1 percent level (column 2).

Ranking 2vs3 has larger effects, conditional on staying in the race. First, it increases the likelihood of winning by 6.9 to 12.2 percentage points, which roughly corresponds to a doubling of this outcome, compared to the mean at the threshold on the left (column 3). Second, it increases the conditional second-round vote share by 4.0 to 14.7 percentage points (column 4). The upper and lower bounds of both effects are significant at the 1 percent level.

Finally, ranking 3vs4 increases the conditional likelihood of winning by 3.0 to 5.0 percentage points, which corresponds to a three-fold or four-fold increase (column 5). The upper bound is significant at the 10 percent level, but not the lower bound. Ranking 3vs4 also increases the second-round vote share by 2.5 to 10.0 percentage points (12.8 to 51.0 percent), conditional on running, with the upper and lower bounds significant at the 1 and 5 percent level, respectively (column 6).

These results indicate that effects of rankings on winning and on vote shares are very unlikely to be fully explained by their impact on staying in the race. To corroborate this conclusion, we check which value of $E(W_0|x = 0, R_1 > R_0)$, the unobserved likelihood that close lower-ranked compliers would win if they stayed in, would make the effects of rankings conditional on running in the second round null or statistically nonsignificant. Setting conditional effects to 0, in equation

[2], gives us the equality $E(W_0|x = 0, R_1 > R_0) = \frac{E(W_1R_1 - W_0R_0|x=0)}{rob(R_1 > R_0|x=0)}$, where the right-hand side is the ratio of rankings' effects on winning and on running. We report the corresponding point estimates in Appendix Table A8, Panel A.¹⁸ They are well above the probability of winning and the vote share of close *lower*-ranked as well as close *higher*-ranked candidates who actually stay in the race.¹⁹

We then ask which assumptions we would need to make on $E(W_0|x = 0, R_1 > R_0)$ for the conditional effects of rankings to be nonsignificant. Let us define λ as a variable equal to $E(W_0|x = 0, R_1 > R_0)$, so that the numerator on the right-hand side of equation [2] is equal to the impact of rankings on $W - R\lambda$. Then, the conditional effect of rankings, which is on the left-hand side of that equation, is nonsignificant if and only if the impact on $W - R\lambda$ is nonsignificant. Table A8 Panel B reports the lowest values of λ for which this is the case. For most outcomes and discontinuities, these values are again higher than the probability of winning and the vote share of lower- and higher-ranked candidates who stay in the race, close to the threshold.

In sum, one would need to assume that compliers would win with an implausibly high likelihood if they remained in the race and that they would obtain an implausibly high vote share for the conditional effects of rankings to be null or nonsignificant.

Effects on election outcomes outside the threshold

Since our effects are measured at the threshold, for elections in which the higher- and lower-ranked candidates obtained nearly identical vote shares in the first round, one may wonder whether voters also tend to rally higher-ranked candidates in races further away from the discontinuity. The RDD does not allow us to test this, by construction, but we do not see any clear reason to expect the contrary, especially since close races are descriptively similar to other races, as shown in Appendix Tables A2 to A4.

Another possible concern is that the conditional effects we measure on *winning* may be artificially large because they are estimated in close races. To see this, imagine an election in which the top-two candidates in the first round would obtain very close vote shares and finish first and second in the second round, absent effects of rankings. Then, even a modest effect of ranking 1 vs 2

¹⁸The standard errors shown in Table A8, Panel A are estimated using the same bootstrapping procedure as the one used to estimate the standard errors of the bounds, in Table 5. Column 1 shows that the likelihood that close compliers would win if they remained in the race would need to be larger than 1 for the effect of ranking 1 vs 2 on winning conditional on staying in to be null, which is of course impossible. This comes from the fact that ranking 1 vs 2 has a lower impact on running (5.6pp) than on winning (5.8pp). The former effect could therefore not explain the latter even if all close compliers always won if they stayed in the race.

¹⁹The actual probability of winning and vote share of close lower-ranked candidates who stay in the race are 48.6 and 47.3 percent (for ranking 1 vs 2); 8.5 and 31.1 percent (for ranking 2 vs 3); and 1.8 and 19.6 percent (for ranking 3 vs 4). The winning probability and vote share of close higher-ranked candidates who stay in are 51.8 and 48.6 percent; 18.3 and 36.9; and 6.1 and 23.1.

on vote shares would translate into a large effect on winning. In a less close election, a vote share effect of the same magnitude would be much less likely to affect the outcome of the race.

However, it is important to note that the level of closeness in the first round is not a perfect predictor of second-round closeness. Indeed, the set of candidates present on the ballot and the pool of voters participating in each round are different. In addition, the same voter may cast different ballots in the two rounds. It follows that elections which are close in the first round may be less close in the second round, and vice versa. In the full sample, the correlation between closeness in the first and second rounds is far from perfect: the coefficient of correlation, computed using all races with more than one candidate in the second round, is equal to 0.55.

Furthermore, we provide direct evidence that our estimation strategy does not generate artificially large conditional effects on winning. We identify all races in which the distance between the second-round vote shares of the candidates who were first and second in the first round is lower than the average effect of ranking 1vs2, examine how far from the threshold these races are located, and estimate their total fraction. We restrict our attention to races in which both top-two candidates competed in the second round. Appendix Table A9 presents results obtained when considering either the upper or lower bound of the effects of ranking 1vs2 on vote shares. Conservatively, we only discuss the results obtained with the lower bound, equal to 1.3 percentage points (Table 5). In the second round, the vote share of the first candidate was higher than the vote share of the second but by a margin lower than this lower bound in 3.1 percent of the races. As one would expect, this fraction is larger in elections that were close in the first round, but it remains important even for elections located more than 5 percentage points away from the threshold.

We repeat the same exercise for ranking 2vs3 and 3vs4 and find that the higher-ranked candidate finishes the race ahead of the lower-ranked one but with a lead narrower than the lower bound of rankings' effects in 8.5 percent and 10.6 percent of the races, respectively. Once again, these fractions are smaller but remain substantial in races that were not close in the first round.

These results suggest that first-round placements affect the ordering of candidates in the second round and the identity of the winner in many races, including outside of the discontinuity. We do not compute the exact fraction of elections whose outcome changed as a result, since this would require disregarding possible variations in rankings' effects on voter behavior across different types of races. However, we reject the possibility that effects on vote shares measured at the threshold translated into artificially large effects on winning due to the focus on close first-round races.

Types of voters driving rankings' unconditional effects

The effects of rankings on winning and on vote shares, conditional on candidates staying in the race, might be driven by different types of voters. Focusing on the impact of ranking 1vs2, we distinguish voters who cast a ballot for one of the top-two candidates in the first round (type 1);

those who voted for a candidate other than the top two (type 2); and non-voters and people who voted blank or null (type 3). We exploit the fact that rankings are assigned at the district level and that the split of voters between these three groups varies within districts. If the first candidate gains an edge by stealing voters away from the second, then the effects of rankings should be relatively larger in parts of the district in which these two candidates received more votes in the first round. In contrast, if the first candidate attracts a disproportionate number of supporters of candidates other than the top two (including candidates eliminated after the first round), effects should increase with the fraction of such voters. Finally, ranking first instead of second may be consequential because it facilitates the mobilization of non-voters. In that case, the effects of rankings should be larger in areas with a larger fraction of non-voters.

We test these rival predictions using electoral results at the municipality or precinct level, depending on data availability. The average precinct (or municipality) counts 669 citizens, allowing us to study the behavior of relatively small groups of voters. We collected results for a total of 475,501 precincts. We first split all precincts within each district and race into terciles defined based on the fraction of type 1 voters, and compare effects on vote share across terciles. By construction, each race is equally represented in each tercile, facilitating the interpretation of the results: differences between terciles cannot result from differences across races. We then repeat the exercise by defining terciles based on the fraction of type 2 and type 3 voters. Appendix D includes additional details on these tests, and Appendix Table D1 presents the results. The effects of rankings on vote share decrease with the fraction of non-voters (columns 8 to 10) and increase with the fraction of people who voted for the top-two candidates in the first round (columns 2 to 4). In both cases, the effects in the first and third tercile are significantly different from each other. The pattern is less clear for terciles defined based on the fraction of votes received by candidates other than the top two (columns 5 to 7). Overall, the results suggest that the effects of rankings on voter behavior do not solely or even primarily come from the differential mobilization of non-voters, but that candidate placements mainly influence the choice of active voters hesitating between the top two.

4 Mechanisms

Our main results indicate that the effects of first-round rankings on candidates' likelihood to win the second round are driven both by higher-ranked candidates' higher likelihood to stay in the race and by voters rallying behind them. These two effects may be linked: lower-ranked candidates' more frequent dropouts may reflect in part the (accurate) anticipation of being disadvantaged by their rank in the second round. To the extent that candidates adjust their decisions to their expectations about voter behavior, any mechanism affecting voters' response to rankings may help explain

candidates' own response. Therefore, in this section, we discuss the mechanisms underlying the behavior of candidates and voters jointly.

4.1 Impact depending on the difference between candidates' political orientations

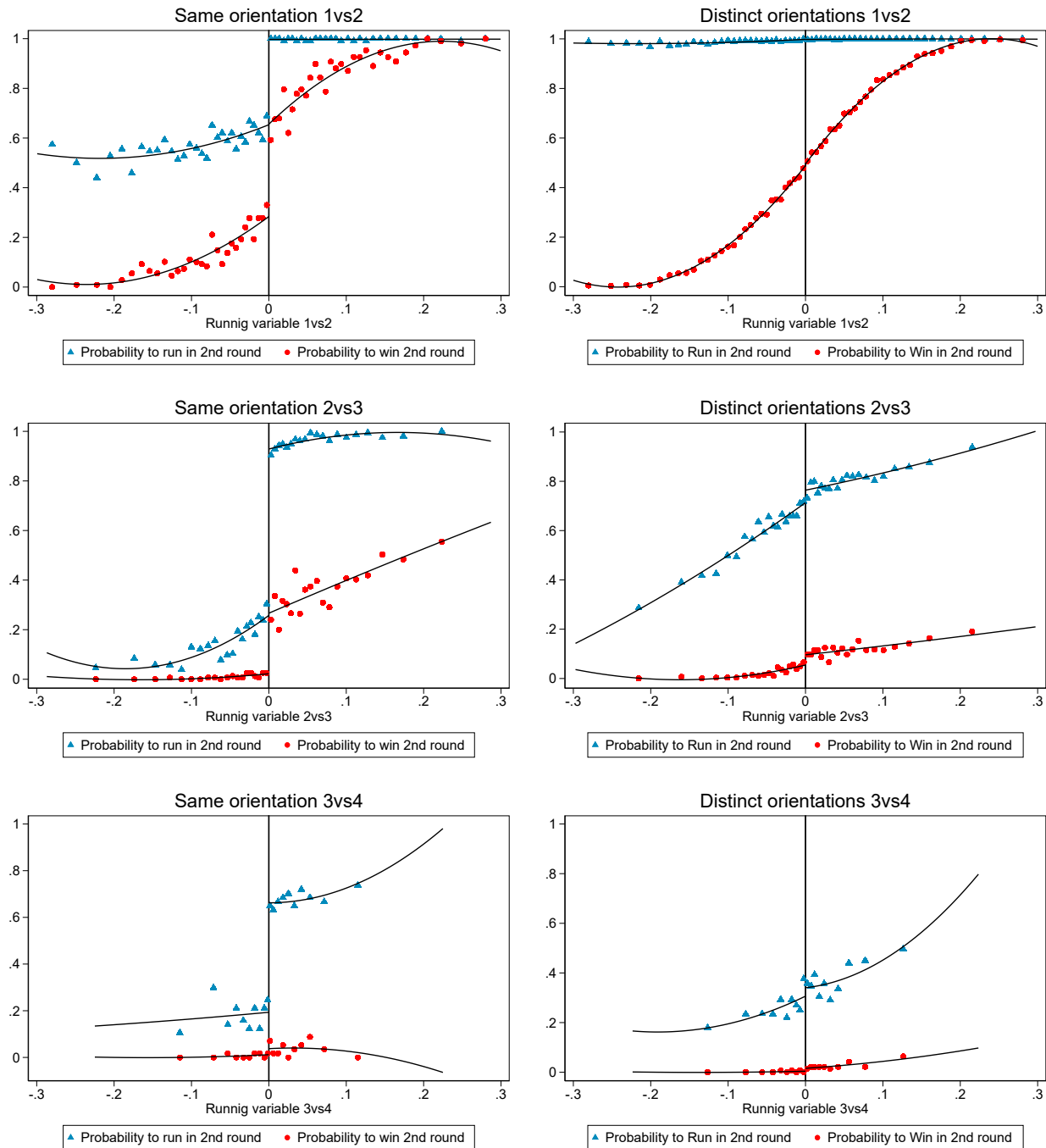
To investigate the mechanisms underlying the large effects of ranking 1vs2, 2vs3, and 3vs4, we first compare rankings' effect size when the higher- and lower-ranked candidates have the same political orientation or, instead, distinct orientations. Indeed, the difference between their political orientations may affect the level of coordination between their camps.

As shown on Figure 4, the effects of rankings on staying in the second round and winning are much larger in races where candidates have the same orientation. When the first and second candidates have the same orientation, ranking 1vs2 increases the likelihood of staying in and winning by 35.2 and 30.5 percentage points (Appendix Table A10, columns 2 and 5). Both estimates are significant at the 1 percent level. Instead, the effects are close to zero and nonsignificant when they have distinct orientations (columns 3 and 6). We find a similar difference for ranking 2vs3: its effects on staying in the race and winning are 62.7 and 22.3 percentage points, significant at the 1 percent level, when the second and third candidates have the same orientation. When they have distinct orientations, the effects remain significant at the 5 percent level but decrease to 5.2 and 4.1 percentage points (Appendix Table A11). Finally, when the third and fourth candidates have the same orientation, the effect of ranking 3vs4 on staying in is 40.1 percentage points and significant at the 1 percent level, and the effect on winning 4.0 percentage points and nonsignificant. Both point estimates are lower and nonsignificant when they have distinct orientations (Appendix Table A12).

A possible interpretation is that the effects of rankings are driven by strategic coordination. Shared political orientation makes coordination more desirable: it increases the value that the two candidates, their parties, and their supporters place on defeating ideologically distant candidates. When two candidates have the same orientation, rankings may be used as a coordination device both by strategic voters, to coordinate on the same candidate, and by parties, to decide which candidate should drop out of the race.

However, other interpretations are possible. Shared orientation also makes it less costly for voters to rally behind the higher-ranked candidate, whatever their underlying motive is. Similarly, ideological proximity and the habit to govern together make it easier for sister parties to reach dropout agreements (Pons and Tricaud, 2018). In doing so, their objective may not necessarily be to prevent the victory of a third candidate.

Figure 4: Impact of rankings depending on the difference between candidates' political orientations



Notes: The three graphs on the left-hand side (resp. right-hand side) consider only races where the two candidates have the same orientation (resp. distinct orientations). Other notes as in Figure 3.

In the next two sections, we focus on the impact of ranking 1vs2 and consider separately races in which a third candidate qualifies or fails to qualify, to disentangle the role of coordination from

other possible mechanisms.

4.2 The role of coordination

To investigate the extent to which coordination explains the effects of ranking 1vs2, we focus on elections in which three or more candidates qualify for the second round. In these elections, the top-two candidates and their supporters might want to coordinate against lower-ranked candidates and use rankings to do so. We conduct two distinct tests.

First, the top-two candidates and their supporters should be more willing to coordinate when the candidate who came in third is stronger and more likely to challenge the victory of one of the top two. If coordination against the third candidate drives our results, we should thus expect the second candidate to be more likely to drop out of the race and voters to be more likely to rally behind the first when the third candidate's vote share is closer to the second's. Consistent with this prediction, Table 6 shows that the effects of ranking 1vs2 on entering the second round and winning are larger when the gap in first-round vote shares between the second and third candidates is below 5 percentage points than in the full sample (columns 1 to 4). Effect size further increases when the gap is narrower than 2.5 percentage points (columns 5 and 6). We observe the same patterns when we restrict the sample to races in which the top-two candidates have the same orientation, making incentives to coordinate against the third candidate particularly strong (see Appendix Table A13).

Second, the top-two candidates and their supporters should be more likely to coordinate together (as opposed to coordinating with other candidates and groups of voters) when their ideological distance is relatively lower than their distance with the third candidate. To the extent that our results are driven by coordination, we should expect the effects to be larger when the third candidate has a different orientation than both top two than when she has the same orientation, in races where the top-two candidates have the same political orientation. The results shown in Appendix Table A14 are consistent with this prediction: ranking 1vs2 increases the likelihood of staying in the race by thrice as much when the third candidate has a different orientation than when she has the same orientation (columns 3 and 5), and its effects on the likelihood of winning are only present in the former case (columns 4 and 6). When the top-two candidates have distinct orientations, we should expect larger effects on staying in and winning when the third candidate is on the right or on the left of both of them, on the left-right axis, than when she has the same orientation as one of them or is located in between. Support for this prediction is weaker as none of these effects is statistically significant (Appendix Table A15).

Table 6: Impact of ranking 1vs2 depending on the strength of the 3rd

Outcome	(1)	(2)	(3) 1vs2 - 3 rd qualifies Gap 2 nd -3 rd <5%		(5)	(6)
	Full				Gap 2 nd -3 rd <2.5%	
	Run	Win	Run	Win	Run	Win
Treatment	0.096*** (0.010)	0.053 (0.025)	0.130*** (0.017)	0.099* (0.040)	0.185*** (0.030)	0.150** (0.046)
Robust p-value	0.000	0.119	0.000	0.062	0.000	0.011
Observations left	4,464	3,550	1,951	1,497	808	1,074
Observations right	4,464	3,550	1,951	1,497	808	1,074
Polyn. order	1	1	1	1	1	1
Bandwidth	0.086	0.065	0.090	0.066	0.064	0.089
Mean, left of threshold	0.899	0.446	0.864	0.393	0.808	0.352

Notes: The sample only includes the races where the third candidate qualifies for the second round. In columns 3 and 4 (resp. 5 and 6), the sample is further restricted to elections where the vote share difference between the candidates ranked second and third in the first round is lower than 5 (resp. 2.5) percentage points. In columns 1, 3, and 5 (resp. 2, 4, and 6), the outcome is a dummy equal to 1 if the candidate runs (resp. wins) in the second round. Other notes as in Table 3.

Overall, the heterogeneity of effect size in races where three or more candidates qualify for the second round supports the interpretation that strategic coordination by candidates and voters explains at least part of the effects of ranking 1vs2. To test whether it can explain them entirely, we now turn to races in which the third candidate does *not* qualify for the second round (races of sample 1 where the third candidate received a vote share below the qualification threshold in the first round).

4.3 Party norms and the bandwagon effect

When the third candidate does not qualify for the second round, there is not the need – or even the possibility – for the top-two candidates and their voters to coordinate against a lower-ranked candidate. Nonetheless, as shown in Table 7, ranking 1vs2 increases candidates' likelihood of winning by 5.9 percentage points overall (column 4), which is significant at the 5 percent level and almost exactly the same size as the point estimate in the full sample (Table 3). This effect is present but slightly smaller and at the limit of statistical significance when the first and second candidates have distinct orientations (p-value 0.103), and it is much larger (16.4 percentage points) and significant at the 5 percent level when their orientation is the same (columns 5 and 6).

Table 7: Impact of ranking 1vs2 in races where the 3rd does not qualify

	(1)	(2)	(3)	(4)	(5)	(6)
Outcome	1vs2 - 3 rd does not qualify					
	Probability to run 1vs2			Probability to win 1vs2		
	Full	Same	Distinct	Full	Same	Distinct
Treatment	0.018*** (0.004)	0.186*** (0.031)	-0.000 (0.000)	0.059** (0.021)	0.164** (0.055)	0.049 (0.022)
Robust p-value	0.000	0.000	0.270	0.031	0.022	0.103
Observations left	7,554	767	3,133	5,130	652	4,791
Observations right	7,554	767	3,133	5,130	652	4,791
Polyn. order	1	1	1	1	1	1
Bandwidth	0.122	0.127	0.051	0.078	0.106	0.081
Mean, left of threshold	0.982	0.814	1.000	0.471	0.418	0.476

Notes: The sample only includes the races where the third candidate does not qualify for the second round. In columns 2 and 5 (resp. 3 and 6) the sample is further restricted to elections where the two candidates have the same orientation (resp. distinct orientations). In columns 1, 2, and 3 (resp. 4, 5, and 6), the outcome is a dummy equal to 1 if the candidate runs (resp. wins) in the second round. Other notes as in Table 3.

Party norms

In this configuration too, effects on winning are partly driven by effects on running in the second round. When the top-two candidates have distinct orientations and the third does not qualify, none of them drops out between rounds, at the threshold, and the effect on running is null (column 3). In contrast, when the top-two candidates have the same orientation, the first candidate almost always stays in the second round but the second drops out in 18.6 percent of the races at the threshold, a difference significant at the 1 percent level (column 2).

This result is puzzling: absent a third candidate, a dropout by one of the top-two candidates means the race will be uncontested and won with certainty by the only remaining candidate. In this case, the benefit of dropping out is far from obvious, and the cost seems high. As shown in Appendix Table A16, dropouts of the second candidate are rare when the top-two candidates are on the right, but very frequent when they are on the left. In that case, they often stem from agreements between left-wing parties, which contend that they want to follow the first-round choice of their supporters instead of allowing the supporters of candidates eliminated after the first round to decide of the outcome of the race between the two remaining candidates. Complementary explanations for dropouts when the top-two candidates have the same orientation and the third is absent include avoiding a campaign where negative arguments could hurt the reputation of both competitors, and

enforcing regional or national agreements which allocate a certain number of seats to each of the allied parties. Indeed, in areas where they are enforced, dropout agreements ensure that roughly half of the races are won by the candidates of either of the competing parties, at the threshold.

Bandwagon effect

To test whether voters respond to the first-round placements of the top-two candidates as well, in races where the third candidate does not qualify for the second round, Table 8 derives bounds for the effects on winning and on vote share conditional on staying in. We find that ranking 1vs2 increases candidates' likelihood of winning conditional on remaining by 4.9 to 5.9 percentage points overall (column 1). The lower and upper bounds are significant at the 10 and 5 percent levels, respectively. In these races, the behavior of voters moved by rankings cannot be explained by the desire to coordinate against lower-ranked candidates (who, again, are not present, as they did not qualify).

The most likely interpretation is that these voters get on the bandwagon because they derive intrinsic value from siding with the winner of the first round, or that they desire to vote for the winner of the race (Callander, 2007, 2008) and anticipate that the candidate ranked first in the first round has increased chances of also winning the second round. To see where this belief might originate, note that any voter who rallies the first candidate based on the expectation that she is more likely to win the race contributes to fulfill this expectation. Therefore, this expectation may be part of an equilibrium in which voters desiring to be on the winning side use first-round rankings as a device to rally the same candidate. Voters may also arrive at that expectation in another way, for instance by drawing inferences from the outcomes of previous races. Whatever their exact reasoning is, voters who rally the candidate ranked first in the first round because they desire to vote for the winner of the election are behaving rationally, even if that candidate's vote share margin in the first round was close to null and they know it. Indeed, as our paper shows, that candidate is more likely to win even such races.

Table 8: Bounds on the impact of ranking 1 vs 2, conditional on running, in races where the 3rd does not qualify

	(1)	(2)	(3)	(4)	(5)	(6)
Outcome	1 vs 2 - 3 rd does not qualify					
	Win			Vote share		
	Full	Same	Distinct	Full	Same	Distinct
Upper bound	0.059	0.164	0.049	0.019	0.186	0.002
Boot. std error	(0.029)**	(0.091)*	(0.029)*	(0.004)***	(0.035)***	(0.003)
Lower bound	0.049	0.056	0.049	0.010	0.075	0.002
Boot. std error	(0.028)*	(0.076)	(0.029)*	(0.003)***	(0.015)***	(0.003)
Mean	0.480	0.526	0.476	0.500	0.500	0.499

Notes: We indicate significance at 1, 5, and 10% with ***, **, and *, respectively. The mean, left of the threshold gives the value of the outcome for the lower-ranked candidate at the threshold, conditional on running in the second round. In columns 2 and 5 (resp. 3 and 6), the sample is restricted to elections where the two candidates have the same orientation (resp. distinct orientations).

The fraction of voters whose choice of candidate is based on these psychological motives is relatively small on average: the effect on vote share is between 1.0 and 1.9 percentage points (column 4), where both the lower and upper bounds are significant at 1 percent. Yet, this fraction is sufficient to sway a larger fraction of close elections.

We observe an effect on winning conditional on staying in the race not only when the top-two candidates have the same orientation (column 2), but also when they have distinct orientations (column 3). This result indicates that the bandwagon effect impacts electoral outcomes in a substantial number of races, even when the ideological distance between candidates is important. However, the lower and upper bounds on the effects on vote share are small and nonsignificant in that case (column 6). In contrast, the conditional effect on vote share is very large when both candidates have the same orientation, with lower and upper bounds of 7.5 and 18.6 percentage points, both significant at the 1 percent level (column 5).

Social learning

Another (complementary) interpretation for the effect of ranking first on voter behavior is that preferences include a common value component and voters update their beliefs on candidate quality based on the choices of others. Knight and Schiff (2010) and Deltas et al. (2016) have shown in the context of U.S. presidential primaries that voters learn from past vote shares and adjust their choice accordingly. So, it may seem natural to assume that voters also learn from past candidate rankings.

We find this interpretation less plausible, for two reasons. First, while the bandwagon mechanism can be at play even with perfectly informed and rational voters, as discussed above, the social learning interpretation requires myopic voters. Indeed, our effects are estimated at the threshold, where the first and second candidates received nearly identical vote shares in the first round and their placements do not contain any additional information on the private signals of other voters. For social learning to explain our effects, we would thus need to assume that voters lack information on vote shares, leading them to use rankings as a heuristic and to wrongly believe that the first candidate received substantially more votes. But information on vote shares is readily available in the week separating the two rounds: as shown in Section 4.5 below, the media tend not to stop at simply reporting candidate rankings, but also provide detailed information on race closeness. It is of course possible that voters fail to pay attention to this information but, if anything, one could expect it to be less likely to go unnoticed when the race is very close.

Second, to assess the actual explanatory power of the social learning interpretation, we test the following prediction. If voters use candidates' placements to learn about their quality, obtaining a higher rank should have lower effects for candidates whom voters already know and on whom their priors should therefore be more precise, including incumbents and candidates who competed in the previous election. In Appendix Table A17, we compare the effects of ranking 1vs2 for candidates present versus absent in the last election. The magnitude of the effect on winning and of its bounds, conditional on staying in, is similar for both types of candidates and, if anything, slightly larger for the former. As shown in Appendix Table A19, effects on winning and their bounds are also very similar for incumbents and non-incumbent candidates. We obtain qualitatively identical results for the heterogeneous effect of ranking 2vs3 (columns 4 to 6 in Tables A17 and A19) and 3vs4 (columns 7 to 9 in Table A19).²⁰ Because these tests are indirect, they do not suffice to rule out the possibility that social learning contributes to the effects of rankings, but they do suggest that its explanatory power is limited.

²⁰The number of candidates of a certain type varies across races. Therefore, the regressions shown in Tables A17 and A19 include different numbers of observations on the two sides of the threshold. In Table A17, we consider that the candidate competed in the previous election if she competed in any race in the département. In Table A19, we define as incumbent any candidate who won a race in the same département in the last election. The results are robust to restricting these definitions to candidates who competed in the last race in the exact same district or candidates who won in the same exact same district (Tables A18 and A20). We do not show the effects of ranking 3vs4 separately for incumbents and non-incumbents (in Tables A19 and A20), because the number of incumbents among close third and fourth candidates is very low. We do not show the effects of ranking 3vs4 separately for candidates who competed in the last race in the exact same district versus others (in Table A18) because the number of non-missing observations is too low and the standard errors of the bounds cannot be computed.

4.4 Alternative mechanisms

So far, we have attributed the effects of rankings on a candidate's likelihood of winning and on their vote shares conditional on running to choices made solely by voters. We now discuss three alternative factors which could also explain these effects.

Campaign expenditures and contributions

First, we examine whether these effects might be driven by campaign choices made by the higher- and lower-ranked candidates between the first and second rounds.²¹

We collected systematic data on candidates' campaign expenditures for all elections since 1992, the date in which the French National Commission on Campaign Accounts and Political Financing (CNCCFP) started recording them systematically.²² We do not know the amount of money spent by candidates between rounds separately, only the total amounts of money they received and spent over the entire course of the campaign. We measure the impact of rankings on these two outcomes divided by the number of registered citizens in the district. The effects, shown in Table 9, are small overall and nonsignificant, even though higher-ranked candidates are more likely to run in the second round. The lack of systematic impact of rankings on total campaign expenditures and contributions is perhaps not very surprising, since the first and second rounds are separated by only one week. We conclude that candidates' rankings do not affect their campaign efforts.

²¹Denter and Sisak (2015) show that campaign spending may strategically respond to past results, for instance from polls, and there is comprehensive evidence that higher expenditures and advertising can increase vote shares (e.g., da Silveira and de Mello, 2011; Spenkuch and Toniatti, 2018; Bekkouche and Cage, 2019).

²²All data come from the CNCCFP. Data on campaign expenditures for recent years are available in a digital format on the Commission's website (<http://www.cnccfp.fr/index.php?art=584>). We collected and digitized the data for the 1992, 1994, 1998, 2001, and 2004 local elections. Data on campaign expenditures for the 1993, 1997, and 2002 parliamentary elections were collected and digitized by Fauvelle-Aymar and François (2005) and Foucault and François (2005), and shared with us by these authors. Data are only available for cantons above the 9,000 inhabitants threshold, in local elections. In the 2012 and 2017 parliamentary elections and in the 2015 local elections, data are missing for candidates who received less than 1 percent of the candidate votes in the first round and did not receive any donation (as they were not required to submit their campaign accounts), but they are always available for all candidates qualifying for the second round.

Table 9: Impact on campaign expenditures and contributions

Outcome	(1)	(2)	(3)	(4)	(5)	(6)
	1vs2		2vs3		3vs4	
	Expend.	Contrib.	Expend.	Contrib.	Expend.	Contrib.
Treatment	-0.009	-0.015	0.033	0.033	0.017	0.007
	(0.012)	(0.014)	(0.022)	(0.023)	(0.079)	(0.082)
Robust p-value	0.367	0.210	0.128	0.149	0.782	0.935
Observations left	5,163	4,928	1,546	1,573	92	92
Observations right	5,163	4,928	1,546	1,573	92	92
Polyn. order	1	1	1	1	1	1
Bandwidth	0.085	0.081	0.053	0.055	0.018	0.018
Mean, left of threshold	0.583	0.611	0.432	0.446	0.353	0.364

Notes: The sample only includes the elections for which campaign expenditure data are available. In columns 1 and 2 (resp. 3 and 4, and 5 and 6), we further restrict the analysis to races where campaign expenditures and contributions are available both for the candidate ranked first and the candidate ranked second (resp. second and third, and third and forth). In columns 1, 3, and 5 (resp. 2, 4, and 6), the outcome is the candidate's total expenditures (resp. contributions) spent (resp. received) during the electoral campaign. Other notes as in Table 3.

Press analysis

Second, voters may rally behind higher-ranked candidates as a result of larger or more positive coverage of these candidates by the media. Journalists may cover higher-ranked candidates more of their own volition, or in response to these candidates putting more effort to gain visibility. To test for differential media coverage, we used Factiva's research tool and collected all newspaper articles released between the two rounds of all local and parliamentary elections since 1997 and covering the elections. In total, these elections account for 51.2 percent of our sample.²³ We obtain a total of 76,679 articles (more information on the selection of articles and the methods used to derive the results described below in Appendix E).

We first measure the impact of ranking 1vs2, 2vs3, or 3vs4 on three different outcomes: the total number of articles mentioning the candidate's first and last names at least once; the total number of mentions (counting twice the articles in which the candidate is mentioned twice, thrice the articles in which they are mentioned thrice, etc.); and the total number of articles mentioning the candidate in the title. As shown in Table 10, ranking 1vs2, 2vs3, or 3vs4 does not have any significant effect on any of these outcomes. Appendix Figure E1 corroborates this conclusion. As one would expect, the number of articles mentioning a candidate increases with the running

²³Press articles are only available on Factiva from the end of the 1990s onward. The number of newspapers covered and the total number of articles are much lower in the earlier years. Since a disproportionate fraction of races of sample 3, used to measure the impact of ranking 3vs4, come from these earlier elections, the average number of citations for these candidates is very low.

variable, meaning that candidates with higher vote shares are cited more often. However, this outcome does not jump at any of the three discontinuities.

We complement this quantitative analysis with a more qualitative approach, to check if there is any difference between the actual content of newspaper articles on higher- and lower-ranked candidates. We read and annotated manually the full text of a random selection of 517 articles covering races with a vote share difference of less than 2 percentage points between the two candidates of the discontinuity, and citing at least one of them. The results of this analysis are presented in Appendix Table E2, column 1. We find that newspaper articles are equally likely to be centered on the higher- and lower-ranked candidates and to include quotes or report the vote share of either candidate. Furthermore, the fraction of articles mentioning support of a public figure for the candidates, positive expectations by the candidates about their likelihood to win the election, or positive expectations by someone else were very similar for both candidates. We obtain similar results when focusing on articles covering even closer races (with a first-round vote share difference of less than one percentage point) and those covering the top-two candidates (columns 2 and 3).

In addition to giving equal coverage to the higher- and lower-ranked candidates, we find that newspaper articles citing first-round results generally report candidates' vote shares, not just their ranking. Less than 10 percent of articles indicate rankings alone. Out of all articles reporting electoral results, 80 percent also (or only) mention the vote shares of candidates, the gap between them, or the closeness of the election. This proportion is even higher in particularly close races (83 percent) and when focusing on the top-two candidates (82 percent).

In sum, newspaper articles do not cover candidates with a higher ranking more often, or more favorably, and they rarely draw readers' attention to their placement, making media coverage unlikely to explain the effects of rankings on vote shares and winning, conditional on staying in the race.

We conclude that rankings' effects on electoral outcomes are driven neither by differential campaign expenditures, nor by differential press coverage, nor by dropout decisions of other candidates.

Table 10: Impact on press coverage

Outcome	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	1vs2			2vs3			3vs4		
	Articles	Mentions	Titles	Articles	Mentions	Titles	Articles	Mentions	Titles
Treatment	-0.155 (0.558)	-0.013 (0.995)	0.035 (0.048)	0.055 (0.593)	0.184 (1.009)	0.048 (0.035)	0.085 (0.138)	0.111 (0.263)	-0.009 (0.008)
R. p-value	0.793	0.981	0.472	0.925	0.921	0.280	0.620	0.669	0.266
Obs left	5,136	5,182	6,398	1,371	1,453	1,462	131	126	280
Obs right	5,136	5,182	6,398	1,371	1,453	1,462	131	126	280
Polyn.	1	1	1	1	1	1	1	1	1
Bdw	0.085	0.086	0.113	0.043	0.046	0.046	0.019	0.019	0.130
Mean	4.449	7.296	0.234	2.037	3.143	0.041	0.108	0.186	0.009

Notes: The sample only includes the elections for which newspaper articles are available. In columns 1, 4, and 7, the outcome is the total number of articles mentioning the candidate at least once. In columns 2, 5, and 8, the outcome is the total number of mentions. In columns 3, 6, and 9, the outcome is the total number of articles mentioning the candidate in the title. Other notes as in Table 3.

Dropout decisions of lower-ranked candidates

Third, we check whether the effects might be driven by choices made by a third political actor, different from voters and the higher- and lower-ranked candidates: other candidates qualifying for the second round. The decision of these candidates to stay in the race or drop out between rounds might depend on the rankings of top candidates and it might in turn affect the higher- and lower-ranked candidates' vote shares and likelihood of winning. For instance, if third candidates are more likely to drop out of the race when the candidate ideologically closest to them among the top two is ranked first than when she is ranked second, then that candidate should receive more votes by the third candidate's supporters when ranked first.

To examine this mechanism in a systematic way, we define two outcomes at the candidate level: a dummy equal to 1 if a lower-ranked candidate of the same orientation is present in the second round, and the number of such candidates. Both outcomes directly reflect dropout decisions of lower-ranked candidates. For ranking 1vs2 (resp. 2vs3 and 3vs4), we consider candidates ranked third and below (resp. fourth and below, and fifth and below).

The effects are shown in Appendix Tables A21, A22, and A23: ranking 1vs2, 2vs3, or 3vs4 does not have any significant effect on the presence of lower-ranked candidates of the same orientation in the second round (columns 1 and 3). We test the robustness of this result in the subsample of races in which such effects are most likely to occur: races where the two candidates of interest have distinct political orientations and where at least one lower-ranked candidate qualifies (columns 2 and 4 of each table). Again, we do not find any significant impact.

5 External validity

5.1 Within France

To assess the external validity of our findings, we first check whether the effects of ranking 1vs2, 2vs3, and 3vs4 are specific to certain contexts within French elections. We do not find any evidence that this might be the case: rankings matter in both local and parliamentary elections, their effects are as large in recent elections as in previous decades, and they affect the likelihood to stay in the second round and win it for candidates both on the left and on the right. All tables and figures presenting these results are in Appendix F.

Local and parliamentary elections differ on many dimensions. Parliamentary elections are much more salient: their average district size is more than five times as large, they feature more candidates (9.1 against 5.5, on average, in the first round), and they are characterized by higher turnout, as shown in Appendix Table F1. The latter difference implies that voters participating in local elections are likely to be more interested in and informed about politics on average. Yet, as shown in Appendix Tables F2 and F3, the effects of rankings on staying in the race are of very similar size in both types of elections. Effects on winning are larger in parliamentary elections, for ranking 1vs2, and in local elections, for ranking 3vs4, but they are similar in both types of elections for ranking 2vs3.

Our sample spans nearly 60 years, starting with the 1958 parliamentary elections. Changes in the French party system have been many since then, including the slow demise of the Communist Party, the creation of the far-right Front National and of the Green Party in the 1970s and 1980s, and the consolidation of these two parties in the last decades. The overwhelming victory of candidates affiliated with Emmanuel Macron’s new centrist party En Marche at the 2017 parliamentary elections is the latest significant change in this political landscape. Appendix Figure F1 shows the impact of ranking 1vs2 and 2vs3 on winning in four distinct time periods, each including approximately 25 percent of the elections in the sample.²⁴ Despite all the aforementioned changes, rankings’ effects have been remarkably stable over time.

Finally, we check whether the effects vary across political orientations. We measure effects on running and winning separately for candidates on the left and right, which collectively account for 81.6, 76.8, and 62.6 percent of the observations used to measure the effects of ranking 1vs2, 2vs3, and 3vs4. As shown in Appendix Tables F4 and F5, effects in these subsamples lose a bit of statistical significance, but, overall, they are substantial for both orientations. Effects on winning are larger for left-wing candidates, when ranking 1vs2, for right-wing candidates, when ranking

²⁴We cannot show the same split by time period for the impact of ranking 3vs4 because the sample size is too small for this discontinuity, and most races in which four candidates qualify for the second round occurred in the early elections in the sample, when the qualification threshold was relatively lower.

3vs4, and of similar magnitude for candidates of both orientations, when ranking 2vs3.

5.2 Beyond France

We now assess the validity of our results beyond France, by turning to the analysis of two-round elections in other countries.

Data

We systematically collected data for all parliamentary elections around the world using a two-round plurality rule, in which both rounds are conducted with the same voting population, and the set of candidates present in the second round are a subset of those present in the first. We identified these elections using the National Elections across Democracy and Autocracy (NELDA) database, the Constituency-Level Elections Archive (CLEA), and the ACE Electoral Knowledge Network.

We then collected all available election results at the constituency level, using the following sources: CLEA, Dr. Adam Carr's Election Archive, Dr. David Lublin's Election Passport dataset, and electoral commissions websites (see Appendix G1 for a detailed list of all the sources used to identify and collect two-round electoral results). We recorded district identifiers, candidates' names and parties, and, for both rounds, the number of registered citizens, voters, null and blank votes, total candidate votes, and votes obtained by each candidate.

Of all countries which have ever used a two-round plurality voting rule to elect their upper or lower branch of parliament, we found results for 72 elections in 19 countries, corresponding to a total of 4,075 races with two rounds (see Table G1.1 for the breakdown by country, election type, and year). Our sample covers elections from 1850 to 2018 in nearly all regions of the world: the Caribbean (Haiti), Western Africa (Mali, Mauritania), Eastern Africa (Comoros), Eastern Europe (Czech Republic, Hungary, Poland), Northern Europe (Norway, Lithuania), Southern Europe (Albania, Croatia), Western Europe (Belgium, Germany, Netherlands, Switzerland), Western Asia (Bahrain, Georgia), and Oceania (Kiribati, New Zealand).

More than two candidates qualified for the second round in 19.9 percent of the races, enabling us to measure both the impact of ranking 1vs2 and 2vs3. Instead, the number of races in which more than three candidates qualified is too small to estimate the impact of ranking 3vs4 in this sample. We outline the specific electoral rule used in each country in Appendix Table G1.2 and report descriptive statistics in Appendix Tables G2.1, G2.2, and G2.3 as well as placebo tests, general balance tests, and McCrary tests in Appendix Tables G3.1, G3.2; Figure G3.1 and Table G3.3; and Figure G3.1, respectively.

For all its merits, this sample has two main limitations, explaining why we do not use it for our main analysis but only to assess the external validity of our results. First, it has much fewer

observations than our sample of French elections (4,075 against 22,557, or a ratio of about 1 to 5), which decreases statistical precision and limits our ability to conduct heterogeneity analysis.²⁵ Second, candidates' political party is either unknown or impossible to locate on the left-right axis for 32.1% of candidates, resulting in 64.6% of races in which one or several candidates cannot be located on the left-right axis. This further prevents us from exploring the mechanisms underlying rankings' effects as conclusively as in the French data. We only use political party information for the placebo checks reported in Appendix G3, for the subset of candidates for which this information is available.

Results

Figure 5 replicates Figure 3: we plot second round outcomes against the running variable for ranking 1vs2 and 2vs3. We observe large upward jumps in the likelihood of winning at both thresholds, and smaller jumps in the likelihood of staying in the race. Consistent with the graphical analysis, the estimates reported in Table 11 indicate that ranking 1vs2 and 2v3 have positive but not significant effects on candidates' likelihood to run in the second round (1.0 and 8.2 percentage points, respectively). The effects on winning are larger and significant at the 5 or 10 percent level: 7.6 percentage points for ranking 1vs2 and 15.8 for ranking 2vs3. These results are robust to using alternative specifications, bandwidths, and estimation procedures, as well as excluding races with inconsistent results (see Appendix G6). Out of the seven countries for which sufficiently large samples make independent analysis possible, effects on winning are large and statistically significant in three countries, despite limited statistical power: the Czech Republic, Norway, and Poland (Figure G7.1 and Table G7.1). Interestingly, the overall effects on running are lower than in French elections but the effects on winning larger, suggesting that voter choice contributes relatively more to rankings' effects in other countries and candidate choice relatively less.

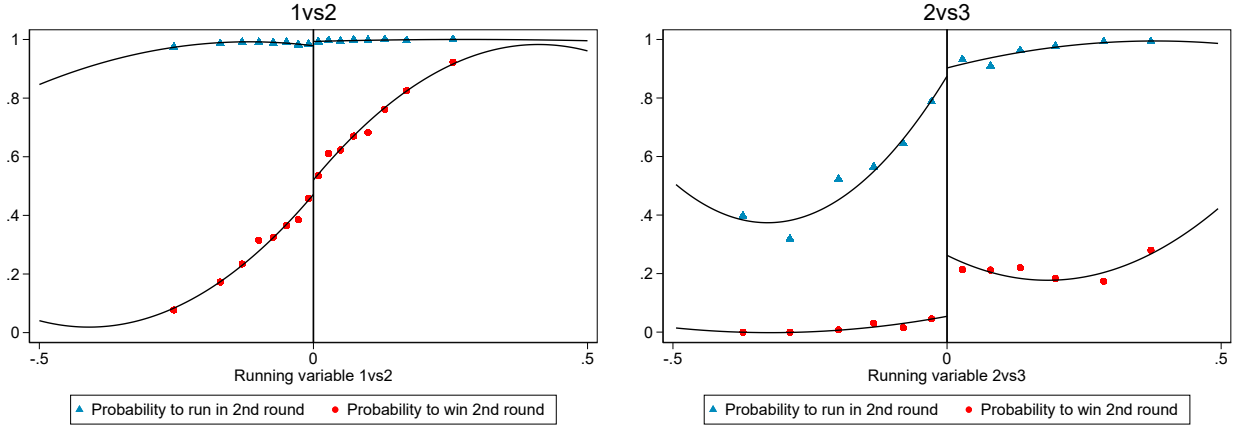
Furthermore, we replicate some of the tests shown in Section 4 to investigate the role played by different mechanisms. To study strategic coordination, we focus again on races in which three or more candidates qualify for the second round. As in Table 6, we observe that the effects of ranking 1vs2 on entering the second round and winning are larger when the gap in first-round vote shares between the second and third candidates is below 5 or 2.5 percentage points (Appendix Table G4.1).

We then turn to races in which the third candidate does not qualify for the second round. As shown in Appendix Table G4.2, ranking 1vs2 increases candidates' likelihood of winning by 7.3 percentage points in these races, which is significant at the 5 percent level and close to the point

²⁵The difference in sample size comes from the fact that parliamentary elections in other countries include much fewer constituencies (and races) on average than in France; for some of these elections, we were only able to obtain results for a subset of the races; and we did not collect results of local elections outside of France.

estimate in the full sample. Similarly as in French elections (Table 7), these results indicate that strategic coordination explains part but not all the effects of rankings.

Figure 5: Impact on running in the 2nd round and winning beyond France



Notes: Triangles (resp. circles) represent the local averages of the probability that the candidate runs (resp. wins) in the second round (vertical axis). The graph is truncated at 50 percentage points on the horizontal axis to accommodate for outliers. Other notes as in Figure 2.

Table 11: Impact on running in the 2nd round and winning beyond France

	(1)	(2)	(3)	(4)
	1v2		2v3	
Outcome	Run	Win	Run	Win
Treatment	0.010	0.076**	0.082	0.158*
	(0.024)	(0.024)	(0.064)	(0.069)
Robust p-value	0.176	0.029	0.281	0.069
Observations left	2,589	3,200	295	307
Observations right	2,589	3,200	295	307
Polyn. order	1	1	1	1
Bandwidth	0.118	0.162	0.119	0.122
Mean, left of threshold	0.983	0.459	0.837	0.075

Notes: In columns 1, 3, and 5 (resp. 2, 4, and 6), the outcome is a dummy equal to 1 if the candidate runs (resp. wins) in the second round. Other notes as in Table 3.

6 Conclusion

This paper shows that candidate rankings in past contests have large effects on future electoral outcomes. Using a regression discontinuity design in French two-round parliamentary and local

elections since 1958, we find that placing first rather than second in the first round increases a candidate's likelihood to stay in the second round by 5.6 percentage points, and coming in second rather than third and third rather than fourth increases such likelihood even more. Higher-ranked candidates also obtain a larger vote share and they are more likely to win, conditional on staying in. These conditional effects only reflect choices made by voters: they do not result from differences in campaign expenditures, press coverage, or dropout decisions by other qualifying candidates.

Overall, the combined response of candidates and voters to rankings generates large effects on a candidate's likelihood to win. Remarkably, we observe effects of similar magnitude in local and parliamentary elections, which vary in salience, and from 1958 to today, despite the many changes in the French party system since the beginning of the Fifth Republic. These results also hold validity beyond the French context: placing first and second have even larger effects on average in our secondary sample of elections in 19 other countries.

The effect of ranking first is larger when the third candidate is more likely to challenge the top-two candidates and when the top-two candidates have the same political orientation, suggesting that coordination by parties and voters against other candidates who qualify for the second round drives part of the effects. Our evidence first indicates that rankings help strategic voters focus on the same subset of candidates – and do so in a decentralized way that requires no organizing or communicating. This is an important result, given that multiple strategic equilibria usually exist when there are three or more candidates (Myerson and Weber, 1993). Second, rankings also facilitate coordination among parties, leading to a decrease in the number of candidates. This result bridges a gap in the literature on the selection of elected officials, which to date has offered little rigorous evidence on the strategies of political parties and candidates and has mostly focused on voter choice. The effects of rankings on parties are at least as important as on strategic voters, given the propensity of many people to vote expressively when choosing between more than two candidates, raising the risk of suboptimal electoral outcomes such as a defeat of the Condorcet winner (Pons and Tricaud, 2018). Dropout agreements based on rankings can help address this issue and increase the representativeness of elected leaders by reducing the number of alternatives. They offer a partial solution to Arrow (1951)'s impossibility theorem.

But the effects of ranking first instead of second remain large in elections where the third candidate does *not* qualify, showing that strategic coordination cannot explain everything. In this case, party-level agreements lead the second candidate to drop out in one fifth of the races, when she has the same orientation as the first, a result driven mainly by left-wing parties and candidates opting to go with voters' preferences in the first round. In addition, voters rallying behind the first increase her likelihood of winning by 4.9 to 5.9 percentage points on average, conditional on staying in the second round. This effect is most likely driven by a behavioral motive: the desire to vote for the winner.

This last result is perhaps more unsettling. Mainstream political economy models predict that election outcomes and policies implemented by elected leaders correspond to voter preferences. In citizen-candidate models, the candidate proposing the platform preferred by the largest group of voters gets elected (Osborne and Slivinski, 1996; Besley and Coate, 1997); and in the voter median theorem, competing parties align their platforms with the policy preference of the voter most representative of the electorate by virtue of being located in the median (Downs, 1957). Instead, we find that many elections are swayed by a relatively small fraction of voters following their preference to be on the winning side, rather than substantive differences between candidates.

This result also has implications for the choice of an optimal voting rule. A large literature compares voter incentives to misrepresent true preferences and strategically adjust choices to the expected behavior of others under different voting rules (e.g., Laslier, 2009; Balinski and Laraki, 2011; Dasgupta and Maskin, 2019). Our findings indicate that voters' actual preferences may themselves depend on others' behavior. This phenomenon affects the outcome of many races and adds a new layer of complexity to the problem of preference aggregation. It should be taken into account when debating voting rules and regulating the provision of electoral information.

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