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Primaries: the unifying force

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Abstract. We present a formal model of intra-party politics to explain candidate selection within political parties. We think of parties as heterogeneous groups of individuals who aim to implement a set of policies but who differ in their priorities. When party heterogeneity is too great, parties are in danger of splitting into smaller yet more homogeneous political groups. In this context we argue that primaries can have a unifying role if the party elite cannot commit to policy concessions. Our model shows how three factors interact to create incentives for the adoption of primary elections, namely (1) the alignment in the preferred policies of various factions within a party, (2) the relative weight of each of these factions and (3) the electoral system. We discuss the existing empirical literature and demonstrate how existing studies can be improved in light of our theoretical predictions to provide a new, structured perspective on the adoption of primary elections.

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1 Introduction

Political parties are an integral part of modern democracies. In recent years, interest has grown in understanding the role of political parties and their impact on democratic decision-making.¹ Within parties, the selection of candidates shapes the policies that are implemented. The use of primary elections for candidate selection and its impact on party politics lately has received a great deal of attention; however the literature is somewhat divided when it comes to the motives of the party (elite) concerning the adoption of primaries. On the one hand, primaries are seen as a screening device that enable the selection of the most appropriate candidate.² On the other hand, primaries are seen as an incentivizing device that push candidates to exert more effort to increase their valence or to better target the interests of the median voter (Caillaud and Tirole 2002; Crutzen et al. 2009).

In this paper we suggest a complementary view based on the assumption that party elites control the institutions that govern candidate selection. We explain why party elites adopt primary elections even if this leads to a loss of their own control over candidate selection. Our theory combines two elements. Firstly, candidate selection is an essential determinant of the policies pursued by the party. Secondly, reforms in the institutions that govern candidate selection are hard to reverse. In this context, primaries are the party elite's commitment device to accommodate the political objectives of under-represented factions.

We show that primaries are adopted in two scenarios: Firstly, when a dissenting faction threatens to pursue its favored policy outside of the party; this shows the importance of internal conflict. Secondly, primaries can be used to pull an existing faction into the party if each is sufficiently close ideologically. In both cases, the adoption of primaries is a commitment device that helps to unify political factions.

The role of commitment in the adoption of institutions is a time-honored topic in the economics and

¹ See, for example, Aldrich (1995), Besley (2005), Levy (2004), Roemer (2001).

² See Adams and Merrill (2008), Serra (2011, 2013) or Aragon (2009). Mierowitz (2005) sees primaries as a mechanism that allows screening voters' preferences rather than candidates' qualities.

political science literatures.³ Acemoglu and Robinson (2005) explain the adoption of democracy by an autocrat as a solution to a commitment problem. They show that an autocrat will adopt democracy if this is the only way to avoid a violent revolution. The credibility of a threat in their model is given by the degree of income-inequality between the elite and the population at large (the opportunity for violent opposition is exogenously given).⁴ To our knowledge, we are the first to apply this rationale to the internal organization of parties.

Our findings rely on the assumption that institutional changes are stickier than policy concessions. For expositional simplicity, we follow Acemoglu and Robinson (2005), assuming that political elites can commit only by adopting institutional changes. This is clearly unrealistic, but the lessons we learn from our model apply in a world where institutional change provides more commitment power than policy promises. Our model explains the conditions in which we should observe institutional changes in the internal organization of parties. Our theory reinforces the view that political parties are a continuously evolving coalition of citizens in which new parties are formed as a result of splits and fusions of existing parties (Laver and Sergenti 2010; Mutlu-Eren 2011) or as a result of changing coalitions between interest groups. We model a political party comprised of two factions, a *party elite* and a *dissenting faction*, and discuss the strategic incentives of those two factions. Conflict within the party is captured by two variables: the relative *weight of each faction* and the degree of *alignment in their policy preferences* (relative to the policy advocated by the opposing party). We also account for the impact of the political environment by characterising the *electoral bonus* of running jointly. We define the electoral bonus as the probability of winning the election when both factions in one party run together, relative to the joint probability of winning when running separately. In a perfectly proportional system the electoral bonus is minimal; instead, in a majoritarian system, the electoral bonus can be greater.

In our model, the introduction of primaries requires that the party elite prefers to concede the

³ For an early discussion see, for example, North and Weingast (1989).

⁴ Boix and Slovik (2013) argue that institutionalized power-sharing within dictatorships could follow a similar logic.

selection of the party's candidate over the disintegration of the party. Moreover, the introduction of primaries also requires a credible threat by the dissenting faction to pursue its policies outside the party. Only in the presence of this threat does the party elite feel pressured to change its internal organization. To illustrate this point, we might picture a situation with a large electoral bonus: intuitively speaking, the huge costs that would be incurred by a party split implies that the party elite will do whatever it takes to keep the party united. In other words, it makes sense for the party elite to call a primary in these cases. However, we show that this result does not always hold true because the party elite acknowledges that the threat of a party split by the dissenting faction is not credible. When the electoral bonus is very large, we show that the party never accommodates the interests of its dissenting factions and always appoints a member from its own group as the party candidate. Our discussion of both the threat of a party split and the interests of the party elite opens up a new perspective on the existing empirical literature. Our theoretical predictions are very much in line with findings by Folke et al. (2014), who show that political parties in Sweden react to signals sent through preferential voting in environments with little political competition between parties.

The idea that primaries play a unifying role is not a new concept. For example, Carey (2003) mentions several cases in which primaries have served as unifying force in Latin American parties: *"the threat by a bloc of Chilean Christian Democrats to bolt from the coalition and support a candidacy by Andrés Zaldívar was averted by an agreement to hold primary elections (...) Primaries were held at the party, rather than coalition, level in Uruguay and Mexico in 1999, but in both cases appeared to pull together -or at least to mitigate discord within- parties that were substantially factionalize."* Carey (2003, pp. 16 and 17). More recently, Kemahlioglu et al. (2009) acknowledge the inability to directly collect data on intra-party conflict and show that more heterogeneous parties (as captured by those that are large, incumbent and centrist) are most likely to hold primaries. Similar results are found in Ansolabehere et al. (2006) when analyzing the adoption of primaries at the county level in nineteenth century Pennsylvania.

However, our framework can be used to extend the existing empirical work on the adoption of primaries. To illustrate this claim, in the [Appendix](#) we extend work by Meinke et al. (2010) on the US state delegate selection rules of the Democratic Party between 1972 and 2000. Their empirical work explains the use of primaries with a measure of the ideological difference between the Democratic Party and the mean policy position in the electorate. In order to show the importance of intra-party politics in the adoption of primaries, we add a measure of internal party conflict to their analysis. We find that internal party conflict is very significant and explains as much as the ideological distance variable they use.

Our paper provides a new perspective on the adoption of primaries as a commitment device to accommodate internal factionalization. Serra (2011) is among the first scholars to provide a model of a dominant elite deciding whether to delegate the nomination of candidates to another group within the party. In his model, primaries are a mechanism that increases the valence of the nominee but also entails policy costs for the party elite. The presence of these costs implies that some of Serra's comparative statics resemble ours: primary elections occur only for intermediate values of intraparty heterogeneity. Serra (2013) also assumes that the party machine can commit to giving up control over candidate selection by institutionalizing a primary instead of appointing its preferred candidate directly. The disadvantage of the adoption of primaries is, as in our paper, that the nomination of a candidate in that way can lead to policies that are not favored by the party leadership. Primaries are adopted if the skill bonus of the primary candidate is high. Snyder and Ting (2011) analyze the role of primaries in a similar environment, but their focus is on the interaction between the information revealed at the primary stage and that on which voters rely at the general election: only parties enjoying a large margin of victory are willing to call a primary election and risk revealing (possibly negative) information about their candidate.

Related to this, Gerber and Morton (1998) and Jackson and Mattes (2007) analyze the policy consequences of different types of selection procedures and show that the more open is the candidate

selection process, the more centrist the policies tend to be. In contrast, our politicians lack commitment and can only implement their preferred policy. It follows that primary elections entail a loss of control by the party elite and increase candidate independence (Ansolabehere et al. 2006).⁵

The paper is organized as follows. We present our model on intraparty politics in section 2. Section 3 contains our main results. In section 4 we check the robustness of our findings against various generalizations of our initial assumptions. We then demonstrate the flexibility of our simple modeling approach with various extensions in section 5. Section 6 concludes.

2 A model of intra-party politics

We introduce the most simple model of intra-party politics we can think of. We assume that three groups of homogeneous citizens comprise the polity. The first two are two factions that are close ideologically. These factions may coalesce by running as a single party, or they may pursue their favored policies in separate organizations. The third group should be seen as the opposing party. We analyze the strategic behavior of the two factions in the presence of a non-strategic opposing party.

Parties cannot commit to implementing any policy that differs from the policy preferred by their candidate (*à la* citizen candidate models).⁶ Therefore, the selection of the candidate is crucial for political outcomes. When parties are composed of a homogeneous set of citizens, candidates are selected by consensus. In heterogeneous parties, candidate selection engenders conflict.

We assume that one of the factions, which we call *party elite*, controls the party's machinery. In our model, this means that only the party elite can institutionalize a primary election as a candidate

⁵ Our model remains silent on other non-policy consequences of primaries, such as the electoral bonus of calling a primary (Carey and Polga-Hecimovich 2006) or the greater factionalization when calling a primary (Key 1949).

⁶ Leet et al. (2004) argue that citizen candidate models account better for what actually happens in elections than Downsian models. Put differently, parties select candidates that implement their own preferred policy instead of selecting policies that are implemented by their candidates.

selection method. We assume here that institutionalized primary elections commit the party's elite to give up control over candidate selection. If primaries are not introduced, the elite chooses its preferred candidate.⁷ Once candidate selection has been institutionalized, the other faction within the party, which we call the *dissenting faction*, can split from the party or remain within it. Finally, candidates are selected, elections occur and the candidate that receives a plurality of the votes implements her preferred policy.

Given three homogeneous groups and a lack of commitment, three possible post-election policy outcomes are possible. We label the preferred policies of the party elite, the dissenting faction and the opposing party as p_e , p_d , and p_{op} , respectively. The utilities that both factions derive from these policies are captured in Table 1.

[INSERT TABLE 1 HERE]

The entries shown there capture a situation in which each faction obtains a maximum payoff when its preferred policy is implemented and a minimum payoff when the opposing party's policy is implemented (the payoffs have been normalized). For simplicity, we assume a symmetric situation in which each faction derives the same utility from the other faction's policy: $x \in (0,1)$. The parameter x should be interpreted as a measure of alignment or cohesion between the two factions, relative to the political views in the opposing party. If x is low, both factions stand in strong opposition towards each other (relative to the opposing party policy). On the other hand, when x is high intra-party preferences are very much aligned (or the opposing party is greatly disliked by both factions). The symmetry in payoffs appears to be particularly convenient in the context of empirical studies that measure factionalization at the party level (i.e., identical for all factions within a party). It also simplifies the presentation of our results. In section 4.3 we show that our results remain unchanged when we relax this assumption.

⁷ The rationale behind this simplifying assumption is that, relative to other selection methods, primaries have the tendency to take power away from the party elite.

The preferences described can arise from a spatial model with two policy dimensions in which both factions have the same stance on the ideological dimension that distinguishes them from the opposing party but have (smaller) differences on an orthogonal policy dimension.⁸ We could, for example, think of a left wing party composed by two factions who have different views on environmental issues, and who equally dislike the main right wing party as depicted in Figure 1.

[INSERT FIGURE 1 HERE]

We do not model the precise process through which parties compete electorally but instead prefer to summarize any such process within each party's final probability of winning the election. There are two possible scenarios here. In the first, both factions run separately, in which case faction i wins the election with probability $\pi_i \in [0,1]$ for $i = e, d$. In the second scenario, the two factions run jointly as a single party in which case the party wins the election with probability $\pi \in [0,1]$. The opposing party wins the election with the complementary probabilities, that is $(1 - \pi_e - \pi_d)$ when factions run separately and $(1 - \pi)$ when factions run jointly.⁹ Note that π does not depend on the party's candidate; this simplifies our analysis but is not key for our results to hold.

We can define the *electoral bonus* of running together (α) as the relative improvement that both factions enjoy in that scenario (π) as opposed to the joint probability of winning when running separately ($\pi_e + \pi_d$). Formally, the electoral bonus is:

$$\alpha = \frac{\pi}{\pi_e + \pi_d}.$$

Throughout we assume α to be greater than one. The characteristics of the electoral system are captured implicitly by this parameter. A proportional system is one in which the gains from running together are minimal (possibly only due to the apportionment rule; see Balinski 2001), and α is close

⁸ In section 5 we show the robustness of our results when considering a one-dimensional policy space.

⁹ The probabilities of winning the election capture a large set of models we might have in mind. For example, it could be the case that when the party splits, its voters perfectly coordinate by voting for one of the factions in order to avoid a large gain by the opposing party.

to one. Instead, in a majoritarian system, running together may be a key factor in being chosen for office or not, and α takes very high values.

We also define the *relative strength of the party elite* (y) by considering the vote share it obtains when running independently in relation to to the joint probability of both factions winning the election when running separately, formally

$$y = \frac{\pi_e}{\pi_e + \pi_d}.$$

This variable defines the relative strength of each faction within the party, which is key in determining the winner of the primary election. We assume that the winner of the primary belongs to the relatively stronger faction. In section 4 we show that our results are robust to considering uncertainty in the outcome of the primary election (i.e., the probability of victory in the primary by the elite is increasing in y).

Primary elections can have a unifying role when only $y < 0.5$, in which case the candidate selected in the primary belongs to the dissenting faction. This leads to a seemingly paradoxical situation wherein the party elite is assumed stronger in terms of choosing candidates but weaker in terms of competing in the election (compared to the dissenting faction). This is plausible if the elite faction is stronger in terms of choosing candidates but weaker in terms of voter support.¹⁰ If $y \geq 0.5$, the candidate belongs to the party elite and therefore calling primary elections cannot prevent a dissenting faction from splitting from the party. For now we assume that $y < 0.5$, but in section 4.1 we show that we do not need this assumption when we model the process of primary elections more generally.

The game is structured as follows:

1. The party elite decides on the institutional setup for its candidate selection. That is, the party

¹⁰ A possible example is the presence of a non-democratically elected elite that has been in power for many years while the policy preference of the party's core supporters has shifted. The socialist party in Spain (PSOE) was, until the last leadership change in July 2014, an example of such a situation.

elite either decides to appoint the candidate (in which case it can commit only to selecting an individual from its own group) or to call a primary election in which the candidate is selected by a majority of the party voters.

2. The dissenting faction observes the decision of the party elite and decides if it wants to run together within the party elite's party or to present its own candidate in the electoral race.
3. Elections occur and the winning candidate implements her preferred policy.

In Figure 2 we draw our game in extensive form. We also incorporate the payoffs that the elite and dissenting factions receive at each end node of our game. These payoffs are explained in detail in the next section.

[INSERT FIGURE 2 HERE]

3 Equilibrium and results

We solve our game using the solution concept of sub-game perfect Nash equilibrium so that all actions can be sustained and incredible threats are ruled out. We solve the game by backward induction. In the last stage of the game the elected candidate implements her preferred policy. In the second stage of the game the dissenting faction, after observing the institutional setup, needs to decide whether to stay in the party or run separately. The expected utility from running separately reads as follows:

$$u_d(\textit{run separately}) = \pi_e x + \pi_d.$$

The first term corresponds to the probability that the party elite wins the election multiplied by the dissenting faction's valuation of the party elite's preferred policy. The second term corresponds to the

probability that the dissenting faction wins the election (multiplied by the valuation of its preferred policy, which is equal to one). When deciding whether to split from the party, the dissenting faction compares the utility of running separately with that of running within the party. Factions do not obtain any direct benefit from a particular institutional setup. However, the institutional setup affects their payoffs because it determines the party's candidate and the policy that will be implemented in case of electoral victory. Below we write the utilities that the dissenting faction obtains when both factions run together:

$$u_d(\textit{run jointly, elite appoints}) = \pi x$$

$$u_d(\textit{run jointly, primary}) = \pi.$$

Given $\alpha > 1$, we have that $\pi > \pi_e x + \pi_d$, which implies that the dissenting faction always stays within the party when the elite adopts a primary. This is the mechanism by which the introduction of a primary can save the party from splitting: the party elite can credibly commit to implementing the preferred policy of the dissenting faction by calling a primary election.

If the elite appoints the candidate, it can credibly select only a member of its own group and the party will break apart whenever the dissenting faction prefers to run separately. Instead, when the elite introduces primary elections, the dissenting faction will never want to split from the party because it will receive the largest possible support for their preferred policy (π instead of π_d).

In the first stage of our game, the party elite chooses the candidate selection mechanism foreseeing the reaction of the dissenting faction in the second stage. The primary is never introduced when the dissenting faction does not threaten to leave the party: when there is no threat of a split, the party elite does not have a reason to give up its power of appointing the candidate. Therefore, when

$$u_d(\textit{run separately}) < u_d(\textit{run jointly, elite appoints})$$

the party elite has no incentive to adopt a primary. Note that this contrasts with the previous work on primaries, in that not only do we consider the incentives of the party elite to introduce primaries but also situations in which there is a credible threat of the dissenting faction running separately. Formally, primary elections are introduced only when the following two inequalities are satisfied:

$$u_d(\text{run separately}) > u_d(\text{run jointly, elite appoints})$$

$$u_e(\text{run jointly, primary}) > u_e(\text{run separately}).$$

Below, we rewrite these two conditions in terms of our three key parameters x , y , and α .

Proposition 1 *The party elite chooses to select the leader through a primary election only when the following two conditions are met: (1) $x < \frac{1-y}{\alpha-y}$ and (2) $x > \frac{y}{\alpha-1+y}$.*

The first condition in Proposition 1 establishes that x needs to be small enough for the dissenting faction to credibly threaten to run independently of the party elite. There is a threshold of intraparty conflict (x) below in which the faction that does not see its preferences represented by the chosen candidate (the dissenting faction) prefers to assume the costs of running alone. This allows the dissenting faction to implement its preferred policy, p_d , should its candidate be elected.

The second condition establishes that x needs to be large enough for the party elite to be willing to concede the selection of the party leader to the dissenting faction by calling a primary election. Once again, a threshold of intraparty conflict exists in which the party elite prefers to assume the costs of running separately rather than concede the implementation of its preferred policy by running a primary election.

In Figure 3 we illustrate the proposition's result.¹¹ As a byproduct of our model we characterize not only the situations in which a party adopts primary elections but also the circumstances in which two factions run jointly as a unified party or separately as two independent parties.

[INSERT FIGURE 3 HERE]

In what follows we analyze the likelihood of primaries as we modify each of our key parameters. We say that primaries are more likely to occur when a parameter change increases the likelihood of moving into the parameter range where an equilibrium with primaries exists.

The first immediate conclusion from Figure 3 is that a reduction in y always leads to a greater likelihood of primaries. According to Proposition 1 this results from two effects. Firstly, the party elite stands to lose more from a party split because a larger group may leave the party. Secondly, the dissenting faction has a better external option and therefore is more able to credibly *impose* the adoption of primary elections. We summarize this effect in the following corollary.

Corollary 1 *The likelihood of the adoption of primary elections by the party elite increases in the relative support for the dissenting faction, i.e., the likelihood of primaries increases in $(1 - y)$.*

Measuring the sizes of internal factions is complicated. However, in some circumstances parties form alliances with a common candidate. In this case our model suggests that alliances between equal partners (i.e., y close to 0.5) are less likely to adopt primaries. This idea is supported by a study on district elections in Argentina by De Luca et al. (2002), who show that alliances between equal partners were less likely to adopt primaries.

¹¹ In order to illustrate the proposition's result, it is best to write the two conditions in terms of y . They read as follows: $y < \frac{1-\alpha x}{1-x}$ and $y < \frac{(\alpha-1)x}{1-x}$.

The two conditions in Proposition 1 indicate non-monotonic effects of party alignment, x , on the likelihood of primaries. If the preferred policies of both factions are similar (high x) a reduction in the alignment of their preferences (decrease in x) introduces a credible threat by the dissenting faction and increases the likelihood that the elite introduces primaries. Instead, in a party with primary elections, when preferences become even less aligned (further decrease in x), the elite will prefer a party split to running jointly with a candidate from the dissenting faction. We summarize the empirical implications in the following corollary.

Corollary 2 *When two factions start out in the same party, a weaker alignment of both factions (decrease in x) makes the adoption of primary elections more likely. When two factions are organized in two separate parties, closer alignment of their preferred policies (increase in x) raises the likelihood that both factions run together within a party whose candidate is elected by a primary election.*

The first message to note from Corollary 2 is that whilst the adoption of primaries is non-monotonic in x , our theory predicts monotonic and falsifiable effects of x in different settings. The first part of Corollary 2 states that if conflict increases between two factions within a party, primaries might be used to prevent a split. The measurement of ideological differences within parties is therefore an important step in understanding the adoption of primaries. Whilst this argument is not new in the literature (see Ware 2002; Carey 2003; Kemahlioglu 2009), tests of this hypothesis have been restricted to indirect measures, some of which conflate changes in x , y and α .

Meinke et al. (2010) have analyzed candidate selection rules in the Democratic Party at the state level from 1970 onwards. Their empirical analysis indicates that as the preferences of Democratic Party leaders and the voting public diverge, party leaders opt to choose a less open selection process.¹² In

¹² Their measure of this divergence is the difference between the Berry state citizen ideology score (a weighted average of the Democrat

the [Appendix](#) we replicate their analysis by adding our own constructed measure of internal party conflict, x . Following the first result in the corollary above, we find that conflict within the Democratic Party increases the likelihood that primaries are adopted in Democratic-majority states.

The second part of Corollary 2 suggests a different view on the use of primaries. In this view, primaries are not used to hold parties together but instead to facilitate fusion. This might shed some light on the findings by Hirano and Snyder (2008). They investigate the decline of third-party votes over the second half of the twentieth century in the United States and provide evidence that this decline was likely owing to the policy cooption of left leaning positions by the Democratic Party. Whilst they find mixed evidence regarding the direct effect of primary laws on third party votes they suggest that *"the introduction of the direct primary may have helped the Democratic Party move to the left by electing candidates not connected to the Democratic Party machine"* (Hirano and Snyder 2008, p. 21). According to our model this adoption of left leaning policy positions was facilitated by changes in the Democratic Party elite prior to the New Deal period, which led to closer alignment between the Democratic Party elite and political factions outside the party.

In addition to the parameters y and x , Proposition 1 also provides comparative statics with respect to the electoral bonus, α . An important difference from y and x is that the electoral bonus depends on variables that are exogenous to the party's strategic decisions, such as the district magnitude and the apportionment rule. Thus, measurable changes in α should allow us to test the plausibility of our theory. We can show that the electoral bonus has a non-monotonic effect on the likelihood of primaries. More specifically, when the party elite does not have the support of a majority of its electorate, it chooses to select the leader by holding a primary election only when α takes intermediate values. Once we condition on the particular organization of both factions we can derive the following.

and Republican representatives' scores) and the Berry-based Democratic elite ideology score.

Corollary 3 *In a situation in which two factions start out in the same party, a decline in the electoral bonus (decrease in α) will make the adoption of primary elections more likely. In a situation in which the two factions are organized into two separate parties, a largern electoral bonus (increase in α) will raise the likelihood of both factions running together within a party whose candidate is selected by a primary election.*

[INSERT FIGURE 4 HERE]

In Figure 4 we depict the consequences of varying the electoral bonus graphically. On the left we illustrate the case of a small electoral bonus ($\alpha = 1.05$) corresponding intuitively to a situation where the electoral system is *very* proportional. We can see that an α close to one implies that the threat of a party split is credible for a large set of parameters, because the electoral costs associated with running separately are small. Given these small electoral costs, the faction in control of the party machinery is not willing to concede the selection of the party's candidate and rarely will call a primary election. In this situation, the party elite allows the dissenting faction to split and for both factions to run independently. In other words, a proportional system implies (in our model as in previous studies; see, for instance, Cox 1997) the existence of more political parties and an unlikely occurrence of party primaries.

On the right of Figure 4 we show the opposite case with a very large electoral bonus ($\alpha = 5$). In this case, the dissenting faction cannot credibly commit to run independently because the electoral costs are prohibitive, i.e., running separately dramatically increases the probability that the opposing party will win the election. Knowing this, the elite faction will call primary elections very rarely. In such a scenario, we should observe fewer parties and the unlikely occurrence of party primaries. From both situations depicted in Figure 4 we see that primaries are most likely for intermediate values of α .

These results shed light on the likelihood of primaries when conditioning on the specific party organization of both factions. When the party organization is not observable, the effect of α on the

use of primaries is non-monotonic. This reconciles the contradicting empirical findings on the existence of party primaries.

The case with a large electoral bonus is captured in the work of Snyder and Ting (2011). They find that the likelihood of primaries in US state level elections is smallest when the costs of running separately are prohibitively high. Incumbency advantage may also be interpreted as a high α owing to the fact that the electoral bonus of running jointly is large for the dissenting faction: De Luca et al. (2002) find that the Partido Justicialista and the Unión Cvica Radical in Argentina were less likely to hold primaries to nominate their congressional candidates when they were the incumbents.

The case with a small electoral bonus is captured by Kemahlioglu et al. (2009, p. 350): "*when the party system or electoral rules make it relatively easy for intraparty groups to strike out on their own, Latin American elites are less likely to opt to use primary competition to select their presidential candidates.*" That is, when α is small, the likelihood of primaries is at its lowest. Interestingly, their cross-country data reveal that this relationship holds only for some parameter values. This can be regarded as an indicator of a non-monotonic relationship between primaries and the electoral bonus.¹³

An additional finding in Kemahlioglu et al. (2009) is that the above-mentioned relationship between small α and a low likelihood of primaries disappears when we control for the number of parties. In other words, they find that when α is very small, the reduction in the use of primaries goes hand in hand with an increase in the number of parties: in Figure 4 we can see that when α is small (the graph on the left-hand side) the relevant trade-off is indeed between a party split and the use of primaries.

¹³ In their cross-country section, Kemahlioglu et al. (2009) code the thresholds for preventing runoff elections as zero, one and two respectively. A higher likelihood of a runoff can be interpreted as a lower α and our theory suggests a non-monotonic effect on the aggregate use of primaries. However, their empirical design treats the effect of this variable as monotonic and finds no significant impact on the use of primaries. Instead, they find a negative relationship when bunching the values of zero and one and comparing them with two. Our theory suggests that this finding should become stronger when comparing the values of one and two, and weaker or even opposite between zero and one.

4 Robustness checks

The model presented can be generalized in many ways. In what follows we show that some of our key assumptions simplify our exposition but are not key for our results to hold.

4.1 Primaries: a general characterization

We assumed that the outcome of the primary election is deterministic and depends solely on the relative strength of both factions. Doing so allowed us to focus our analysis on the case $y < 0.5$, so that the primary election selected a candidate from the dissenting faction with probability one. However, we do not require the primary to change the probability of selecting a candidate from the dissenting faction from zero to one; we require only that the introduction of primaries increases this probability. Similarly, the dependence of this increase in y does not need to be as stark as we have assumed above (the probability remained unchanged for $y > 0.5$ and jumped from zero to one at $y = 0.5$).

To illustrate this point, consider a menu of different primary election institutions available to the party elite. For example, the party elite could implement non-majoritarian primaries with a certain degree of proportionality.¹⁴ In this vein, assume the existence of a probability $\beta \in [0,1]$ that the candidate elected in the primary election belongs to the dissenting faction. The dissenting faction then faces some uncertainty when it decides whether to stay inside or outside the party. For simplicity we maintain the assumption that if no primaries are held, the candidate is chosen by the elite. As long as $\beta > 0$, the adoption of primary elections implies that the (expected) political power inside the party shifts from the elite faction to the dissenting faction. We now have three conditions for the introduction of primary elections:

$$u_d(\text{run separately}) > u_d(\text{run jointly, elite appoints})$$

¹⁴ For instance, see Obler (2009) for a discussion of primary elections in Belgium.

$$u_d(\text{run jointly, primary}) > u_d(\text{run separately})$$

$$u_e(\text{run jointly, primary}) > u_e(\text{run separately}).$$

The second condition is new. It states that the dissenting faction should want to stay inside the party if a primary is adopted (previously this condition was always satisfied). It can be rewritten as $\beta\alpha + (1 - \beta)\alpha x > yx + 1 - y$.

When the elite is in control of the institutional changes in the party, it will choose procedures that maximize its own political influence whilst keeping the dissenting faction from leaving the party. In other words, the elite will choose the minimum β so that the above inequality is satisfied:

$$\beta_{min} = \max\left\{\frac{1-y+x(y-\alpha)}{\alpha(1-x)}, 0\right\}.$$

It is straightforward to show that β_{min} also satisfies the condition that the elite prefers a primary to a party split. In other words, if the party can choose primary elections so that $\beta = \beta_{min}$, the comparative statics are driven only by the threat of the dissenting faction. Formally, primaries are adopted if and only if $y < (1 - \alpha x)/(1 - x)$. This condition is identical to Condition 1 in Proposition 1, but no longer relies on $y < 0.5$.

4.2 Party elite can commit

Our model has been built on the assumption that the party has no commitment power.¹⁵ In particular, we have disregarded the possibility of making policy concessions. We now show that this assumption is vital for primaries to arise.

It can be shown that when the party elite can offer policy concessions credibly, it will never call a primary election. When the threat of a split by the dissenting faction is credible, the party elite needs only to offer the policy concession that leaves the dissenting faction indifferent between staying in the

¹⁵ Empirically this seems to be the case; see Lee (2004).

party or running separately. By doing this, the party elite avoids a party split. Also, note that such a concession is always better for the party elite than a primary election (in which the policy concession towards the dissenting faction is maximal) or a party split (in which the party elite loses the electoral bonus of being a party with greater support).

It thus follows that the party elite introduces primary elections as a way to avert the secession of dissenting factions only when its commitment to implementing policies is limited. In other words, primaries are the mechanism through which the party elite commits to transferring political power within the party.¹⁶

Another way to see this is to model imperfect policy concessions, i.e., a policy announcement that can be taken back with some probability. If the commitment power of the elite vis a vis the dissenting faction is strong (if policy promises cannot be broken) primaries never occur. Only when the commitment power of the elite is weak, will institutional change be necessary to keep the party together.¹⁷

4.3 Payoff matrix generalization

So far we have assumed that payoffs are symmetric. This can be easily generalized: assume that the utility faction i obtains from the preferred policy of faction j is $u_{i,j}$, where $u_{i,i} > u_{i,j}$ for all $i \neq j$. The dissenting faction then wants to leave the party if

$$\pi_d u_{d,d} + \pi_e u_{d,e} + (1 - \pi_d - \pi_e) u_{d,op} > \pi u_{d,e} + (1 - \pi) u_{d,op},$$

which is equivalent to Condition 1 in Proposition 1 when x is replaced by $x_d = \frac{u_{d,e} - u_{d,op}}{u_{d,d} - u_{d,op}}$. x_d is a measure of (relative) consensus between the party elite and the dissenting faction from the latter's point of view. This is precisely the same interpretation we have previously given to x . We have an

¹⁶ A future avenue of research could analyze further the institutionalization of primaries as a *more irreversible* change than a policy concession. This establishes an interesting link to the work of Levy (2004), who models parties as commitment devices.

¹⁷ See Acemoglu and Robinson (2005) for an analogous discussion.

equivalent expression for the elite faction: $x_e = \frac{u_{e,d} - u_{e,op}}{u_{e,e} - u_{i,op}}$ and Condition 2 in Proposition 1 changes analogously (x_e replaces x).

The main conclusion from these changes is that the results in Proposition 1 are preserved when considering a general specification of payoffs. However, we now need to be careful when stating each restriction on the relevant relative consensus (x_e or x_d) within the party. Note that both relative consensus variables decline as conflict within the party rises (as both factions' preferred policies move apart). The normalization by $u_{d,op}$ also implies that the further away is the opposing faction, the greater are x_d and x_e . In other words, there is more alignment (in relative terms) within the party if the opposing faction is further away.

4.4 One-dimensional policy space

Another possible variation on our basic setup is the usual one-dimensional policy space. This requires us to distinguish between two cases: the first is when the dissenting faction advocates a policy in between the preferred policies of the elite faction and the opposing party (e.g., $p_e < p_d < p_{op}$); and the second, when the dissenting faction has more extreme views than the elite faction (e.g., $p_d < p_e < p_{op}$).

In both cases we find qualitatively identical results to those shown in section 3: the dissenting faction credibly threatens to leave the party only when the distance between p_d and p_e is large enough; and the party elite calls a primary election only when the distance between p_d and p_e is not too great.

An interesting insight from this model is that the set of parameter values for which primaries occur is smaller when the dissenting faction has more extreme views (e.g., $p_d < p_e < p_{op}$) than when the party elite holds extreme views ($p_e < p_d < p_{op}$). A dissenting faction with extreme views will dislike the policy position of the opposing party more, so it is less willing to increase the chances of the

opposing party winning the election (in the notation of section 4.3, $x_d > x_e$). In other words, the threat of a party split is reduced.¹⁸ Similarly, an elite faction with extreme views will dislike the preferred policy of the opposing party so much that the party elite is more willing to call a primary election in order to avoid a party split ($p_e < p_d \Rightarrow x_e > x_d$).¹⁹

5 Extensions

One advantage of our simple model is that it can be extended to accommodate different research questions. In our online [Appendix](#) we outline three extensions (some presented more formally than others) which have the potential to deliver new insights into the adoption of primaries and may, indirectly, also help us understand the endogenous creation and destruction of political parties. We briefly describe them below.

Our model can easily be extended to a situation where the opposing party is composed of two factions. This allows us to study the circumstances in which holding a primary in one political party influences the adoption of primaries in other political parties. This might be able to explain the contagion effects observed in the adoption of primaries in Latin American presidential elections (see Aragon 2009). The adoption of primaries implies that a party's candidate may no longer belong to the elite. This affects the relative alignment (x) of the factions in the opposing party, which in turn may influence the opposing party's internal organization (Corollary 2). Similarly, a party split affects the electoral bonus, which in turn influences other parties' internal organizations.

In section 2 we established that primary elections are never introduced when the party elite is in the majority. This is because such institutional change is no concession to underrepresented factions (the

¹⁸ That this effect is not unrealistic is shown by Obler (2009) in his analysis of the introduction of primaries in Belgium. Oblor argues that the Christian Social Party did not adopt primaries when the elite perceived the likely winner of the primaries to be more extreme.

¹⁹ The fact that primaries are more likely when the dissenting faction is centrist is related to results in Gerber and Morton (1998) and Jackson and Mattes (2007) where we observe that more open selection induces more centrist policies.

party's candidate would still belong to the party elite). However, in a dynamic setting, primaries can be seen as a commitment to accept the will of the majority today and of an uncertain majority in the future. This future commitment may be enough to dissuade the party factions from splitting up.

In order to illustrate this, in our online [Appendix](#) we consider a two-period model in which the adoption of primaries is irreversible (i.e., if primaries are adopted in period one they are also in place in period two). This setting is obviously richer and more complicated to analyze, yet our key results remain unchanged.

Finally, we can micro-motivate the winning probabilities in terms of the vote shares commanded by the different factions in the model. Following the well established empirical relationship between vote shares and seat shares first mentioned by James Parker Smith in the Royal Commission of Systems of Elections in 1909,²⁰ we assume that seat shares depend on vote shares in the following way:

$$S_i = \frac{v_i^p}{v_1^p + \dots + v_n^p}. \quad (1)$$

The proportionality of the voting system is captured by p . This approach allows us to assess the impact of a change in the proportionality of the electoral system on the incentive to adopt primaries. It can be shown that the main mechanism in our model is preserved in this setting.

6 Conclusion

In this paper we provide a simple model to explain the introduction of primary elections. Our model is based on two key assumptions. Firstly, political actors cannot commit to implementing anything other than their preferred policies; conflict thus arises in heterogeneous parties. Secondly, commitment can be attained only by institutional change. More precisely, primaries can help the party elite commit to

²⁰ See Tufte (1973). For an excellent review of this literature, see Taagepera and Shugart (1989).

implementing policies other than their preferred policies and so mitigate the discontent held by the parties remaining members.

Two conditions must hold for primaries to occur. The threat of a party split by the dissenting members of the party needs to be credible (i.e., dissenting members should prefer to run separately rather than remain in the party). In addition, the party elite should be inclined to concede the selection of the party candidate to avoid a party split. We characterize these conditions formally and derive comparative statics with respect to intraparty conflict, the relative support of the factions within the party and the electoral bonus of competing jointly against the opposing party.

We demonstrate that our basic model can provide a micro-motivated structure for a wide range of existing empirical studies. In support of this claim we show that a measure of internal party conflict developed along the lines of our theory yields significant explanatory power when added to recent empirical work. We argue that empirical studies need to pay attention to the interaction between party conflict and the political environment. In particular, we show that comparative statics concerning the proportionality of the voting rule are not straightforward and their effect therefore may be mitigated or enhanced by the distribution of vote shares across the various political parties.

Future theoretical work may introduce uncertainty about our exogenously given parameters and, most importantly, may try to endogenize these variables. One avenue of further research would be to analyze the relationship between vote shares and the policies advocated by each political party or faction. Such a model would allow us to assess the usual trade-off between electing a candidate that represents the party members or electing a candidate that appeals to the overall median voter. Understanding this trade-off would allow us to identify which party members stand as candidates in a primary election and may help to micro-found the existence of factions within the party.

Finally, our model can be used to make predictions about the creation and termination of political parties. Our results show that the distribution of political preferences, the electoral system and the

internal organization of political parties are key determinants in democracies.

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References

- Daron, A., and Robinson J. (2005). *Economic origins of dictatorship and democracy*. Cambridge: Cambridge University Press.
- Adams J., & Merrill, S. (2008). Candidate and party strategies in two-stage elections beginning with a primary. *American Journal of Political Science* 52(2), 344–359.
- Aldrich, J. (1995). *Why parties? the origin and transformation of political parties in America*. Chicago: University of Chicago Press, 1995.
- Ansolabehere, S., Hirano, S. & Snyder J. (2006). What did the direct primary do to party loyalty in Congress? In Brady, D. and McCubbins, M. D. (Eds), *Process, party and policy making: Further new perspectives on the history of Congress*. Stanford, CA: Stanford University Press.
- Aragon, F. (2009). Candidate nomination procedures and political selection : evidence from Latin American parties, *LSE STICERD Research Paper* No. EOPP003.
- Besley, T. (2005). Political selection. *Journal of Economic Perspectives* 19(3), 43–60.
- Boix, C., & Svobik, M. (2013). The foundations of limited authoritarian government: Institutions, commitment, and power-sharing in dictatorships. *Journal of Politics* 75, 300–316.

- Caillaud, B., & Tirole, J. (2002). Parties as political intermediaries. *Quarterly Journal of Economics* 117(4), 1453–1489.
- Carey, J. (2003). *Presidentialism and representative institutions in Latin America at the turn of the century*. The John Hopkins University Press, Baltimore, Maryland.
- Carey, J., & Polga-Hecimovich, J. (2006). Primary elections and candidate strength in Latin America. *The Journal of Politics* 68(3) 530 – 543.
- Crutzen, B., Castanheira, M., & Sahuguet, N. (2009). Party organization and electoral competition. *Journal of Law, Economics, and Organization* 26(2), 212–242.
- De Luca, M., Jones, P., & Tula. M. (2002). Back rooms or ballot boxes?: candidate nomination in Argentina. *Comparative Political Studies* 35(4), 413–436.
- Folke, O., Persson, T., & Rickne, J. (2014). Preferential voting, accountability and promotions into political power: evidence from Sweden. mimeo.
- Gerber, E., & Morton, R. (1998). Primary election systems and representation. *Journal of Law, Economics, and Organization* 14, 304-324
- Hirano, S. & M. Snyder, J. (2008). The decline of third-party voting in the United States. *The Journal of Politics* 69(01), 1–16.
- Mathevet L., Jackson, M., & Mattes, K. (2007). Nomination processes and policy outcomes. *Quarterly Journal of Political Science* 2, 67–94.
- Kemahlioglu, O., Weitz-Shapiro, R., & Hirano, S. (2009). Why primaries in Latin American presidential elections? *The Journal of Politics* 71(01), 339–352.
- Key, V.O. (1949). *Southern politics in state and nation*. New York : Knopf.
- Laver, M., & Sergenti, E. (2010). *Party competition: an agent-based model*. Princeton University Press.
- Lee, D., Moretti, E., & Butler, M. (2004). Do voters affect or elect policies? evidence from the U. S. House. *Quarterly Journal of Economics* 119(3), 807–859.
- Levy, G. (2004). A model of political parties. *Journal of Economic Theory* 115(2), 250–277.
- Meinke, S., Staton, J., & Wuhs, S. (2010). State delegate selection rules for presidential nominations, 1972-2000. *The Journal of Politics* 68(1), 180–193.
- Meirowitz, A. (2005). Informational party primaries and strategic ambiguity. *Journal of Theoretical*

Politics 17(1), 107–136.

Mutlu-Eren, H. (2011). Keeping the party together. mimeo.

North, D., & Weingast, B. (1989). Constitutions and commitment: the evolution of institutions governing public choice in seventeenth-century England. *Journal of Economic History* 49, 803-832.

Obler, J. (2009). Intraparty democracy and the selection of parliamentary candidates: the Belgian case. *British Journal of Political Science* 4(02), 163-185.

Roemer, J. (2001). The democratic political economy of progressive income taxation. *Econometrica* 67(1), 1–19.

Serra, G. (2011). Why primaries ? The party's tradeoff between policy and valence. *The Journal of Theoretical Politics* 23, 21–51.

Serra, G. (2013). when will incumbents avoid a primary challenge? Aggregation of partial information about candidates' valence. In Schofield, N., Caballero, G. and Kselman, D. (Eds), *Advances in Political Economy: Institutions, Modeling and Empirical Analysis*. Springer, Heidelberg, pp 217-248.

Snyder, J., & Ting, M. (2011). Electoral selection with parties and primaries. *American Journal of Political Science* 55, 781–795.

Taagepera, R., & Shugart, M. (1989). Seats and votes: the effects and determinants of electoral systems. *Canadian Journal of Political Science* 22, 875-876.

Tufte, E. (1973). The Relationship between Seats and Votes in Two-Party Systems. *The American Political Science Review* 67(2), 540-54.

	p_s	p_d	p_{op}
u_s	1	x	0
u_d	x	1	0

Table 1: payoff table

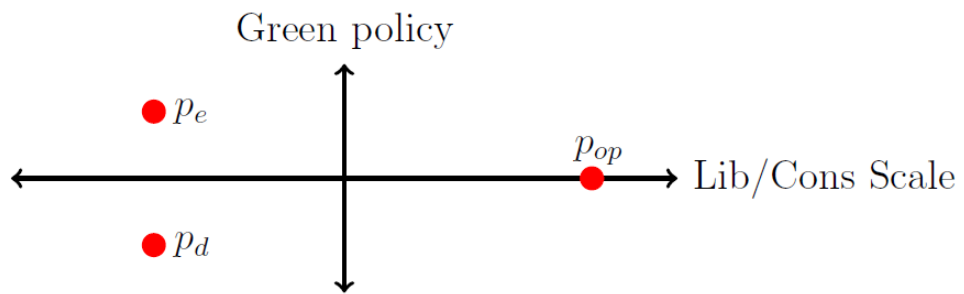


Figure 1: representation of the three preferred policies in a two dimensional space

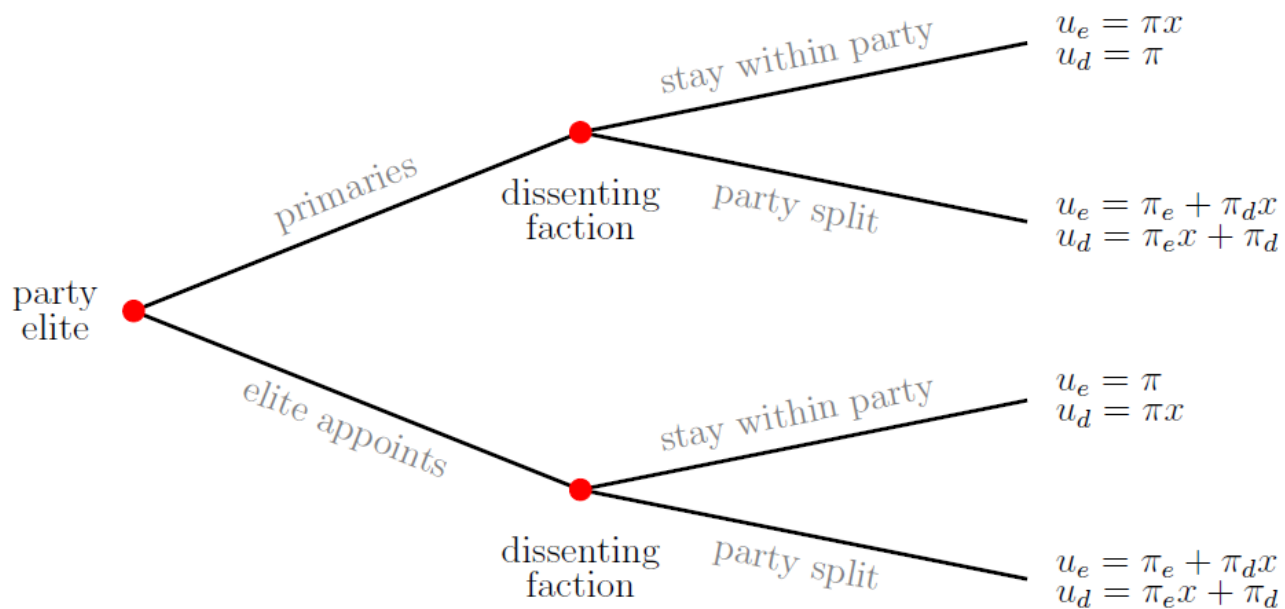


Figure 2: Extensive form of our intraparty politics game

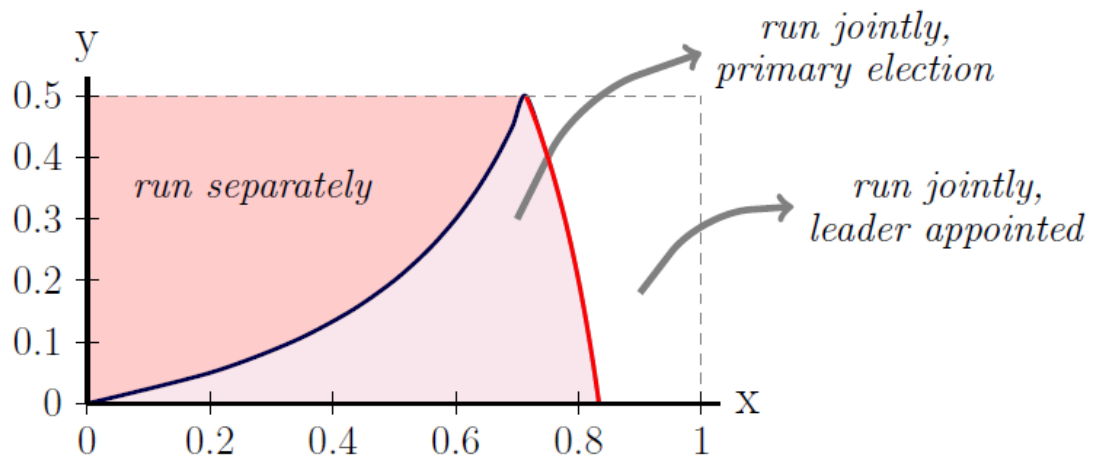


Figure 3: Candidate selection ($\alpha = 1.2$)

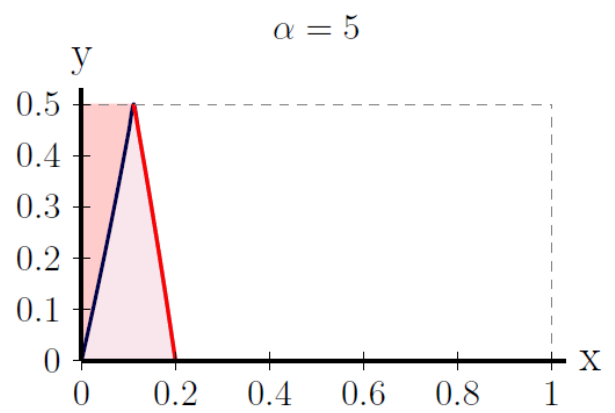
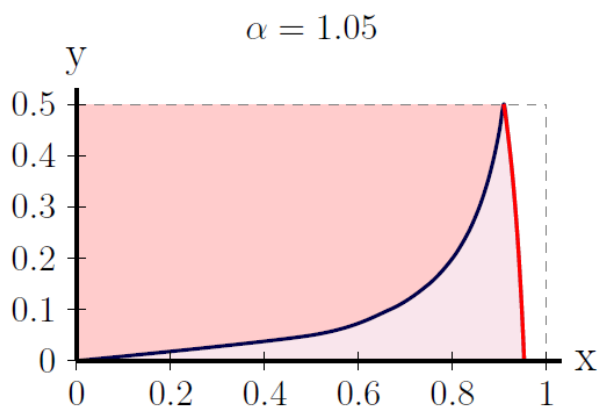


Figure 4: Effect of the electoral bonus on leader selection