

# A Theory of Minimalist Democracy\*

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## Abstract

Democracies in which political elites hold and respect elections, yet do not extend related freedoms that empower the non-elite (civil liberties, free press, rule of law, etc.), are empirically pervasive, but imperfectly understood. What motivates the elite to respect the electoral wishes of a weak non-elite in such systems? We lay out a formal model that sheds light on this, and related questions raised by such minimalist democracies. The key, we show, is the crucial role of competitive elections in allowing credible power sharing among the elite. The theory simultaneously rationalizes competitive autocracies, non-redistributive democratizations, and the political resource curse.

**Keywords:** Democratic theory; Minimalist democracy; Political transitions; Autocracy

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# 1 Introduction

Many countries that hold elections systematically lack other key elements of fully-fledged democracies – civil liberties, a free press, the rule of law, a constrained executive branch. Occasionally, elections in these countries are farcical affairs that are devoid of meaning – a recent example: North Korea in 2014. But in a good number of other instances, though little else from a list of widely shared democratic attributes appears,<sup>1</sup> elections with some meaning do take place. To be sure, these may still be highly restrictive affairs, but fierce electoral competition does occur – a recent example: Nigeria in 2015.

As Diamond (2002) argues, elections like these meet Schumpeter's (1942) procedural definition for "minimalist democracies".<sup>2</sup> We show, in Section 2 of this paper, using Polity data, just how widespread such a political form seems to be. Indeed examples can easily be found in all parts of the developing world: in the Americas – The Dominican Republic, Ecuador, El Salvador, Haiti, Honduras, Nicaragua, Panama. In Asia – Indonesia, Nepal, Moldova, Mongolia. In Sub-Saharan Africa this procedural definition applies to a large share countries, including Kenya, Malawi, Nigeria, Tanzania, Uganda, Zambia.<sup>3</sup> For instance, in the case of Sub-Saharan Africa, Van de Walle (2003, p.36) discusses how "Political freedoms and civil rights may be formally recognized but are imperfectly observed in practice...A nominally free press is harassed in myriad ways, and the government retains a radio monopoly. Certain groups, notably key members of the executive branch and the military may, in effect, be above the law. The judiciary is officially independent, but it is poorly trained, overworked and easily compromised."

The elements of democracy that these minimalist democracies lack are precisely those enabling the masses to exert influence on leaders. Thus, it is not surprising to find that such democracies tend to fail to deliver significant material broad-based benefits to their citizens. Given this, these regimes present a conceptual challenge: if the power of the masses is sufficiently undermined that they are unable to impose their interests upon their leaders, then they are surely similarly powerless to ensure that election results are respected.<sup>4</sup> But then what does motivate election losers to cede power in minimalist democracies? Why are elections held in the first place? Understanding such questions is an important step in understanding the nature of minimalist (i.e. merely electoral) democracies – the conditions under which they emerge and regress, why, and whether they are merely a transitional phase on the way to consolidated democracy or a meaningful political type themselves.

This paper develops a model designed to shed light on these issues. We consider a framework where a number of distinct and entrenched elite compete over leadership of the state. At any point in time, only one of these elite can be a leader, and hence in control of the state's valued, but imperfectly transferrable, resources; the others are insiders. The non-elite are entirely marginalized. In fact, to make this point as starkly as possible, we take an extreme position and assume that the *only* threat to a leader derives from insiders to his regime (i.e.,

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<sup>1</sup>See Dahl (1971) for a prominent discussion of the several elements comprising such list and the dimensionality reduction exercise of focusing on contestation and inclusiveness.

<sup>2</sup>Diamond (2002, p.21) writes "Some measure democracy by a 'minimalist' standard like Joseph Schumpeter's: a political system in which the principal positions of power are filled 'through a competitive struggle for the people's vote.'"

<sup>3</sup>Bratton and Van de Walle (1997) who date meaningful elections in Africa to the start of the third wave of democratization there in the 1990s. Between 1990 and 1994, 38 countries in Sub-Saharan Africa out of 47 experienced competitive contests and 11 incumbents were replaced through them. Abstracting from the African case, we present systematic motivating evidence in Section 2.

<sup>4</sup>Although in a different setting (one in which the non-elite are able to demand democracy), Mukand and Rodrik (2015) distinguish between 'electoral' and 'liberal' democracy. Similar to us, they consider the key difference to be that electoral democracy lacks civil liberties. However, in their setting civil liberties are relevant insofar as they protect minority interests. For us, civil liberties are relevant insofar as they would strengthen the power of the non-elite.

coup threats). Thus any system of accommodation arrived at by the elite must be self-enforcing, in the sense that agreements depend on enforcement only through *endogenous* actions, with no role for *exogenous* actors – foreign powers, legal constraints, masses marching in the streets.

It has already been established in similar settings that imperfect transferability (or non-divisibility) of the spoils of office may render coups inevitable. Such coups are costly, so elections are a means to share power over time (Fearon 1995, Przeworski 1991). But what is less well known is how and when such power-sharing agreements are self-enforcing with only endogenous enforcement of the elections. As argued above, ‘exogenous’ enforcement of elections by citizens is, at best, extremely weak in most of these settings. So we determine conditions under which threats of violence from other elites, and only these, can maintain respect for elections. Perhaps equally importantly, given the ubiquity of elections, and the rareness of other forms of power-sharing (such as alternating power in turns, or tossing a coin to determine the leader), we demonstrate that elections possess distinct advantages vis-a-vis alternative means by which elite may share power.

To effectively share power via elections, two conditions must be met. First, those not in power must not want to seize control via a coup. This requires that there is sufficient flexibility in being able to distribute office rents to adequately compensate those not in power. Second, those in power must peacefully leave office when required. This condition is more complex. Facing a recalcitrant leader, the only recourse a non-leader possesses is to mount a coup, but this punishment imposes costs on the non-leader, not the least of which are violent reprisals were the coup to fail. At this point, an offer from the violating leader to ‘forgive and forget’ – to return to the original power-sharing agreement as if the violation had not occurred – becomes attractive. In fact, if the first condition required for elections to work is met, this offer will be preferred to the coup. But if this is the case, the credibility of coups as a punishment to a leader who refuses to step down is undermined.

This is precisely why elections are useful in supporting power-sharing. A candidate’s popularity among voters is diminished if they violate an election, and this works to enhance the credibility of elections as power-sharing devices for the elite. To see why, suppose that the leader who violates the electorate’s will and does not step down attempts to offer to the rightful winner a return to the equilibrium path of holding elections in future – as opposed to entering the mutually costly ‘punishment’ phase where the rightful winner tries to seize power via coup. Such an offer lacks plausibility since it asks players to ignore the fact that their true electoral prospects have been altered by the violation. Since the true electoral prospects are payoff relevant, players find profitable deviations from such an offer. By removing the plausibility of an offer to ‘forgive and forget’ in this way, elections bolster the credibility of the punishment for violating a power-sharing agreement. We show how punishments fail to be credible in this way in the absence of voters. The rationale is analogous to the rationale behind the observation in Fearon (1995) that conflict, a surplus-destroying action, should never arise whenever parties can negotiate without frictions. And while in Fearon (1995) the goal is to explain why war is in fact observed on the equilibrium path, our goal is different. We explain how the use of popular elections strengthens power-sharing agreements by rendering conflict (in the form of coups) a credible threat. Vesting control over the mechanics of the power-sharing agreement to citizens as voters gives to them the crucial role of turning the terms of the power-sharing agreement against violators. Thus, although the citizens are powerless in our model, they are by no means superfluous in their role as voters.

The model has implications for furthering specific dimensions of the democratization process. It helps understands top-down transitions to democracy in which there seemed to be no active agitation from the masses (such as the well documented elite-driven electoral wayposts of Ghana in 2000, Cabo Verde in 1991, and Taiwan

in 1996).<sup>5</sup> By considering the threat arising from within the elite, we introduce a role for the transferability of office rents. Whilst it is true that greater transferability enhances the scope for the elite to come to mutually beneficial agreements, we show how the incentive to respect elections – and thus the existence of minimalist democracy – is actually jeopardized by sufficiently transferable office rents.

This feature is crucial in allowing us to match the well-known empirical regularity whereby greater access to resource wealth – a proxy for the transferability of office rents – promotes autocracy via a mechanism that is distinct from existing explanations. Moreover, our model allows us to make a finer prediction: natural resource windfalls promote the elections component of democracy. We produce empirical support on this in Section 4 as well as studying the systematic patterns of emergence of minimalist democracies in Section 2.

The present paper is related to a number of others that have analyzed the means by which democracy can be “self-enforcing”. Fearon (2011), Egorov and Sonin (2014), and Little, Tucker & LaGatta (2015) also study this question. However, in these models, enforcement is based on threats from the masses, as a leader not stepping down faces dissent from the street. Relative to our paper, these approaches face the challenge of explaining why it is that a populace can be so important for determining whether a leader continues to hold on to power, while at the same time is not able to assert its will to obtain the other freedoms and benefits accruing to voters in full democracies. Relative to their analyses, our paper faces the challenge of explaining why voters have any role to play at all given that all power is determined by the actions of elites. As will be seen, it is precisely the voters’ lack of a direct stake in violent conflicts determining leadership change which make power alternations that rest on the voters’ say so credible. As argued in Svobik (2012), these violent threats from within the governing group are not unimportant, in fact coups d’etat are the primary danger leaders face in elite-centred regimes.<sup>6</sup>

Przeworski (2005) and Benhabib and Przeworski (2006) also analyze the self-enforcing aspect of a leader’s decision to leave office following an electoral loss. In these analyses the cost of not stepping down is that the leader must become a dictator (and this leads to fewer freedoms – and perhaps status – for the leader). Facing these costs, the leader prefers to respect election outcomes and step down. Our theory starts down a similar path to these papers, but adds the following insight. In general, there is no reason for dictatorship to be a permanent state. A leader may refuse to step down, and hence enter in to the “punishment” highlighted by these papers. But since this phase is both costly to the leader and to the insiders – as they must now challenge for leadership through violence – it should be possible for them to mutually agree to reverting to peaceful alternation. The possibility of renegotiation is not contemplated in any of these analyses, but would seem to substantially weaken them. Formally exploring it in our setting gives rise to an explanation for the specific role that voters and elections play in minimalist democracies.

The seminal analyses of democratization by Acemoglu and Robinson (2001) and Boix (2003) differ from the analysis here in two important ways. Firstly, they provide theories of a much more complete form of democratization than is our focus here. For them, democratization is a movement away from elite rule to essentially a rule of the masses. So, theirs is a theory of transition from autocracy to full and representative democracy. Second, as in the cases above, enforcement of democratic rule rests on citizens’ threats of rebellion. As a direct consequence, democracy, which is in fact median voter rule, would imply policies and rules that directly serve the interests of the non-elites. This clearly cannot explain the minimalist democracies of the world, which by

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<sup>5</sup>See Meyns (2002) and Baker (2006) for the case of Cabo Verde, see Quainoo (2000) and Gyimah-Boadi (2001) for the case of Ghana, and see Huntington, (1991) and Hsiao and Koo (1997) for a discussion of the top-down transition in Taiwan.

<sup>6</sup>See Kendall-Taylor and Frantz (2014), Geddes (2003), Svobik (2009) and Ezrow and Frantz (2011) for further analysis of turnovers in autocracies and empirical evidence in support of this statement.

definition do not include any of the other accompaniments to elections. This also cannot explain why democratizations – in the minimalist sense – do not seem to be accompanied by or followed by substantive changes in redistribution or systematic improvements on a vast range of public goods beneficial to the masses.<sup>7</sup> Again, this arises naturally in our framework where the non-elite have no power to impose their policy will on the elite. We present a substantial amount of evidence, much of which is novel, in Section 2 showing the ubiquity of this minimalist democratic type.

A different set of papers have sought to explain the use of elections by a powerful elite based on informational grounds. A reason for holding elections would be to gain information useful in precluding costly conflicts. Przeworski (1999) explores such a role for elections in revealing the strength of support for contesting parties. If relative support at the ballot box informs of the relative strength in violent conflict, then it may be a cheaper and self-enforcing means of inducing turnover. The uncertainty of support from the masses plays a key role there, so such an explanation again hinges on the masses being able to exert influence. But as argued already, if the rank and file's influence is that great, this begs the question of why non-elites are not able to get other broad democratic outcomes – like rule of law, respect for civil liberties, a functional bureaucracy etc. Our focus here, in contrast, is on extremely weak non-elites.<sup>8</sup>

The rudiments of the model developed here are present in Francois, Rainer, and Trebbi (2015). In particular, the transfers available to dissuade threats from a coup capable elite are modelled in a similar manner. But the main focus of the present paper is not available there, namely the use of elections to decide on the identity of the leader. Even if elections were introduced there, they would have no consequence. That paper is restricted to the part of the parameter space where elections are dominated by transfers, and hence where autocracy is the chosen form of elite rule. As will be shown here, where we consider the full set of possibilities, when transferrable rents are in a lower range, minimalist democracy becomes a dominant form of governance for all of the elite. This identification of the parametric limits of minimalist democracy also yields the paper's empirical implications.<sup>9</sup>

A small literature has also analyzed the phenomenon of purely elite-driven democratizations. These papers are able to explain why policy may only move in isolated dimensions in favor of the non-elite. According to

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<sup>7</sup>Acemoglu, Naidu, Restrepo, and Robinson (2013) for recent evidence of lack of redistribution.

<sup>8</sup>In Little, Tucker & LaGatta (2015), election results signal the popularity of a regime. Unlike our analysis, the non-elite there have the power to bring down the government. Coordinated actions of the rank and file can lead to the ousting of unpopular regimes, and elections provide signals of incumbent popularity and facilitate coordination. Though not focused on elections, a recent paper by Casper and Tyson (2014) presents a similar signalling model, which differs in its focus on coups – and hence threats from the elite – as the source of regime instability. Opportunities to topple the current leader are signalled by non-elite protests, so that the elite may act on this and move against leaders who have been signalled as weak. Rozenas (2012) is another example of a signalling role for elections, and again rests on threats of revolutions toppling regimes. Malesky and Schuler (2011) also see elections as a device for autocratic leaders to gauge support for potential rivals in the general population. These authors go further in assessing the potential fall-out for a leader unable to manipulate either the running of, or tallying of, the electoral results. A question that all such approaches which rest enforcement on the potential of rebellion from the masses cannot readily explain is why if the non-elite are so instrumental in bringing down governments are they so poorly accommodated by the actions of those governments.

<sup>9</sup>Magaloni (2008) also explains why strong elites who are not facing direct threats to power from non-elites would want to use elections to decide paramount positions. Similar to here, leaders can dissuade coup attempts by transferring resources to threatening elites. However, a leader may promise transfers to insiders only to fail to deliver once the insider has joined the regime. She explains how single, and multi-, party elections can help leaders overcome this problem. Single party elections help ensure promotion for insiders who fare well, multi-party elections are a commitment to high transfers as they increase the threat of a disgruntled insider who can then run against the leader if not properly paid. Throughout her analysis, the key issue here is ignored, namely: why non-binding elections, without enforcement, decided by a set of voters, will be implemented and respected by members of a powerful elite. Our take on this differs from all previous analyses of 'self-enforcing' elections. Here the elite are completely unrivalled in their power: i.e., there is no recourse to actions that would disrupt any member of the elite's rule from members of the non-elite.

these theories the elites precipitate franchise extension on their own terms, and for their own ends, remaining largely in control of the state apparatus. Lizzeri and Persico (2006) explain why a small elite might want to extend the franchise in order to overcome the problem of temporarily decisive groups from within the elite using leadership to redistribute to themselves instead of providing public goods (which are more efficient for the elite as a whole). Extending the franchise increases the equilibrium provision of public goods, which they argue happened in 19th century Britain. Llavador and Oxoby (2005), similarly applied to the 19th century, also studies franchise extension. There, a faction of the elite (industrialists) favour franchise extension, i.e. democratization, in order to obtain policies that they prefer at the expense of another elite faction (landlords) who they cannot defeat otherwise. Both of these papers are similar to ours in their focus on an elite voluntarily extending decision power on leadership identity to the non-elite. In each of these, the extent of the franchise granted to non-elites, or the identity and policy interests of the non-elite play key roles in influencing the form of policy. As such, they are concerned with polities where governance is, at least partly, reflective of the interests of the non-elite, and in explaining shifts in policy that happened in the countries where extension occurred. These would not seemingly apply to the non-redistributive, elite-catering electoral democracies that proliferate in weakly institutionalized settings today.

Wantchekon and Neeman (2002) similarly analyze a set-up where a powerful elite chooses to implement democracy. Again, there, the non-elite have no power to force their demands. They have in common with the present paper the position that elections provide a type of randomization device that allow the elite to undertake power sharing. A major difference is, once again, that the election results obtained there do not need to be self-enforcing, but are binding on the participants. A further implication of their analysis is that the degree of elite expropriation also falls, that governance improves, benefiting the non-elites. Our explanation imposes no such requirement, and is thus more immediately consistent with observed minimalist democracies.

The paper is organized as follows. Section 2 documents the empirical relevance of minimalist, purely electoral democracies, and their features. There we assess how many of the hybrid regimes that populate the intermediate or “gray zone” (Diamond, 2002) in the democratic spectrum are in fact minimalist democracies and their systematic emergence from autocratic regimes. We also document the resilience of minimalist democracies and that it is not the case that minimal democracy is simply a stepping-stone inevitably leading to full democracy. Section 3 presents the model. Section 4 analyzes the role of elections and history dependence, and adds empirical implications. Section 5 concludes.

## **2 Motivating Facts**

This section has the goal of providing a set of stylized facts aimed at qualifying and motivating this paper’s focus on minimalist democracies.

Even to the reader unfamiliar with democratic theory and with the extant empirical literature in comparative politics and political economy, the presence of partially functioning and institutionally weak democracies – what Diamond (2002) aptly defines the “gray zone” of democracy – will hardly come as a surprise. The political spectrum is just not made of either fully democratic or fully autocratic regimes. There is, in fact, a lot of gray. The Polity IV project (Marshall, 2013), a standard reference in the measurement of political regimes characteristics, offers comparative institutional measures that allow tracing over time their prevalence in Figure 1.

This class of hybrid regimes represents the potential point of departure for our discussion, as their prevalence, especially among developing countries, and their fragility to conflict and crisis, make them an important

area of analysis in the political economy of development literature. It turns out that understanding such hybrid regimes hinges crucially on understanding minimalist democracies, and hence the role of elections in unconsolidated democracies and electoral autocracies. Particularly, this section will show that minimalist democracies exist almost exclusively in the “gray zone”. We will also be able to clarify empirically the role of minimalist democracies in transitions, by showing that minimalist democracies are the overwhelming point of departure from non-democracy. Finally, we will show that minimalist democracies are not ephemeral, fleeting phenomena, but can persist over time. To the best of our knowledge these stylized facts are new to the literature on democratic theory and per se of value to the empirical literature on democracy.

*Fact 1: Less than consolidated democracies are predominantly minimalist, in the sense of satisfying electoral competitiveness requirements but little more.* This fact could be readily ascertained from the raw data, were detailed disaggregated measures of political features in fact available. Ideally one would require, at the very least, specific scores for both competitiveness and inclusiveness of the political process, the two main factors in Dahl’s famous decomposition of the democratic state, and investigate their distribution among hybrid regimes.

The Polity IV project offers such decomposition, producing scores for competitiveness of executive recruitment (XRCOMP), openness of executive recruitment (XROPEN), limitations on the executive authorities (XCONST) and inclusiveness of political participation (PARCOMP) among different groups in society. An unambiguous interpretation of the Polity IV subdimensions comes from Goldstone et. al. (2010) – that paper’s authors include two of the original Polity principal investigators – explicitly reporting that there are: “two variables in the Polity data set that roughly correspond to the two dimensions Dahl (1971) uses to characterize modern forms of government. We use Polity’s scale for the openness of executive recruitment (EXREC) as a measure of contestation and Polity’s scale of the competitiveness of political participation (PARCOMP) to capture variation in the degree and forms of inclusiveness.” EXREC is the executive recruitment concept variable whose main components are XRCOMP and XROPEN.<sup>10</sup> PARCOMP captures “the extent to which the political system enables non-elites to influence political elites in regular ways” by addressing “the extent to which alternative preferences for policy and leadership can be pursued in the political arena” (Marshall, 2013, p.26). Polity IV also offers an aggregate measure of the overall degree of democracy in a country, specifically through its revised Polity 2 score, which cumulates the full set of sub-dimensions on a discrete scale of democracy increasing from –10 to 10.<sup>11</sup>

By looking at which levels of the Polity 2 score (from less democratic to more democratic) the different features of competitiveness and inclusiveness emerge, one can garner a first indication of the characteristics of regimes in the gray zone. It is easy to show that electoral competitiveness systematically emerges at lower Polity 2 scores than political inclusiveness. Table 1 considers three different country-year subsamples of the Polity 2 data: consolidated democracies (with scores above 8); less than consolidated democracies with scores above 0 but less than 8; less than consolidated autocracies (with score between –5 and 0). It then evaluates how many of the countries within each of the three subgroups reach fully democratic scores for three different dimensions: Competitive elections, coded as 1 if XRCOMP = 2 (transitional arrangements between selection, ascription and/or designation, and competitive election) or 3 (election), and 0 otherwise. Inclusive political process, coded as 1 if PARCOMP = 4 (transitional arrangements to fully politically competitive patterns of all voters) or

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<sup>10</sup>We will focus on the component variables as opposed to the concept variables in what follows, in order to focus on the most disaggregated level possible.

<sup>11</sup>Although some subcomponents of Polity 2 load somewhat nonlinearly on Polity 2 (for example when it comes to XCONST), XROPEN, XRCOMP, PARCOMP load linearly on the overall score, so none of the results on contestation and inclusiveness reported below hinge on nonlinear loadings of these subcomponents. For details see <http://www.systemicpeace.org/inscr/p4manualv2012.pdf>

5 (competitive: alternative preferences for policy and leadership can be pursued in the political arena), and 0 otherwise. Executive constraints, coded as 1 if XCONST = 5 (substantial limitations on executive authority) or higher, and 0 otherwise. The table shows, quite intuitively, that consolidated (mature) democracies fare as well in terms of competitive elections as in terms of limitations on the executive authorities and inclusiveness of political participation. Less-than-consolidated democracies – i.e. regimes in the gray zone – fare almost as well as consolidated democracies in terms of competitive elections (XRCOMP). However, regimes in the gray zone fare much worse in terms of limitations on the executive authority (XCONST) and on inclusiveness of political participation (PARCOMP). Weak autocracies finally lose the competitive elections. Using an alternative, but much coarser measure for electoral competitiveness, defined based on the openness of executive recruitment (XROPEN = 4, i.e. open executive recruitment), produces similar patterns. In conclusion, electoral competition is the predominant democratic feature in the gray zone.

In the left panel of Figure 2 we report the nonparametric representation by local polynomial of the relationship between a dummy for competitiveness of executive recruitment and the overall Polity 2 score in the dashed line. It is evident that competitiveness arises at lower Polity 2 scores than does the same line but for political inclusiveness (in solid). In the right panel of Figure 2 we again report the nonparametric representation by local polynomial of the relationship between a dummy for competitiveness of executive recruitment and the overall Polity 2 score in the dashed line. And again competitiveness arises at much lower Polity 2 scores than do executive constraints (in solid). In appendix Figures A1, A2, and A3 we repeat the analysis, but controlling for country and year fixed effects using semiparametric methods. The competitiveness of executive recruitment emerges at Polity 2 levels around 0 and significantly differently (based on 95% country-clustered confidence bands) than political inclusiveness or executive constraints, which both appear more frequently among consolidated democracies.

*Fact 2: Minimalist democracies are the point of departure from non-democracy.* This second feature of the data is illustrated by focusing on events of democratization and reporting which democratic features emerge at the onset. Acemoglu, Naidu, Restrepo, and Robinson (2013) produce a detailed list of 122 democratizations and of 71 democratic reversals for 175 countries over the 1960-2010 period, which we employ in an event study type of analysis. The authors provide a convincing discussion of the advantages their classification of events relative to other extant studies (for example the forward-looking classification of Papaioannou and Siourounis, 2008).

The empirical approach we follow is straightforward. For each variable considered in the event study, we partial out year and country fixed effects and normalize the residual mean level 5 years before a democratization (or reversal) to 0. In each figure, the democratization event takes place at  $t = 0$  and the behavior of the variable is plotted in a window around it.<sup>12</sup> For example we can follow the behavior of contestation and inclusiveness around events of institutional change. The conditioning on year and country fixed effects ensures the dynamics we report are not biased by unobserved heterogeneity, composition effects, and global trends, all issues emphasized by Acemoglu et al. (2013) as particularly relevant in this empirical setting.

In the left panel of Figure 3 we report the behavior around democratizations of electoral contestation and in the right panel of Figure 3 of inclusiveness. Competitive elections, as defined above, clearly jump at democratization, with a sharp, almost discontinuous increase when the country moves out of non-democracy. Inclusiveness is instead characterized by a much smoother behavior at  $t = 0$ . While the data also indicate an increased incidence of inclusive politics at  $t = 0$ , such increase is about 2/5 in magnitude of the increase in com-

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<sup>12</sup>We thank an anonymous referee for suggesting this event study approach and for suggesting this exhaustive set of empirical checks.



petitive elections, and only after 15 years of inclusive politics do the two variables reach comparable levels of incidence.<sup>13</sup> Hence, contestation systematically leads inclusiveness and countries do not immediately move to a Meltzer and Richard's type of fully representative democracy at onset, one where the political voice of the median voter may be heard. The lack of empirical support for the Meltzer and Richard's logic to democratization can be further illustrated by focusing on the behavior of after tax income inequality around democratization. A basic prediction for the theory is that the after tax Gini coefficient should be lower as a country transitions from nondemocracy to democracy. In Figure 4, where we employ after tax Gini from Solt (2014) Standardized World Income Inequality Database, there is no evidence of any break in Gini levels at  $t = 0$ , if anything the level of inequality increases smoothly over time.

Other institutional features which might be correlated with representation appear also to lag electoral competition. Figure 4 also reports the behavior of the Freedom House civil liberties index (rescaled to indicate maximum level of civil liberties with 1 and minimum with 0). At democratization this particular measure of civil rights attributed to the general population does appear to follow a pattern similar to inclusiveness, smoothly increasing over time after  $t = 0$ <sup>14</sup>.

It would be unwarranted to rule out any role for social conflict and rebellion threats in a theory of democracy. The events of the Arab Spring of 2011 are an obvious counterexample of their importance. However, our theory relies on a different mechanism which just may happen to be more empirically salient. To justify our focus on minimalist democracies that leave little room to pressure from outside the elite, in Figure 4 we report the behavior around democratization of social unrest measured with a dummy variable for revolutions, demonstrations, revolts, or strikes from Banks (2015) Cross-National Time-Series Data Archive. The data do not seem to overwhelmingly indicate social conflict as main precursor of democratizations, or at least that no overwhelming empirical smoking gun is present to suggest our focus is unwarranted. Social unrest appears marginally higher before democratizations, but the amount of variation in social unrest appears quantitatively minimal comparing before and after democratizations, or even relative to reversals (as reported below). Alternative measures of unrest are not abundant, but when using information on coups from the University of Illinois' Cline Center for Democracy Coup D'état Project a similar lack of stark discontinuities at  $t = 0$  is evident.

It is instructive to focus on reversals, i.e. movements into non-democracy. We report this analysis in appendix Figures A4, A5 and A6, in a fashion analogous to Figures 3 and 4. Inclusiveness appears on a downward trend well before reversals at  $t = 0$ , with electoral competition being the last feature to be removed. Income inequality appears again unaffected at reversal. Interestingly civil liberties also tend to present a sharper erosion around reversals.

*Fact 3: Minimalist democracies are non-ephemeral.* This third feature of the data can be illustrated by focusing on regime transitions. Again, in order to maintain the analysis as transparent as possible, we focus on raw transition matrices across years. Given our definitions of competitive and inclusive politics indicators above, we define the following four states: Non-democracy if Competitive elections = 0 and Inclusiveness = 0. Minimalist democracy if Competitive elections = 1 and Inclusiveness = 0. Alternative democracy if Competitive elections = 0 and Inclusiveness = 1. Representative democracy if Competitive elections = 1 and Inclusiveness

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<sup>13</sup>Incidentally, reproducing the event study analysis for executive constraints reports an effect closer to contestation than inclusiveness. This is in line with what reported above.

<sup>14</sup>Reproducing the event study analysis for Freedom House political rights index reports an effect qualitatively close to what shown for contestation at  $t = 0$ . The definition used for political freedom in the Freedom House conflates contestation and inclusiveness and is coarser than the one presented in Polity IV.

= 1. The empirical frequencies of the transitions from year  $t - 1$  to  $t$  in the post-1945 period are reported in Table 2 panel A. Focusing on the minimalist democracy state we observe a year-on-year likelihood of persistence in this state of 92%, which underscores a substantial level of persistence. In terms of length of the spells under the four states described above (and ignoring censoring), the average length of spells under minimalist democracy is 9 years, under representative democracy is 24 years, under non-democracy is 24 years, and under alternative democracy is 8 years.

In Table 2 panel B we report the same data expressed as conditional on a transition happening between  $t - 1$  and  $t$ . The evidence here provides further support for Fact 2 above, where we find minimalist democracy to be the most likely transition state out of non-democracy. Furthermore, Table 2 panel B provides evidence suggesting that minimalist democracy is not merely a stepping stone to full democracy. Indeed, minimalist democracies are around twice as likely to transition to non-democracy than to full democracy. We also reproduced the transition analysis using different measures for competitive elections (using only XRCOMP = 3) and inclusive politics (using only PARCOMP = 5) with very similar results.

Overall, the evidence so far shows that regimes in the political gray zone are systematically minimalist—they hold competitive elections but are not inclusive—that such regimes are a common point of departure from autocracy, and that they are themselves persistent. It remains to be shown why democratizations produce regimes that possess these specific features, what triggers such democratizations, and why the resulting regimes are resilient. We formalize these issues next.

## 3 Model

### 3.1 Basic Setup

Consider an infinite horizon discrete time economy populated by two types of agents: citizens and the elite. At each date  $t$  there are two elites, one of which is the *leader* and the other the *insider*. Apart from the roles they assume at a given date, members of the elite are otherwise symmetric.<sup>15</sup>

Leaders are one of two types: *regular* or *totalitarian*. Regular types are, as per the “tinpots” described in Wintrobe (1990), maximizers satisfied to stay in power in order to collect the rents of office. The vast majority of leaders correspond to this type. But Wintrobe’s description of the totalitarian type also clearly applies in some cases. Totalitarians are individuals who maximize power over the people they control. They are willing to use all the available instruments of repression to achieve that end. The obvious exemplars are the extreme cases – Hitler, Stalin, Mao and Kim Jong-un.<sup>16</sup> The totalitarian’s obsession with maintaining power ensures they will never voluntarily leave office. Regular types, however, will leave office based on continuation values – to be defined below. All agents start off as regular types but become a totalitarian type (permanently) with probability  $\varepsilon \rightarrow 0$  when they assume the leadership position. A leader’s type is not observed by citizens but we allow the leader and insiders to observe each others’ types.

At the start of the period, the leader obtains a non-transferable payoff from holding office (ego rents, prestige, status, power, etc.) worth  $F$  and is also endowed with  $U$  units of transferable patronage (graft, cash, re-

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<sup>15</sup>None of our results hinge upon either having only two members of the elite, nor on symmetry across members of the elite. We discuss the implications of relaxing these assumptions in section 5.

<sup>16</sup>For less extreme historical figures there is more debate as to motivations, but the list is hardly exhaustive.

source revenues, public offices, bribes, etc.).<sup>17</sup> The leader then decides how to allocate the available patronage between himself and the insider. Thus, if  $\tau \in [0, U]$  units of patronage are allocated to the insider in some period, then the leader obtains a payoff of  $F + U - \tau$  in that period. The extent to which the benefits of office are transferable is captured by

$$\psi \equiv \frac{U}{F+U}. \quad (1)$$

The insider observes his allocated patronage and decides whether to mount a coup or not. A coup requires that the allocated patronage is forgone and succeeds with probability  $\gamma$ . If successful, the coup instigator becomes leader in the following period and the current leader dies. If unsuccessful, the coup instigator dies.

If there is no coup, the leader can choose whether to hold an “election”. As will be seen, an election is almost identical to a randomization device, like a coin-toss, which leads to the leader “winning” with some probability, and the insider with its reciprocal.<sup>18</sup> Following an election, the leader chooses whether he is going to respect the result. Since elections have no accompanying enforcement, results from them can be ignored and there is thus no downside to holding an election in the model. To simplify the exposition we suppose that elections are always held and focus instead on whether the results are respected. We can then interpret a situation in which leaders never respect election losses as being equivalent to elections not being held, or to the other common autocratic case of elections being so fraudulent and restricted that the insider never has the chance to win.

Each member of the elite dies with probability  $\delta$  at the end of the period for exogenous reasons. An elite that dies is replaced by another in the next period and the replacement occupies the same position (leader or insider).

To summarize, the basic timing within a period is as follows:

1. Leader allocates patronage
2. Insider observes allocation and decides whether to mount a coup
3. If no coup, then election results revealed and Leader decides whether to respect them
4. Successors assume the role of any agents that die

We deliberately set aside the possibility of revolutionary threats from citizens. The one and only role of citizens is to decide the election outcome. We further emphasize that citizens do not have redistributive motives for voting: consistent with repeated observation in weakly politicized settings, citizens correctly anticipate that

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<sup>17</sup>Patronage is a ubiquitous feature of weakly institutionalized polities. For instance, Bratton and Van de Walle (1994) write: “The distinctive institutional hallmark of African regimes is neopatrimonialism. In neopatrimonial regimes, the chief executive maintains authority through personal patronage, ...The essence of neopatrimonialism is the award by public officials of personal favors, both within the state (notably public sector jobs) and in society (for instance licenses, contracts and projects). ....it is the *core* feature of politics in Africa...”. Patronage, graft and the state’s wealth are all clearly of a transferrable form, but it is equally realistic that no small part of the motivation for leading a country comes in the form of status and the even more nebulous form of “power”. A voluminous literature exploring the psyche of dictators attests to this. For example, much has been made of the self-aggrandizing aspects of power which satisfy deep personal needs within a particular type of leader, see Padilla, Hogan and Kaiser (2007). Again, it is conceivable that some of this could be transferrable – leaders can appoint a “right hand man” with immense power. But the residual component of a leader’s power in a weakly politicized state is inherently non-transferrable – the leader always has the right to “un-appoint” the right hand man too. These residual decision rights are similar in nature to those discussed in the theory of incomplete contracting a la Grossman and Hart (1986). A non-trivial component of power, and hence a leader’s status, seems inextricably linked to actually being the leader.

<sup>18</sup>We explore the outcomes generated by alternative randomization devices in section 4.1 to follow, but for now assume that the only one available is an election.

leaders do not deliver pro-citizen policies. Thus, for the most part, voters are essentially indifferent between candidates.<sup>19</sup> When this is the case the incumbent wins the election with probability  $p \in [0, 1]$ .

This state of indifference is broken however if a leader refuses to respect an election loss (equivalently, refuses to hold an election) when he was expected to do so in equilibrium. In this event, voters become more reluctant to vote for the recalcitrant leader in the future because they believe him to be a totalitarian type with a probability that is higher than that of insiders. Citizens rationally fear totalitarians. In their attempts to maximize power, totalitarians enact the tools of repression maximally. We model the cost of this to the citizens by assuming that each faces a small risk of being caught up in these repressive acts. Formally, with probability  $\eta \rightarrow 0$  a totalitarian leader will affect a citizens' payoffs adversely. The  $\eta$  possibility can be thought of as the chance of a citizen falling foul of the leader's repressive agents, or of being unluckily swept up in one of the leader's periodic purges. It simplifies the analysis to model the risks to a single citizen as being very small. For the results that will follow an arbitrarily small preference on the part of citizens to avoid totalitarian leaders is sufficient. Of course, if repression affects citizens more than rarely, this only makes citizens prefer non-totalitarian leaders even more, and the results will be strengthened. A key distinction between democratic and autocratic outcomes will hinge on voters' perceptions regarding a leader's type following the violation of election results.

Two important points arise from this structure. First, if both the leader and non-leader have always taken the equilibrium response to election losses, then citizens consider them equally likely to be a totalitarian ruler – i.e. the leader *is* totalitarian with probability  $\varepsilon$  and the non-leader would *become* a totalitarian leader with probability  $\varepsilon$ . Second, if a leader refuses to step down when they are expected to do so in equilibrium, then citizens believe them to be totalitarian. This remains true even if such a leader were to subsequently step down.<sup>20</sup> As a result, such a leader becomes uncompetitive in future elections. This may seem extreme. As Wintrobe (1990) discusses, even the most infamous of totalitarians continued to receive support from considerable segments of the population despite years of despotic rule. In section 5 we show that while it is necessary that a recalcitrant leader has a strictly lower probability of reelection, at least temporarily, it can be considerably above zero and can also revert back to  $p$  without affecting the qualitative results we shall establish.

### 3.1.1 States and Markov Strategies

We first focus on (symmetric) Markov Perfect Equilibria (MPE), whereby strategies depend only on the payoff relevant state variable and prior actions taken within the period.<sup>21</sup> There are two relevant states, denoted  $\{\omega_p, \omega_0\}$ , differentiated by the probability with which citizens elect the incumbent. State  $\omega_p$  represents the situation in which citizens are indifferent between the leader and non-leader. In this state the incumbent is re-elected with probability  $p \in [0, 1]$ . State  $\omega_0$  represents the situation in which citizens are reluctant to vote for the incumbent because of the violation of an election result in the past. In this state the incumbent is elected with probability zero.

Transitions between these states work as follows. If, ordinarily, regular leaders do not respect elections in

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<sup>19</sup>Our setting can accommodate the case where some voters have strong preferences for candidates, for instance because of ethnic, religious, or regional affinities. In that case we interpret “voters” to mean those voters without such affinities to candidates who can conceivably switch votes.

<sup>20</sup>If regular leaders always respect election losses in equilibrium, then we would never observe a leader that respects an election loss after having previously not respected an election loss on the equilibrium path. As such, citizen beliefs are not pinned down in this event. They would be pinned down in the manner described if, for example, election losers were forced to step down with a positive but arbitrarily small probability. In any case, all that we require is that such a leader does not fully redeem themselves by respecting an election.

<sup>21</sup>We consider equilibria with non-Markov strategies in section 4 below.

state  $\omega_p$ , voter beliefs are unaffected when a leader refuses to step down in state  $\omega_p$  and the economy thus remains in state  $\omega_p$ . On the other hand, if regular leaders generally respect election outcomes in state  $\omega_p$ , refusing to step down following an election loss leads citizens to believe that the leader is a totalitarian and the state transitions to  $\omega_0$ . Since it would never be optimal for the leader to voluntarily step down in state  $\omega_0$ ,<sup>22</sup> the leader will remain more likely than the challenger to be a totalitarian. The economy thus remains in state  $\omega_0$  until the leader dies – either naturally or via a coup – at which point citizen indifference re-emerges and the state transitions back to  $\omega_p$ .

When a leader, a Markov strategy maps the state  $\omega \in \{\omega_p, \omega_0\}$  into a patronage allocation and a probability of respecting an election loss. When an insider, it maps the state  $\omega$  into a function that indicates a coup probability for each potential amount of offered patronage transfer. We provide the full definition of (symmetric) Markov Perfect Equilibrium in the appendix, but opt to present more useful specialized definitions in the text that follows. Specifically, we consider the two natural classes of equilibria. The first is Autocratic equilibria, whereby leaders never respect election losses (equivalently, never hold elections), and the second is Democratic equilibria, whereby leaders always respect election results. These are considered in turn.

### 3.2 Autocratic Equilibrium

We begin by analyzing equilibrium outcomes that arise when elections are ignored (equivalently, never held). Such equilibria, which we call *autocratic equilibria*, feature leaders that never share power with insiders. Despite this, autocratic leaders need not face coup attempts in equilibrium since they are able to share patronage with insiders. Since coups are costly, insiders can be dissuaded from holding them if they are offered enough of a transfer. Whilst one could imagine a leader preferring to face coups over making the transfers required to dissuade them, we shall demonstrate that this can never be the case – any political violence in equilibrium necessarily reflects insufficient patronage. We show how a generically unique autocratic equilibrium always exists, and depending on the availability of patronage can either never have coups (a *secure* autocracy), occasionally have coups (a *weakly insecure* autocracy), or always have coups (a *strongly insecure* autocracy). We also show that, unlike democracy, an unwillingness to share power is *always* self-enforcing: it is never optimal to hand over the leadership today if no-one is expected to hand over the leadership in the future.

#### 3.2.1 Equilibrium Conditions

If leaders never respect election losses, then voters' beliefs about a leader's type are not affected by a refusal to step down. As such, the economy only exists in a single state,  $\omega_p$ . Equilibrium strategies reduce to a patronage transfer level,  $\tau_A$ , and a coup probability function,  $c_A(\tau)$ .

Let  $V_A^L$  be the value of starting a period as leader and  $V_A^N$  be the value of starting a period as the insider. The leader is optimizing in his transfer choice if

$$\tau_A \in \arg \max_{\tau \in [0, U]} \{F + U - \tau + (1 - c_A(\tau) \cdot \gamma) \cdot (1 - \delta) \cdot V_A^L\} \quad (2)$$

<sup>22</sup>This is shown formally in the appendix, but the intuition is as follows. If the leader stepped down, then they are more likely than the new incumbent to be a totalitarian (and since  $\eta \rightarrow 0$  we can ignore the possibility that the new incumbent reveals themselves to sufficiently many voters so that the old incumbent would be preferred). Since the new leader continues to win elections, there is no opportunity for them to violate an election loss and therefore their popularity (and that of their replacements) relative to the non-leader persists. Thus, if a perceived totalitarian steps down, they will become a non-leader that will never be elected. This means that such a non-leader will be held to their expected value of mounting a coup. But even if the coup succeeds they only get the discounted value of being a leader in the  $\omega_0$  state. In short, stepping down in state  $\omega_0$  represents a strictly costly way to achieve what one could get by not stepping down in state  $\omega_0$ .

and the insider is optimizing at each possible transfer if

$$c_A(\tau) \in \arg \max_{c \in [0,1]} \{c \cdot [\gamma \cdot (1 - \delta) \cdot V_A^L] + (1 - c) \cdot [\tau + (1 - \delta) \cdot V_A^N]\} \quad (3)$$

for all  $\tau \geq 0$ . Given equilibrium outcomes,  $\tau_A$  and  $c_A \equiv c_A(\tau_A)$ , the value functions satisfy

$$V_A^L = F + U - \tau_A + (1 - c_A \cdot \gamma) \cdot (1 - \delta) \cdot V_A^L \quad (4)$$

$$V_A^N = c_A \cdot [\gamma \cdot (1 - \delta) \cdot V_A^L] + (1 - c_A) \cdot [\tau_A + (1 - \delta) \cdot V_A^N]. \quad (5)$$

In order for the leader to optimally ignore election results – i.e. in order for autocracy to be self-enforcing – it must be that

$$V_A^L \geq V_A^N. \quad (6)$$

The strategies  $\tau_A$  and  $c_A(\tau)$  form an *autocratic equilibrium* if conditions (2)-(6) are satisfied. An autocratic equilibrium is said to be *secure* if  $c_A = 0$ , is said to be *strongly insecure* if  $c_A = 1$ , and said to be *weakly insecure* if  $c_A \in (0, 1)$ .

### 3.2.2 Analysis

Working backwards within a period, we first need to determine which transfers will dissuade insiders from mounting a coup given that they correctly anticipate that the leader will not hold/respect an election. From (3) it is clear that dissuading insiders from mounting coups requires that they are paid a critical transfer level. Denote this critical level  $\hat{\tau}_A$  and note that  $\hat{\tau}_A > 0$ .<sup>23</sup> Given this, the problem facing the leader is whether to pay  $\hat{\tau}_A$  and enjoy reprieve from coups or to instead pay zero and face coups. Once this optimal decision is determined we need to verify that it is indeed optimal for leaders to ignore elections.

**Lemma 1.** *Any autocratic equilibrium displays the following features.*

1. *Coups are avoided whenever it is strictly feasible to do so:  $\hat{\tau}_A < U \Rightarrow \tau_A = \hat{\tau}_A$ .*
2. *Autocracy is always self-enforcing: conditions (2)-(5) imply condition (6)*

The intuition for the first part arises from the fact that coups are surplus destroying – either the leader or challenger dies with probability one – so avoiding them raises the surplus of the game played by insiders and leader. This efficiency gain, which can always be claimed by the leader through his discretionary allocations of  $\tau_A$  when  $\hat{\tau}_A < U$ , ensures that coups are avoided along the equilibrium path in such cases.

The requirement that autocracy is self-enforcing seems to be threatened by the observation that the leadership is unattractive when subject to frequent coup attempts and/or high patronage demands whilst being an insider is attractive to the extent that they are able to use the threat of coups to extract patronage transfers. The second part indicates that such a threat never materializes. The intuition follows from noting that a leader becomes an insider by stepping down. Since insiders can mount a coup, they can ensure themselves at least the expected value of coups. But in autocracy, this is also the most that they can achieve, since leaders do not relinquish power. But this is strictly less than the value of being the leader, partly because coups are not always successful.

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<sup>23</sup>The intuition is straightforward—if instead  $\hat{\tau}_A \leq 0$ , then the insider would be unwilling to mount a coup even if they were not transferred anything. But if they get no transfers, then there is nothing to lose by mounting a coup.

Given the general features of autocratic equilibrium highlighted by Lemma 1, the nature of such equilibria will clearly depend upon whether patronage is sufficiently transferable to make the required payments to insiders. In order to help state the following proposition, recall that the transferability of patronage is denoted  $\psi \equiv U/(U + F)$ , and define two critical values  $\mu_1 \equiv \frac{\delta \cdot \gamma (1 - \delta)}{\delta + \gamma (1 - \delta)}$  and  $\mu_2 \equiv \frac{\gamma (1 - \delta)}{1 + \gamma (1 - \delta)}$ , noting that  $0 < \mu_1 < \mu_2 < 1$ .

**Proposition 1.** *An Autocratic equilibrium always exists and is generically unique. Specifically:*

- *A secure Autocratic equilibrium exists if and only if  $\psi \geq \mu_2$ ,*
- *A weakly insecure Autocratic equilibrium exists if and only if  $\psi \in [\mu_1, \mu_2)$ , and*
- *A strongly insecure Autocratic equilibrium exists if and only if  $\psi \leq \mu_1$ .*

When patronage is sufficiently abundant,  $\psi \geq \mu_2$ , leaders can pay insiders enough to fully dissuade them from holding a coup when anticipating becoming a secure autocrat. When patronage falls in the middle region,  $\psi \in (\mu_1, \mu_2)$ , there is not enough to dissuade insiders from holding a coup when anticipating becoming a secure autocrat, yet there is enough patronage to dissuade them when anticipating becoming a strongly insecure autocrat. In this region, all available patronage is transferred and insiders hold coups with a probability that makes them indifferent between accepting the transfer and mounting a coup anticipating themselves becoming a weakly insecure autocrat. As patronage is lowered within this region, so too is the transfer to insiders. This makes coups more attractive and thus the probability of a coup in autocratic equilibria rises as patronage falls here. When low enough, i.e.,  $\psi$  at or below  $\mu_1$ , the probability of a coup becomes so great that leaders prefer to keep the transfer and face coups with probability one. Leaders are therefore resigned to facing coups each period when patronage is sufficiently scarce.

This proposition links the stability of autocracies to the existence of a steady stream of patronage rents; a theme already well reflected in the study of autocracies. For example, Van de Walle (1994):

“Cameroon’s “patrimonial orientation” was due to its political leaders’ management of oil wealth and that this wealth, along with foreign aid, allowed the authoritarian regime to endure.”

Fjelde (2009):

“The conversion of public funds into private payoffs has prolonged poverty and bred economic inequality in many oil-wealthy states, but it has also helped foster powerful alliances with a stake in the continuation of the prevailing rule (Smith, 2004). Countries such as Gabon, Libya and Saudi Arabia illustrate how oil-based rent-seeking can strengthen regimes, by exiting their clientelist networks and thus placating restive groups.”

And:

“Oil-rich Gabon provides another illustration of how oil wealth and institutionalized corruption have converged to produce relatively high political stability, ....the political stability of Gabon has relied crucially on the president’s (Bongo)patronage networks. These have derived their strength from a careful ethnic balancing in the ethnically diverse country and a deliberate integration of powerful political opponents into the regime’s power base (Yates, 1996; Basedau & Lacher, 2006).”

p.203

For much of the relevant parameter space, the marginal dollar of patronage is best used by an autocrat as a transfer to insiders to increase (or maintain) regime security rather than fully retained as consumption. The logic stems from part 1 of Lemma 1, where we showed that autocrats are willing to avoid coups whenever possible. Only strongly insecure autocrats, those for whom  $\psi < \mu_1$ , would retain marginal increases in patronage, as for them peace is unaffordable.

An autocratic equilibrium involves wasteful coups only if patronage is insufficient. This observation hints at the underlying value that the elites may find in minimalist democracy: the inability to avoid coups via patronage could possibly be overcome if insiders could instead be offered the possibility of future power via elections. We now turn to this issue.

### 3.3 Minimalist Democracy Equilibrium

A minimalist democracy equilibrium has two key features. The first is use of, and respect for, elections, and the second is that democratic leaders do not have their rule truncated by coups. Democratic equilibria involve peaceful power transfers among the elite. Coups are dissuaded by the promise of coming to power via an election (as well as patronage transfers in some cases). It will be seen that the principal reason leaders respect election losses is that because failing to do so will render them uncompetitive in future elections, thus making elections unacceptable as a power-sharing device. This condemns them to be perceived as likely to be a totalitarian, and minimalist democracy depends on ruling as such being sufficiently unattractive. This, in turn, happens when insiders are especially motivated to mount coups against perceived totalitarians.

#### 3.3.1 Equilibrium Conditions

Since leaders respect election losses in this equilibrium, a failure to do so leads voters to update their beliefs about a leader's type. The leader is perceived to be a totalitarian and is never elected again. Thus, both states  $\omega_p$  and  $\omega_0$  need to be considered. In state  $\omega_p$  voters perceive candidates to be equally attractive since both candidates have respected elections in the past. We shall refer to  $\omega_p$  as the "democratic" state in this equilibrium, and denote variables in it with subscript  $D$ .<sup>24</sup> In state  $\omega_0$  the leader has violated an election loss in the past and is therefore perceived to be a totalitarian by voters. We shall refer to  $\omega_0$  as the "violation" state in this equilibrium and denote variables in it by subscript  $T$  for totalitarian.

The democratic state persists if the leader wins the election, loses the election and steps down, or dies. If the leader loses the election and stays, the state transitions to the violation state. The violation state persists as long as the leader stays in power, and transitions back to the democratic state if he dies or is deposed.

Equilibrium strategies boil down to a patronage transfer level and a coup probability function for each of the two states:  $\{\tau_D, c_D(\tau)\}, \{\tau_T, c_T(\tau)\}$ . We first establish the optimality of behavior at each decision point. Let  $V_D^L$  and  $V_T^L$  be the values of starting a period as the leader in the democratic and violation states respectively, and similarly let  $V_D^N$  and  $V_T^N$  be the values of starting a period as an insider in each of the states.

In the democratic state, the leader is optimizing in their transfer choice if

$$\tau_D \in \arg \max_{\tau \in [0, U]} \{F + U - \tau + (1 - c_D(\tau) \cdot \gamma) \cdot (1 - \delta) \cdot [p \cdot V_D^L + (1 - p) \cdot V_D^N]\} \quad (7)$$

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<sup>24</sup>Note that  $\omega_p$  has no such interpretation in the autocratic equilibrium.



and the insider is optimizing at each possible transfer if

$$c_D(\tau) \in \arg \max_{c \in [0,1]} \{c \cdot [\gamma \cdot (1 - \delta) \cdot V_D^L] + (1 - c) \cdot [\tau + (1 - \delta) \cdot (p \cdot V_D^N + (1 - p) \cdot V_D^L)]\} \quad (8)$$

In the violation state, the leader is optimizing in their transfer choice if

$$\tau_T \in \arg \max_{\tau \in [0,U]} \{F + U - \tau + (1 - c_T(\tau) \cdot \gamma) \cdot (1 - \delta) \cdot V_T^L\} \quad (9)$$

and the insider is optimizing at each possible transfer if

$$c_T(\tau) \in \arg \max_{c \in [0,1]} \{c \cdot [\gamma \cdot (1 - \delta) \cdot V_D^L] + (1 - c) \cdot [\tau + (1 - \delta) \cdot (\delta \cdot V_D^N + (1 - \delta) \cdot V_T^N)]\} \quad (10)$$

Given equilibrium outcomes,  $\tau_D$ ,  $\tau_T$  and  $c_T \equiv c(\tau_T)$ , the value functions satisfy

$$V_D^L = F + U - \tau_D + (1 - \delta) \cdot [p \cdot V_D^L + (1 - p) \cdot V_D^N] \quad (11)$$

$$V_D^N = \tau_D + (1 - \delta) \cdot [p \cdot V_D^N + (1 - p) \cdot V_D^L] \quad (12)$$

and

$$V_T^L = F + U - \tau_T + (1 - c_T \cdot \gamma) \cdot (1 - \delta) \cdot V_T^L \quad (13)$$

$$V_T^N = c_T \cdot [\gamma \cdot (1 - \delta) \cdot V_D^L] + (1 - c_T) \cdot [\tau_T + (1 - \delta) \cdot \{\delta \cdot V_D^N + (1 - \delta) \cdot V_T^N\}]. \quad (14)$$

In the democratic phase, equations (11) and (12), value functions reflect that leaders do not face coups, so only transition out of leadership via election losses,  $p$ . Insiders face the reciprocal probability of moving to power. Violation state value functions, equations (13) and (14), are similar to the autocracy case we studied previously. A difference is that, in case of leader death via either coup success or exogenous causes, since democracy is a preferred governance mode, the replacement leader will govern democratically and value functions reflect a transition back to the democratic phase.

We must verify that two key conditions are satisfied. First, we must verify that democracy is *peaceful*—i.e. that there are no coups in the democracy state:

$$\tau_D + (1 - \delta) \cdot (p \cdot V_D^N + (1 - p) \cdot V_D^L) \geq \gamma \cdot (1 - \delta) \cdot V_D^L. \quad (15)$$

Second, we must verify that it is optimal for a leader to step down following an election defeat. That is, for democracy to be *self-enforcing*, the leader in the democracy state must prefer being an insider in democracy to being a leader in the violation state:<sup>25</sup>

$$V_D^N \geq V_T^L. \quad (16)$$

The strategies  $\{\{\tau_D, c_D(\tau)\}, \{\tau_T, c_T(\tau)\}\}$  constitute a *minimalist democracy equilibrium* if (7)-(16) are satisfied.

We proceed by first deriving the parameters under which the ‘no-coups’ condition will hold in a minimalist democracy equilibrium. We then refine this set of parameters to include only those for which the ‘self-enforcing’ condition will also hold. This refined set characterizes the conditions under which a minimalist democracy exists.

<sup>25</sup>To be complete, we also need to verify that a leader in the democratic state prefers to hold an election than to act as a leader in the violation state. That is, that  $V_D^L \geq V_T^L$ . But this is implied by the self-enforcing condition once we verify that  $V_D^L \geq V_D^N$ . This is formally proved in Result 2 in the appendix.

### 3.3.2 Analysis: No coups

It is clear from (8) that the insider in the democratic state requires a sufficiently high transfer to be dissuaded from mounting a coup. Denote the critical transfer level just sufficient to achieve this by  $\hat{\tau}_D$ . Note that the required transfers are generally lower than an autocrat would have to pay as the leader in a democracy is also allowing insiders an avenue to power through elections. Indeed, we shall see that the required transfer is sometimes negative (so that coups are avoided even if no transfers are made). The ‘no coups’ condition will definitely be violated if  $\hat{\tau}_D > U$  (i.e. whenever the required transfer is infeasible). The following result indicates that democratic leaders will avoid coups in all other cases.

**Lemma 2.** *Democratic leaders find it optimal to avoid coups whenever it is feasible. That is, if  $\hat{\tau}_D \leq 0$  then setting  $\tau_D = 0$  is optimal, and if  $\hat{\tau}_D \in (0, U]$  then setting  $\tau_D = \hat{\tau}_D$  is optimal.*

In other words, if the ‘no coups’ condition is violated it is never because of an optimal choice on the part of a democratic leader. The logic for why democratic leaders will never choose to face coups is similar to the coup dissuading choice of an autocrat in the previous section. Coups destroy surplus, so if feasible to dissuade them by transfers the leader is strictly better off by doing so.

Lemma 2 implies the ‘no-coup’ condition is satisfied if and only if parameters are such that required transfers are feasible. The conditions for this are characterized in the following lemma. To aid in the expression of the result, define  $p^* \equiv \frac{1-\gamma}{1-\gamma(1-\delta)}$  and  $f(p) \equiv \frac{(1-\delta)(\gamma - (p \cdot \gamma(1-\delta) + (1-p)))}{\delta(1+\gamma(1-\delta))}$ .

**Lemma 3.** *The ‘no coups’ condition, (15), is satisfied if  $p$  is sufficiently low or if  $\psi$  is sufficiently high. Specifically, it is satisfied with zero transfers if and only if  $p \leq p^*$ , and is satisfied with positive transfers if and only if  $p > p^*$  and  $\psi \geq f(p)$ .*

Democracy is *peaceful* under the conditions established in Lemma 3 and illustrated in the left panel of Figure 5. There are two (disjoint) sets of parameters,  $P_1$  and  $P_2$ , such that peaceful transfers are achieved with zero transfers in  $P_1$  and with positive transfers in  $P_2$ .<sup>26</sup> To explain the shape of  $P_1$ , suppose that democratic equilibrium involved zero transfers so that the leader gets all the benefits from office. In order to dissuade a coup, it must be that insiders anticipate becoming the leader with sufficiently high probability (i.e.  $p \leq p^*$ ). The extent to which the benefits from office are transferable is immaterial since no transfers are made. In order to explain the shape of  $P_2$ , suppose instead that the insider does not have a high enough chance of winning an election (i.e.  $p > p^*$ ) so that a positive transfer is required to dissuade a coup. In order for the required transfer to be feasible it must be that patronage is sufficiently abundant ( $\psi \geq f(p)$ ). Furthermore, an insider requires a greater transfer to avoid a coup – and thus feasibility requires greater levels of patronage – as their electoral prospects worsen (i.e.  $f$  is increasing in  $p$ ).

The fact that  $P_1$  and  $P_2$  are disjoint rules out the possibility that a democratic equilibrium with zero transfers coexists alongside one with positive transfers. Result 3 in the appendix establishes the uniqueness of transfers in the democratic equilibrium in general.

### 3.3.3 Analysis: Respecting Elections

We now turn to the condition that election losers optimally step down. This condition compares the value of being an insider in the democratic state,  $V_D^N$ , with that of being a leader in the violation state,  $V_T^L$ . The value of

<sup>26</sup>Formally,  $P_1 \equiv \{p, \delta, \gamma, U, F \mid p \leq p^*\}$  and  $P_2 \equiv \{p, \delta, \gamma, U, F \mid p > p^*, \psi \geq f(p)\}$ .

$V_D^N$  has been pinned down by the above analysis,<sup>27</sup> so we now turn to an analysis of play in the violation state.

The violation state is triggered when the leader refuses to step down following an election. Citizens perceive the leader to be a totalitarian with a greater probability than a challenger and therefore the leader is sure to lose any future election. There is no benefit from stepping down so he will therefore remain in office until deposed via coup or death.<sup>28</sup>

The leader in the violation state is similar to the autocrat except that they face insiders who anticipate becoming a democratic leader following a successful coup (as opposed to becoming an autocrat). As with an autocrat, the violation state leader may be secure (face coups with zero probability) or insecure (face coups with a positive probability). In determining whether a violation state leader is secure, we note from (10) that the insider in the violation state must be transferred a certain amount in order to be dissuaded from coups. Denote this  $\hat{\tau}_T$ . This quantity is important for determining whether democracy is self-enforcing since it governs how costly it is to lead in the violation state. The following result indicates that being a secure leader in the violation state is *never* costly enough a prospect to convince election losers to step down.

**Lemma 4.** *Leaders respect elections only if leaders in the violation state are insecure.*

In other words, democracies can be self-enforcing only when a leader violating democratic rules is forced to rule facing perpetual existential threats from then on. Intuitively, if peace were to be available to a violation state leader then the total surplus available to all players in the game is the same in both the democratic and violation states. The leader's share of this always exceeds that of insiders, and in that case, no leader will step down voluntarily upon losing an election as he would be giving up the leader's share to obtain the share of an insider. Thus it is the threat of surplus destruction arising via insiders undertaking coups against a recalcitrant leader that makes leaders vacate office after losing an election.

We show in the appendix (Lemma 6) that leaders in the violation state, as in the autocratic equilibrium, will optimally avoid coups whenever strictly feasible. As such, democracy is self-enforcing only if peace is infeasible for leaders in the violation state. The following result uses this to further refine the set of parameters (beyond  $P \equiv P_1 \cup P_2$  from Lemma 3) for which a minimalist democracy can exist.

**Lemma 5.** *A violation state leader is insecure—and thus the self-enforcing condition can hold—only if  $p$  is sufficiently large or  $\psi$  is sufficiently small. Specifically, only if*

- $\psi \leq g(p) \equiv \frac{(1-\delta)[\gamma(2-\delta)(1-p(1-\delta))-(1-p)(1-\delta)]}{2-\delta-2(1-\delta)p}$  if parameters are in  $P_1$ , or
- $\psi \leq \mu_2$  if parameters are in  $P_2$ .

Lemma 5 identifies a tighter set of necessary conditions for the existence of democratic equilibrium, as illustrated in the right panel of figure 5; where democracy is self-enforcing only if parameters are in  $S_1$  or  $S_2$  (which are subsets of  $P_1$  and  $P_2$ ).<sup>29</sup> A democratic equilibrium with zero transfers exists only if parameters are in  $S_1$  and a democratic equilibrium with positive transfers exists only if parameters are in  $S_2$ .

First consider  $S_1$ , where the democratic equilibrium involves zero transfers. A larger  $p$  makes elections more biased toward incumbents, and since transfers are zero, necessarily, leaders are better off. But this gives insiders

<sup>27</sup>Specifically, the value of  $\{V_D^L, V_D^N\}$  are the solutions to (11) and (12) where  $\tau_D = 0$  if parameters are in  $P_1$  and  $\tau_D = \hat{\tau}_D$  (as defined in (43)) if parameters are in  $P_2$ .

<sup>28</sup>As we have indicated earlier, section 5 will demonstrate that the extreme form of zero chance of victory for leaders is not necessary, nor need be permanent for existence of democratic equilibrium.

<sup>29</sup>Formally,  $S_1 \equiv \{p, \delta, \gamma, U, F \mid \psi \leq g(p)\} \cap P_1$  and  $S_2 \equiv \{p, \delta, \gamma, U, F \mid \psi \leq \mu_2\} \cap P_2$ .

under the violation state a greater incentive to mount a coup, making the violation state even less attractive, in the sense that a greater transfer is required to dissuade a coup. Thus the upper boundary of  $S_1$  is upward sloping. On the other hand, in  $S_2$ , democratic equilibrium necessarily involves positive transfers. A larger  $p$  makes elections more incumbent friendly, inducing insiders to more greatly prefer coups and thus raising the equilibrium transfers required. But this implies the net effect on payoffs is unaffected. Thus, the payoff to being a democratic leader is unchanging in  $p$ , incentives for insiders to mount a coup against a violation state leader are also unchanged, so the security of the violation state is unaffected, and therefore the upper boundary of  $S_2$  is flat.

Importantly, *the conditions that democracy requires in order to be self-enforcing are of the opposite nature to those democracy requires to be peaceful: patronage must be sufficiently low or elections must be sufficiently favorable to the incumbent.* As is clear from the above, leadership in the violation state is insecure with low levels of patronage. This makes it an unattractive choice for a leader, which is what is needed to induce him to respect democratic rules and step down when losing elections. But this is also the reason why  $p$  cannot be too low. Insiders who depose leaders in the violation state via coups rule as democrats, so that when  $p$  is low, the attractiveness of coups is also low, making rule in the violation state more secure.

This result is opposite to that of Fearon (2011) who also studied a similar credibility of elections problem; but in his case one which rested on the threat of being deposed by the public when refusing to step down. Elections helped in coordinating citizens in their act of rebellion and hence helped in sustaining equilibria where elections would become self-enforcing. In his framework they are more likely to be self-enforcing the lower is  $p$  (i.e., the analogue of  $p$  in his model). The reasoning is in line with the original (informal) argument along these lines by Przeworski (1991). Incumbents will step down in the event of losing elections only if  $p$  is sufficiently low because the probability of the incumbent coming back in to office is greater if  $p$  is low (in the limit, with  $p$  approaching 1, stepping down means remaining out of power indefinitely). The continuation value of leaving thus falls with  $p$ , and if  $p$  is high enough, makes the incumbent willing to stay after a loss even though it means facing a rebellion. The difference in results arises because it is the threat of rebellion that disciplines leaders to step aside. This threat, unlike the coups that we study, is exogenous to the political process, in the sense that the magnitude of the threat, i.e., the willingness of the public to rebel, is independent of the parameters of the political process. In our set-up, the leader is threatened by *endogenous* coups, the returns to which are themselves dependent on the parameters of the political system. Since, for the reasons discussed above, the value of becoming leader via a coup is increasing in  $p$ ,  $p$  must then be sufficiently great to make elections self-enforcing.

### 3.3.4 Existence of Democratic Equilibrium

We now turn to the question of existence of democratic equilibrium. So far we have that a democratic equilibrium exists only if parameters are in  $S_1$  or  $S_2$ . But being insecure is, in general, not sufficient to ensure that elections are respected. For sufficiency, leaders must also prefer to step down upon election loss rather than being an insecure leader in the violation state. Intuitively, this requires that coups have a sufficiently high probability of succeeding, i.e.,  $\gamma$  is high relative to  $\delta$ .

**Proposition 2.** *If  $\gamma \geq \delta^{1/2}/(1 - \delta)$ , then a democratic equilibrium exists if and only if violation state leaders are insecure (and there are no coups in the democratic state). That is, if and only if (i)  $p \leq p^*$  and  $\psi \leq g(p)$ , or (ii)  $p > p^*$  and  $\psi \in [f(p), \mu_2]$ . Furthermore, the equilibrium is generically unique. Specifically,*

- if  $p \leq p^*$  and  $\psi < g(p)$ , the equilibrium involves zero transfers in the democracy state, and zero transfers and coups with probability one in the violation state.
- if  $p > p^*$  and  $\psi \in [f(p), \mu_2)$ , the equilibrium involves positive transfers in the democracy state, and zero transfers and coups with probability one in the violation state.

The restriction on  $\gamma$  simply ensures that being an insecure leader in the violation state is worse than a transfer-receiving insider. Since insecure leaders in this state do not face elections their welfare is independent of  $p$ . However insider welfare is non-increasing with  $p$ . If the insider transfers are zero ( $p < p^*$ ) a marginal increase in  $p$  extends the expected time to an election victory, strictly lowering welfare. For  $p > p^*$  transfers are designed by the leader to *just* dissuade coups. Higher  $p$ s are thus offset by lower transfers making insiders' values flat in this region. Insider value is thus minimized (with respect to  $p$ ) whenever insiders receive positive transfers. Provided the value of being an insecure leader in the violation state is lower than this minimized value, leaders will choose to respect elections rather than stay on as leaders.

With this condition met, the possibility of democracy depends *both* on the requirement that it is peaceful and that it is self-enforcing. Peace, or no-coups, places a lower bound on patronage/upper bound on  $p$  whereas the self-enforcing condition places an upper bound on patronage/lower bound on  $p$ . Hence the marked contrast with preconditions in Fearon (2011) for this case. Note finally that the condition is not restrictive – e.g. it holds for any  $\gamma$  as long as agents are sufficiently concerned about the future (i.e. as long as  $\delta$  is low enough).

If  $\gamma$  is marginally lower than required for the above to hold, then insecure leadership after violation does not immediately ensure that democracy is self-enforcing. Nevertheless, democracy can still be so if the value of being an insider is greater (that is, for values of  $p < p^*$ ). This implies that democracy *must* involve zero transfers in this case.

**Proposition 3.** *If  $\gamma < \delta^{1/2}/(1-\delta)$ , then a democratic equilibrium exists if and only if  $\psi \leq g(p)$  and  $p$  is sufficiently small that*

$$\frac{p}{1-p} \leq \gamma \left( \frac{1-\delta}{\delta} \right)^2 - \frac{1}{\delta}. \quad (17)$$

*Such an equilibrium is generically unique, and involves zero transfers in the democratic state.*

When this condition is met, democratic equilibrium is constrained only by the self-enforcing condition. Specifically,  $p$  must be high enough that violation state leaders are insecure but low enough that insiders are sufficiently optimistic about returning to power in the future.

### 3.3.5 Summary

The problem a leader faces in pursuing a democratic strategy rests with the credibility of the leader's claims to respect democracy, and the adequacy of promised electoral processes in appeasing the elite. These two propositions characterize the full parameter range in which these problems are solved. Credibility depends on the interaction between the patronage value of the state, and the nature of electoral processes in democracy. For low values of  $p$  a democratic equilibrium will exist provided the patronage value of the state is not too high. For higher values of  $p$  patronage helps keep peace in democracy. Since leaders enjoy large incumbency advantages and are removed by elections only rarely, insiders must receive sufficient transfers to eschew coup opportunities but, without sufficient patronage, leaders will not be able to meet these transfers. It is still the case in this region though that patronage levels cannot become too large or autocracy will be secure, and hence chosen by leaders instead of democracy.

### 3.4 Welfare In Democratic Versus Autocratic Equilibrium

Proposition 1 demonstrates the existence of an autocratic equilibrium for all values of  $\psi$  and  $p$ . Consequently, within the parameter range where democracy is an equilibrium – delineated in propositions 2 and 3 – autocratic and democratic equilibria coexist. This is due to a dynamic complementarity.<sup>30</sup> If the current leader believes that future leaders will not respect election results, then this belief is self-reinforcing; it is a best response for the current leader to also not do so. Similarly, where the patronage value of the state is not too high, and provided the electoral system delivers appropriate chances for electoral turnover, a confidence that future leaders will respect elections becomes self-enforcing as well.

One approach to understanding the process through which democracy emerges or disappears involves examining the elites' equilibrium payoff under each regime. The potential benefit of democratization to leaders who are free to rule as they please is that, when credible, it helps solve the non-divisibility of the spoils of leadership problem. But would an engineered shift from the autocratic equilibrium to the democratic one (were it to be feasible) be beneficial for the elite group taken as a whole? The answer is an unqualified 'yes'.

**Proposition 4.** *The democratic equilibrium generically strictly Pareto dominates the autocratic equilibrium. In the special case where  $\psi = \mu_2$  we have  $V_D^L = V_A^L$  and  $V_D^N = V_A^N$ , otherwise  $V_D^L > V_A^L$  and  $V_D^N > V_A^N$ .*

The proposition suggests that if the elite have some capacity to coordinate on their desired equilibrium, they will choose democracy whenever it is feasible. Moreover, the setting of elite power sharing that is our focus here is one in which a small group of players, known to each other, repeatedly interact in a context which is rich with possibilities for communication. In laboratory settings with these features, it has been well established that agents are good at coordinating to attain mutually improving outcomes.<sup>31</sup> It thus seems reasonable to expect that the elite group should be often able to come together and coordinate on the democratic equilibrium when it exists.

Voters are also always weakly better off in the democratic equilibrium, even though leaders never provide policy benefits here. Any, rarely arising, totalitarian leader is quickly recognized to be so via their violation of an election. They subsequently face coups maximally, ensuring that voters' expected duration under totalitarian rule are (weakly at least) shorter than they would be in the autocratic equilibrium.

The complicity of the elite here contrasts with existing perspectives. Here the elite enthusiastically establish and respect elections without being compelled by outsiders (citizens, the poor, the masses, etc.). In contrast, Acemoglu and Robinson (2006) describe how elites establish and respect elections as the only feasible means to appease citizens and avoid revolution. Fearon (2011) describes how citizens' rebellion threats lead the elite to respect elections, but it is not clear that elites are interested in establishing an electoral system, because of the existence of preferred equilibria without elections.<sup>32</sup> In both perspectives, the elite are dragged – kicking and screaming – to democracy. Here instead the elite themselves usher in democracy as a means through which to

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<sup>30</sup>A similar dynamic complementarity also arises with the voting decisions of citizens within the context of an established democracy. This has been analyzed by Myerson (2006) who shows how modifications of the game can help select the democratic equilibrium and Bidner and Francois (2013) who analyze the role of leaders in shifting norms towards equilibrium where leaders are responsive to voters.

<sup>31</sup>Cooper, De Jong, Forsythe and Ross (1989) have shown that pre-game communication allows players to almost perfectly solve coordination problems in battle of the sexes games. Similarly, in "simple" coordination games, Cooper, De Jong, Forsythe and Ross (1992) where differing stage game Nash equilibria can exist, with one Pareto dominating another and no strategic incentive to misrepresent, two way communication on the part of players achieves coordination on the mutually preferred equilibrium.

<sup>32</sup>For instance, there is always a dictatorial equilibrium in which leaders provide nothing and rebellions never occur, regardless of whether there are elections. This is the best possible equilibrium for the leader, implying that democracy hinges on the elite being unable to select equilibria.

share power and thus protect themselves from violent threats arising from ambitions within their group that can not be managed otherwise.

This also provides a rationale for why the elite may have self-interested motives for engaging in reforms of the state that lower the patronage which only they consume. For values of patronage that are close to, but not sufficiently low that democracy can be sustained, leaders would benefit by a decline in patronage ( $U$  and hence  $\psi$ ) putting them into the region where a democratic equilibrium exists. In short, destroying patronage through reform renders leaders who violate elections insecure, thereby making democracy possible and thus may help engineer democratic transitions.

## 4 The Role of Elections

Elections seemingly only play the role of a randomization device here. A natural question then, one not answered by Schumpeter or Przeworski, is if elections merely function as a randomization device, why use such a complicated (and costly) randomization device? Surely it would be better for the elite to agree on an alternative randomization device – like the outcome of a coin toss or alternation algorithm – that would be both cheaper and not open a role to the general public. Can power-sharing be achieved by alternatives to elections? If so, given that we see few other randomization devices being used, what advantages do elections have over the alternatives? We turn to these questions in this section.

To address these issues we first establish that our equilibrium outcomes can indeed be replicated without elections by allowing the elite to use a very simple randomization technology (e.g. a suitably weighted coin). However we next argue that such an alternative power-sharing agreement is problematic insofar as it involves punishment threats that do not satisfy even a relatively weak notion of credibility. We then argue that elections do not suffer from this problem. Finally, we explore the extent to which this lack of credibility extends to power-sharing agreements more generally.

### 4.1 Replicating Equilibrium Outcomes without Elections

Suppose that we augmented the model by additionally endowing the elite with a randomization device. Consider first a device that generates a binary outcome—e.g. with probability  $p$  it indicates ‘stay’ and with probability  $1 - p$  it indicates ‘leave’. The natural analogue of our minimalist democracy equilibrium will clearly persist here by having players simply ignore the randomization device. However it is also fairly clear that there will be another equilibrium in which elections are ignored and power instead alternates according to the dictates of the randomization device. Such an equilibrium has agents start in a ‘cooperative’ state where leaders respect the outcome of the device (and make the appropriate transfers, if needed). If a leader violates the dictates of the device then a ‘punishment’ state is triggered. Here insiders hold coups until the leader is replaced, at which point play returns to the cooperative phase. As with elections, insiders hold coups because they believe that the leader will not step down in the future. This belief is rational, since a leader that anticipates facing coups whenever in power will never find it optimal to step down. Anticipating facing coups in the punishment state, leaders respect elections. Naturally, this equilibrium produces payoffs identical to those in the minimalist democracy equilibrium—the value of being a leader (an insider) in the cooperative phase coincides with  $V_D^L$  ( $V_D^N$ ) and the value of being a leader (an insider) in the punishment phase coincides with  $V_T^L$  ( $V_T^N$ ).

### 4.1.1 The Credibility of Punishments

But this alternative equilibrium without elections is problematic insofar as the punishment threat is not credible. Closely following the literature on renegotiation in repeated games (e.g. Farrell and Maskin (1989) and Bernheim and Ray (1989)) we consider punishments to be *collectively* credible if there are no joint incentives to abandon the punishment phase in favour of returning to the equilibrium path. The argument is as follows. Following a violation the elite are supposed to enter the punishment phase, yet the violator could propose something like “let us forget my violation and just continue playing the equilibrium strategies as if I had never violated”. This proposal is persuasive insofar as (i) it is simple: players are asked to act as if they are at some other history, but to use their existing equilibrium strategies when doing so, (ii) both players would benefit from the proposal,<sup>33</sup> and (iii) there are no incentives to unilaterally deviate from the proposal.

The first feature demonstrates that this is a relatively weak notion of credibility. This is because we are not allowing a particular equilibrium to be undermined by proposals that require play to proceed according to strategies of some other equilibrium. There is thus no issue of a proposer having to convince others that some unfamiliar course of play will hold together as an equilibrium (let alone having to communicate the specifics of this course of play).<sup>34</sup> The second feature is intuitive and lies at the heart of issues of renegotiation. The third feature is a basic requirement that the proposal itself be self-enforcing. Such a requirement is redundant in the literature on renegotiation in (infinitely) repeated games since all subgames are identical in such games. As such, at any history  $h$  a proposal to “play equilibrium strategies as if at history  $h'$ ” will describe self-enforcing behaviour regardless of the actual history  $h$ . In this sense, all histories are equivalent. This remains true in the equilibrium considered here where power-sharing is achieved without elections.

Given this, we say that the equilibrium without elections is not *collectively credible* since returning to the cooperative phase is Pareto preferred to commencing the ‘punishment’ phase: i.e.  $V_D^L > V_T^L$  and  $V_D^N \geq V_T^N$ .<sup>35</sup> Simply, both parties have the incentive and *means* to ‘forgive and forget’ a violation. The vulnerability of the punishment phase undermines the embodied threat and thereby makes this equilibrium implausible.

### 4.1.2 The Credibility of Punishments with Elections

What is different about elections? After all, the same incentives to forgive and forget clearly arise. We shall argue that these incentives are *not* sufficient to undermine the collective credibility of punishment when elections are used. The key is that the existence of voters eliminates the elites’ *means* to forgive and forget. This is because a violation induces a reaction in voters, whether via beliefs about the leader’s type as in the model or otherwise, that cannot be undone by appeals from the elite. The voters are a group that exist at ‘arms length’ from the elite and cannot be easily replaced.

Specifically, a violator cannot propose that equilibrium play continue as if the violation did not occur. Doing

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<sup>33</sup>We show that the preference is strict for the leader but only that it is weak for the insider. However, this is easily addressed. First, the preference will also be strict for the insider if parameters are in  $S_1$  since the no coup condition is slack in this region. Even in cases where the insider has a weak preference, the leader can always make this strict by offering an arbitrarily small side payment as part of the proposal.

<sup>34</sup>Within the literature on renegotiation in repeated games, these arguments correspond to the notions of “weakly renegotiation-proof equilibria” (Farrell and Maskin (1989)) and “internal consistency” (Bernheim and Ray (1989)).

<sup>35</sup>The proof is quite straightforward. The assertion that the leader prefers to return to the cooperative phase is not surprising and follows from the fact that (i)  $V_D^L > V_D^N$  (it is better to be leader), and (ii)  $V_D^N \geq V_T^L$  (self-enforcing condition). The assertion that the insider prefers to return to the cooperative phase follows from the fact that (i)  $V_D^N \geq \gamma \cdot (1 - \delta) \cdot V_D^L$  (no coup condition), and (ii)  $\gamma \cdot (1 - \delta) \cdot V_D^L = V_T^N$  (insiders mount coups in the violation state).



so would involve the elite acting as if voters will re-elect an incumbent with probability  $p$ . Both players know this to be false, and this is important because it provides incentives to deviate from the proposed course of play (and thus violates the third condition above). Specifically, both players understand that the violator will never be elected back into power once they step down, yet are being asked to play as if the violator will return with probability  $1 - p$  in such cases. This involves the violator, once an insider, receiving a transfer that is too little to dissuade them from deviating by mounting a coup. Anticipating this, a proposal to ‘forgive and forget’ will not be plausible because it prescribes play that is not self-enforcing.<sup>36</sup> In other words, an election violation that occurs after some history does not induce an equivalent history and thus limits the sorts of joint deviations that could be proposed.

In short, the equilibrium that utilizes elections feature punishments that are collectively credible in a way that those in the equilibrium without elections are not. But one may object at this point that this arises only because the elite, following a violation, can only make proposed joint deviations that utilize voters (since the equilibrium in question does so). What if we allowed a proposal to play the equilibrium in which voters are ignored and randomization is achieved via the randomization device? After all, this equilibrium is payoff-equivalent to the equilibrium with elections and does indeed describe self-enforcing play. Again mirroring the literature on renegotiation in repeated games, requiring that an equilibrium be robust to proposed joint deviations to other equilibria imposes a stronger notion collective credibility than that considered above. In order for some other proposed equilibrium to undermine this stronger notion of collective credibility, the proposed equilibrium should at a minimum itself be collectively credible.<sup>37</sup> We have already seen that the equilibrium without elections fails to be collectively credible and therefore does not represent a viable joint deviation. As such, the collective credibility of our minimalist democracy equilibrium is strengthened further.

## 4.2 Power-Sharing Without Elections

We have seen that the minimalist democracy equilibrium outcomes can be replicated if we endow the elite with a particular randomization device. We have also seen that the equilibrium that utilizes this randomization device instead of elections hinges on punishments that are not collectively credible. In this section we explore the extent to which this failure of collective credibility extends to equilibria without elections more generally.

A *simple* power-sharing agreement utilizes a single punishment state for each player. Specifically, label the two elite  $i \in \{A, B\}$  and define the four states,  $\{\omega_i, \tilde{\omega}_i\}_{i \in \{A, B\}}$ . Think of  $\omega_i$  as the cooperative state with  $i$  in power and  $\tilde{\omega}_i$  as the punishment state for player  $i$ . A particular simple power-sharing agreement is characterized by  $\{\rho_i, \kappa_i, \tilde{\kappa}_i\}_{i \in \{A, B\}}$  where  $\rho_i \in [0, 1]$  describes the probability with which  $i$  stays in power,  $\kappa_i \in \{\omega_{-i}, \tilde{\omega}_{-i}\}$  describes the consequences of mounting a successful coup against  $i$  in their cooperative state, and  $\tilde{\kappa}_i \in \{\omega_{-i}, \tilde{\omega}_{-i}\}$  describes the consequences of mounting a successful coup against  $i$  in their punishment state.

In state  $\omega_i$ , the leader position is filled by elite  $i$ . If there is a coup in this state, then the state transitions to  $\kappa_i$  if it is successful and remains at  $\omega_i$  if unsuccessful. If there is no coup, then  $i$  consults a randomization device. With probability  $\rho_i$  the device indicates that  $i$  is to remain leader, and with probability  $1 - \rho_i$  it indicates that  $-i$  is to become leader. The leader  $i$  then decides whether to respect the outcome. If they violate, the state transitions to  $\tilde{\omega}_i$ , their punishment state. Otherwise it transitions to the state indicated by the randomization

<sup>36</sup>A violator could propose that equilibrium play commence from any history that has voters unwilling to elect him, but play is identical at all such histories in our Markov equilibria. That is, there do not exist any proposals that would induce different future actions.

<sup>37</sup>Within the literature on renegotiation in repeated games, these arguments correspond to the notions of “strongly renegotiation-proof equilibria” (Farrell and Maskin (1989)) and “external consistency” (Bernheim and Ray (1989)).

device (i.e. either  $\omega_i$  or  $\omega_{-i}$ ).

Punishments are ‘maximal’ for a violator of the power sharing agreement so that, in state  $\tilde{\omega}_i$ , elite  $i$  is the leader and faces a coup with probability one. If the coup is successful, the state becomes  $\tilde{\kappa}_i$ , and remains in  $\tilde{\omega}_i$  if unsuccessful, unless the leader dies naturally, in which case the state returns to  $\omega_i$ .

The role of  $\rho_i$  is clear as it represents a straightforward generalization of the randomization technology considered above (allowing the probability to vary by player). Note that  $\rho_i = 0$  for all  $i$  corresponds to the case of turn-taking in power. The role of  $\{\kappa_i, \tilde{\kappa}_i\}$  is perhaps less familiar and deserving of elaboration. First, note that in the minimalist democracy equilibrium we have  $\kappa_i = \tilde{\kappa}_i = \omega_i$  for all  $i$ . That is, a successful coup allows one to rule in the cooperative state regardless of whether the coup was launched from the cooperative state or punishment state.<sup>38</sup> Second, note that the plausibility of a power-sharing agreement is greatly enhanced if it involves  $\kappa_i = \tilde{\kappa}_i$  for all  $i$ . This is because in such cases there is no need for current actors to have knowledge about the play of their predecessors. For instance, suppose that we consider the possibility of a leader ‘rigging’ the randomization device in a way that is only observed by the current elite (future generations of elite do not observe this, nor do voters).<sup>39</sup> To dissuade this it must be that rigging triggers the punishment phase. Now suppose that  $A$  mounts a coup against elite  $B$ . This could be an opportunistic grab for power, or it could be the equilibrium reaction to  $B$ ’s opportunistic rigging. If the coup is successful, then the successor of  $B$ , say  $B'$ , can only be certain about the current state if  $\kappa_B = \tilde{\kappa}_B$  (i.e. if all coups by  $A$  are treated the same). Suppose instead that  $\kappa_B = \tilde{\omega}_A$  but  $\tilde{\kappa}_B = \omega_A$  (i.e. coups in the cooperative state are punished but those in the punishment state are not). Then  $B'$  is unsure about whether they are supposed to mount a coup (i.e. whether they are in state  $\tilde{\omega}_A$  or  $\omega_A$ ). If  $B'$  goes on to mount a successful coup, then matters are even more complicated for the successor of  $A$ , say  $A'$ . Their understanding of the current state now depends on their perception of whether  $B$  rigged and upon their perception about  $B$ ’s perception of this. And so on. On the other hand, if coups by  $A$  are all treated the same ( $\kappa_B = \tilde{\kappa}_B$ ) then  $B'$  knows the current state regardless of how much they know about whether  $B$  rigged. This seems a very reasonable property to require of a power-sharing agreement. To formalize this, we say that a simple power-sharing agreement is *information intensive* if  $\kappa_i \neq \tilde{\kappa}_i$  for all  $i$ .

For a power-sharing agreement to be implementable, it is necessary that there is no incentive to coup in the cooperative state and no incentive to violate the dictates of the randomization device. To describe these conditions, let  $V_i(\omega)$  denote the value to elite  $i$  at the start of a state  $\omega$  period.<sup>40</sup> The first necessary condition (no coups) is then:

$$V_i(\omega_{-i}) \geq \gamma \cdot (1 - \delta) \cdot V_i(\kappa_i). \quad (18)$$

<sup>38</sup>Rather than being an assumption, this arises because the only coup observed in equilibrium is one held against a totalitarian type (necessarily by a regular type) and, as such, voters do not interpret a coup as coming from a totalitarian type and therefore do not electorally punish them. Thus, were an insider to deviate and commit a coup against a non-totalitarian, there is essentially no punishment. Voters allow successful coup instigators the chance to be re-elected. This changes only when such a leader refuses to step down upon losing an election.

<sup>39</sup>The holding of elections is observable, but in weakly institutionalized settings instances of reported electoral irregularity regularly occur. Practices range across ballot-stuffing, multiple voting, difficulties registering and/or voting, intimidation of opposition supporters, mis-tallying of votes, etc. Irregularity may simply reflect the difficulties of coordinating large scale public endeavours in poor countries or reflect wide scale fraud by the incumbent party. Political insiders probably know the truth, but from the perspective of the public, there is typically considerable uncertainty as to whether fraud actually took place, whether allegations were politically motivated, and/or whether such allegations, even if true arise from a concerted effort on part of the regime to distort the election, or from more benign sources.

<sup>40</sup>The conditions describing how to compute these values can be written out precisely as in Section 3 (they involve transfers, and coup probabilities etc.) but doing so is not necessary at this point.

The second necessary condition (self-enforcing) is:

$$V_i(\omega_{-i}) \geq V_i(\tilde{\omega}_i). \quad (19)$$

The notion of collective credibility extends naturally to simple power-sharing agreements. As was the case previously, a proposal to revert to the equilibrium path prescribes self-enforcing behaviour (i.e. a violation after any history induces an equivalent history since the capacity to utilize the randomization device is unaffected by the violation). Thus, we say that punishments under a simple power-sharing agreement are *collectively credible* if there is no  $i$  such that  $V_i(\omega_i) > V_i(\tilde{\omega}_i)$  and  $V_{-i}(\omega_i) \geq V_{-i}(\tilde{\omega}_i)$ .

Given this structure the following result indicates the limitations of power-sharing without elections.

**Proposition 5.** *Any implementable simple power-sharing agreement either:*

1. *is information intensive, or*
2. *relies on punishments that are not collectively credible.*

There are two notable implications of this. Firstly, we see a reason why elections – with all of their attendant cost and baggage – may be chosen by the elite instead of another type of randomization device. Issues regarding the credibility of the punishment of violating leaders amongst the elite themselves are circumvented by introducing elections. Voters effectively strip a violating leader of future access to the power-sharing technology. That is, renegotiating back to the equilibrium path *is not an option* for a leader that has violated an election outcome, as voters will not vote for him again. In this light, elections are more than a simple randomization device – instead, they are a randomization device that has the important property of becoming biased against those that have violated its directive in the past. An implication is that coups can be treated symmetrically, and there is no need for players (or voters) to guess at the motivation for a coup. Voters may even be willing to elect perpetrators of successful coups in subsequent elections. It is only necessary that they turn against a leader who has violated the dictates of an election and refused to step down.

Secondly, the above result also indicates that the minimalist democracy equilibrium remains collectively self-enforcing in a broader sense as well: it is not feasible to renegotiate to some other collectively self-enforcing simple power-sharing agreement that would trump it. Other power sharing methods that only involve the elite are not naturally easy to engineer.

This rationale for use of elections – that they bolster the credibility of punishments supporting power-sharing agreements – complements existing rationales that stress other features. It may complement Fearon's (2011) emphasis on the role they play in helping coordinate citizens' punishment of recalcitrant leaders via rebellions. It also complements the numerous analyses that have emphasized the role they play in generating information about the relative strength of leadership contenders; such as in Przeworski (1999). We, of course, have shut down both such roles here to make clear that our purely 'intra-elite' rationale for elections does not depend on any such factors, but there is no reason that elections may not help with multiple problems. Indeed, given their ubiquity, it would be surprising if any single reason for elections prevailed uniquely.<sup>41</sup> After a brief section discussing the implications of relaxing key assumptions, we will demonstrate that our theory also provides a number of verifiable empirical predictions that we explore further.

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<sup>41</sup>Przeworski (1999) also raises, but dismisses, the possibility that elections compel citizens to accept the decisions of leaders because voting imposes an obligation to respect the outcome. Similarly the elite in our model have no need to seek such an obligation – their hold on power is not directly tied to their perceived legitimacy. However, it is indirectly, since an equilibrium outcome is the continued ability to use elections depends upon respecting them in the past. Without this ability, leaders would face constant threats from excluded insiders.

## 5 Discussion of Assumptions

The model presented above captures the logic that a powerful political elite can use elections in order to circumvent the coup threat arising from the imperfect transferability of office via inter-temporal power-sharing. Our main theoretical results are concerned with characterizing when such power-sharing arrangements are supported in equilibrium, and highlights the need for leaders to be sufficiently sheltered from coup threats that power is not seized in equilibrium, yet sufficiently exposed to them that they fear violating an election. These qualitative features can persist under relaxation of the model's key structural assumptions, which we explore here.

### 5.1 Increasing Elite Size

Suppose that there were  $N > 2$  members of the elite, one leader and  $N - 1$  insiders, and that the opportunity to mount a coup arises for one randomly chosen insider each period. Coup threats are heightened relative to the  $N = 2$  case. For instance, the insider needs a larger transfer from a secure autocrat in order to dissuade a coup since the insider will have to wait longer on average for another chance to threaten a coup. If the leader did not observe which elite was the one with the coup opportunity, then they would have to pay *all* of them enough if a coup is to be avoided. In either case the underlying motivation for establishing a minimalist democracy – the inability to make required transfers – is only intensified when there are more members of the elite to satisfy. However, there is no unambiguous effect of  $N$  on the capacity to support minimalist democracy; the heightened coup threat makes the ‘no coup’ condition more difficult to satisfy but the ‘self-enforcing’ condition easier to satisfy.

### 5.2 Heterogeneous Elite

Introducing asymmetry across the elite, for instance by allowing different values of  $\gamma$  or  $p$  adds considerable complexity. The reason is that we could not rely on symmetric strategies and (even under the restriction to Markov strategies) must also consider a range of uninteresting special cases. For instance, having a minimalist democracy being supported by only one of the two elite paying the other when leader. Nevertheless, the implications of such asymmetries are intuitive. For instance if elite  $i \in \{1, 2\}$  (and their replacements) has a coup success probability of  $\gamma_i$  where  $\gamma_1 > \gamma_2$ , then the ‘no coup’ condition is more difficult to satisfy when elite 2 is in power (since elite 1 requires a greater payment) and the ‘self enforcing’ condition is more difficult to satisfy when elite 1 is in power (since elite 2 can be bought off, in the violation phase, more easily). Alternatively, we could have the elite differ with respect to their electoral chances by supposing that elite  $i \in \{1, 2\}$  is re-elected as incumbent with probability  $p_i$ , with  $p_1 > p_2$ . This would clearly have no effect in the autocratic equilibrium. However, elite 1 holds a greater value associated with being the leader in democracy (since their expected tenure is longer), and is therefore more willing to mount a coup. As such the ‘no coup’ condition is more difficult to satisfy when elite 2 is in power whereas the ‘self enforcing’ condition is more difficult to satisfy when elite 1 is in power. In general, the model's main results persist under such an extension, albeit in a less clean form.

### 5.3 Alternative Voters' Reactions

The model assumes that voters will not vote for a leader who has violated a previous electoral result and remained in power. This assumption is seemingly extreme in two respects—first, that the violation state involves

re-electing the violator with probability zero, and second, that the violation state is permanent. In this section we show how our results are robust to relaxing the assumption along these two dimensions.

### 5.3.1 Violators Elected with Positive Probability

In the main model we assume that, once they enter the violation state, an election violator is elected with probability  $p' = 0$ . Our results are completely robust to changing the specific value of  $p'$ . What matters is that a leader that enters the violation state cannot credibly promise to respect future elections (and as a result, faces a coup threat). The essential reason why a leader in the violation state cannot make such a promise is that there are no further electoral consequences from subsequent election violations. The substantive assumption is that there is a single violation state—the specific value of  $p'$  is immaterial.<sup>42</sup> Assuming that  $p' = 0$  is convenient since it leaves no room for further voter reaction, thus leading to a single violation state.

The natural way to relax the assumption then is to allow for multiple violation states. One way to model this is to think of voters responding to the initial act of violation by lowering the reelection probability to  $p' < p$ , and then after a subsequent violation to a  $p'' < p'$  and so on. We consider a simple version of this where we allow two violation states. The first violation state is reached after a leader's first violation and involves the leader's reelection probability falling to  $p' < p$ . The second violation state is reached once two or more violations occur. For the same reasons as outlined above, the specific reelection probability in the second violation state is immaterial—it is enough to note that a leader will never respect elections once the second violation state is reached. With voters acting this way, it is now possible that a one-time violator can credibly promise to respect future elections. For instance, if this intermediate stage involved an arbitrarily small voter response, then this will be true. In such cases the minimalist democracy equilibrium, which calls for all leaders to respect all electoral results, is jeopardized.<sup>43</sup> However, if a leader's election prospects in the first violation state are sufficiently weak then they will prefer to violate elections rather than become an insider with poor prospects for returning to office. In such cases the additional violation state does not alter the analysis presented above since a leader's single violation will be sufficient to ensure that they will not respect any future elections. Given this, we now seek to identify those electoral conditions in the first violation state for which the leader will continue violating. We do so in the particularly transparent case of  $U = 0$  since this removes any need to compute the equilibrium transfer arising in each of the various special cases (since transfers must be zero when  $U = 0$ ).

To this end, label the two elite  $A$  and  $B$ . If  $A$  violates an election for the first time, then the first violation state is reached. In this state voters are reticent, but not completely against, voting for  $A$  in the future. Specifically, if  $A$  violates then voters re-elect him with probability  $p_A < p$  when he is leader and elect  $B$  with probability  $p_B > p$  when  $B$  is leader. Any further violations from  $A$  leads him to be re-elected with probability zero (as outlined above, this is immaterial). Under what conditions on  $(p_A, p_B)$  will a one-time violator find it optimal to keep violating? Under such conditions the additional violation phase is inconsequential and the existence of the minimalist democracy equilibrium goes through unchanged.

Suppose that elections are respected in the first violation state. Let  $v_i^x$  be the value to player  $i \in \{A, B\}$  in

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<sup>42</sup>The direct reason for this has to do with our focus on Markov strategies. Violating an election in the violation state does not change the state and therefore implies no further consequences arising from subsequent violations (see appendix section A.2 for related discussion and formal proofs). However, the discussion of issues relating to renegotiation-proofness provides a far more general reason—if an agent faces no further electoral consequences for subsequent election violations, then it is feasible to follow through with the Pareto-improving proposal to 'forgive and forget'. That is, within the violation state, threats to punish further election violations are not credible.

<sup>43</sup>Note however that this does not mean that our mechanism, which stresses power-sharing via elections, is completely undermined. There will likely exist equilibria in which leaders violate their first election but then respect subsequent elections.

position  $x \in \{L, N\}$  in the first violation state. These satisfy:

$$v_A^L = F + (1 - \delta) \cdot (p_A \cdot v_A^L + (1 - p_A) \cdot v_A^N) \quad (20)$$

$$v_A^N = (1 - \delta) \cdot ((1 - p_B) \cdot v_A^L + p_B \cdot v_A^N) \quad (21)$$

and the analogous expressions for elite  $B$ . These can be solved to yield:

$$v_A^N = \frac{1 - (1 - \delta) \cdot p_B}{1 + (1 - \delta) \cdot (1 - p_A - p_B)} \cdot \frac{F}{\delta}. \quad (22)$$

If instead  $A$  violates again, they enter the second violation state and face constant coup threats. The value of being a leader in such a situation, denoted  $\tilde{v}_A^L$ , satisfies

$$\tilde{v}_A^L = F + (1 - \delta) \cdot (1 - \gamma) \cdot \tilde{v}_A^L \quad (23)$$

And thus is:

$$\tilde{v}_A^L = \frac{F}{1 - (1 - \delta) \cdot (1 - \gamma)}. \quad (24)$$

Thus elections will never be respected in the first violation state if  $(p_A, p_B)$  is such that  $\tilde{v}_A^L > v_A^N$ . We see right away that this will hold for  $(p_A, p_B) \rightarrow (0, 1)$  since  $v_A^N \rightarrow F$  and  $\tilde{v}_A^L > F$ . More specifically it will hold as long as  $p_B$  is sufficiently high relative to  $p_A$ . In particular, for

$$p_B > p_B^* \equiv \frac{\gamma \cdot (1 - \delta)^2 - \delta}{(\gamma \cdot (1 - \delta)^2)} + \frac{\delta}{\gamma \cdot (1 - \delta)} \cdot p_A \quad (25)$$

This condition is depicted in appendix Figure A7.

We see that points sufficiently toward the top left corner will be sufficient but are by no means necessary. For instance, points sufficiently close to the top right corner will also work (i.e. when voters become unwilling to ever elect an insider). We should also note that this is a sufficient condition. The power-sharing under these intermediate terms may fail to be supported for other reasons (e.g. coups cannot be avoided). The conditions identified here are useful ones because they make power-sharing under the intermediate terms unviable for the same reason that they are unviable in the main version (i.e. the leader's promise to respect the result is not credible). The demonstration naturally extends to multiple violation phases. Intuitively, the minimalist democracy equilibrium we analyze above continues to be an equilibrium provided the decline in probability of re-election upon the first violation falls sufficiently far.

### 5.3.2 Exogenous Return To Democratic State

An alternative way to relax the assumption on voter response to electoral violations is retain the single violation state but allow it to be impermanent. In other words, allow voters to 'forgive' a violator with a positive probability. Specifically, add to the main model the feature that between periods the violation state persists with probability  $\lambda$  and returns to the democratic state with probability  $1 - \lambda$ . Thus the main model corresponds to the case of  $\lambda = 1$  and we are interested in the implications of lowering  $\lambda$ . The only effect of  $\lambda$  will be on the self-enforcing condition via its effect on the transfer required to dissuade a coup in the violation phase. Thus we seek the effect of  $\lambda$  on  $\hat{\tau}_T$ . Intuition would suggest that a less persistent violation phase will make such a state

less dire for insiders and thus will make them more willing to accept any given transfer (thereby jeopardizing the self-enforcing condition). As we shall see, this is partly accurate.

Since the violation state persists with probability  $\lambda \cdot (1 - \delta)$  (i.e. the probability that the leader does not die and voter attitudes do not change), note that  $\hat{\tau}_T$  satisfies:

$$\hat{\tau}_T + (1 - \delta) \cdot \left[ (1 - \lambda \cdot (1 - \delta)) \cdot V_D^N + \lambda \cdot (1 - \delta) \cdot V_T^N \right] = \gamma \cdot (1 - \delta) \cdot V_D^L. \quad (26)$$

Use  $V_T^N = \gamma \cdot (1 - \delta) \cdot V_D^L$  (since insiders coup in the violation phase) to get

$$\hat{\tau}_T \equiv (1 - \delta) \cdot \left[ \gamma \cdot V_D^L - V_D^N + \lambda \cdot (1 - \delta) \cdot \underbrace{\left\{ V_D^N - \gamma \cdot (1 - \delta) \cdot V_D^L \right\}}_{\equiv \Delta} \right] \quad (27)$$

Notice that the sign of the effect of  $\lambda$  on  $\hat{\tau}_T$  depends only on  $\Delta$ . Since  $\Delta \geq 0$  in equilibrium by the no-coup condition, we have that  $\hat{\tau}_T$  will be non-decreasing in  $\lambda$ . Notice also that  $\Delta$  captures both (i) the extent to which the no coup condition is slack and (ii) the extent to which an insider prefers being in the democratic state relative to the violation state.

To begin, note that we have  $\Delta > 0$  when parameters are in  $S_1$  (by virtue of  $S_1 \subset P_1$ ). Thus, in this region we have that the patronage required to dissuade coups in the violation state falls as this state becomes less persistent (i.e. as  $\lambda$  falls), as depicted in appendix Figure A8. Intuitively, as the violation state becomes less persistent, the payoff to mounting a coup is unchanged but the payoff to accepting any given transfer is higher. The latter follows since  $\Delta > 0$  implies that insiders strictly prefer the democratic state to the violation state. In short then, a lower  $\lambda$  shrinks  $S_1$ , thereby reducing the set of parameters for which minimalist democracy can exist. Intuitively, as the violation state becomes less persistent it will become possible to pay off insiders in the violation state at some levels of rent transferability. This makes the leader in the violation state secure, removing any incentive to respect elections in the first place.

Whilst a less persistent violation phase reduces  $S_1$  it will never eliminate it altogether. To see this we now show that  $S_2$  is completely unaffected by  $\lambda$ . To this end, note that  $\Delta = 0$  when parameters are in  $S_2$  (by virtue of  $S_2 \subset P_2$ ). Thus, in this region we have that the patronage required to dissuade coups in the violation state is invariant to how persistent the violation state is. Intuitively, in this region insiders are indifferent between being in the democratic state and being in the violation state. As the violation state becomes less persistent, the payoff to mounting a coup is unchanged but so too is the payoff to accepting any given transfer.<sup>44</sup>

In summary then,  $S_1$  shrinks toward the horizontal axis, but  $S_2$  is unchanged, as the violation state becomes less persistent. As such, all of the qualitative features of equilibrium remain as we relax the assumption that voters never ‘forgive’ a violator.

## 6 Empirical Implications

Due to the configuration of equilibria, a direct empirical implication of the present paper is that a permanent increase in graft to a sufficiently high level threatens democracy; it will *always* force democracy into autocracy. The fact that the democratic equilibrium strictly Pareto dominates the autocratic one suggests a reason for why elites would choose to coordinate on democracy whenever it is feasible. Thus, if we expect that political elite

<sup>44</sup>The sufficient conditions established in Propositions 2 and 3 are also modified for  $\lambda < 1$  which we demonstrate precisely in the appendix.

are able to coordinate on the preferred equilibrium, we predict democratization – in the minimalist sense – following a decline in graft. This is consistent with the pattern described by Jensen and Wantchekon (2004):

“... most African resource-dependent countries were authoritarian governments and struggled with democratic consolidation after the “third wave” of democratization. These resource-dependent countries include Algeria, Nigeria, Libya, Gabon, Cameroon, and the former Zaire. Besides South Africa, the transition to democracy has been successful only in resource-poor countries such as Benin, Mali, Senegal, and Madagascar.”

These perspectives are also reflected in the data. A large literature on the resource curse, which resonates with our theoretical model, focuses on resource abundance as an obstacle to inclusive institutions and democratization.<sup>45</sup> This literature has investigated both permanent and temporary resource shocks.

Our model speaks to such systematic empirical regularities. Although we do not regard what we offer in this section as a formal test of the model, we underscore how our theoretical setup can jointly reconcile these additional moments in the data with the set of empirical regularities we have reported in Section 2.

Specifically, defining  $y_t$  the level of state resources available in year  $t$ , a shock  $\varepsilon_t$  has the feature of permanence when affecting future expected resources available in the indefinite future, i.e.  $\varepsilon_t$  affects  $E_t [y_{t+1}]$ ,  $E_t [y_{t+2}]$ , and so on. These are the shocks which are close to changes in resources  $U$  in our model; patronage available to fend off coup threats needs to be permanently changed in order to compare different equilibrium characterizations.<sup>46</sup> As an instance of such shocks, consider the case of an oil-rich country. Given that international oil prices follow a random walk,<sup>47</sup>  $y_t = y_{t-1} + \varepsilon_t$ , a negative shock  $\varepsilon_t$  permanently reduces expected oil revenues at any future  $t + j$ , for  $j = 1, 2, 3, \dots$ , since  $E_t [y_{t+j}] = y_t$ . Along these lines, Caselli and Tesei (2011) focus on permanent resource windfalls due to improvements in the international price of the main commodity exported by a country. Such commodity prices typically follow nonstationary processes and therefore  $\varepsilon$  shocks have persistent effects. The authors show that increases in commodity prices (and hence revenues from exports) tend to consolidate autocracies. Given the inherently divisible and transferable nature of natural resources, commodity shocks are particularly close to our setup in terms of shocks to  $\psi$ , the availability of patronage, an issue amply discussed in the literature (Torvik, 2002; Collier and Hoeffler, 2005). Tsui (2011) focuses on historical discoveries of large oil reservoirs as an important determinant of long-run autocratic drift in a large panel of countries. Wantchekon (1999) discusses the political dynamics around peak discovery in the case of Nigeria along these same lines. Brückner, Ciccone, and Tesei (2012) focus on oil revenue windfalls as well, but with opposite results relative to Caselli and Tesei (2011) and Tsui (2011). In fact, studies of resource shocks and their effects on political institutions have received criticism.<sup>48</sup>

On the other hand, a shock  $\varepsilon_t$  is temporary if it has the feature of leaving expected resources available in the indefinite future unchanged, i.e.  $\varepsilon_t$  does not affect  $E_t [y_{t+1}]$ ,  $E_t [y_{t+2}]$ , and so on. This is consistent with Acemoglu and Robinson’s (2001, 2006) ‘window of opportunity’ view of transitions that allows for a boom period of  $y_t = h > 0$  with probability  $1 - s$  and recession  $ah < h$  with probability  $s$ , which ultimately has the

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<sup>45</sup>By focusing on the process of democratic transition our model complements other theoretical contributions more focused on drawing a characterization of the political processes that sustain the resource curse, as in Robinson, Torvik and Verdier (2006).

<sup>46</sup>This remark follows from the fact that our current model does not focus on shocks to  $U$  that are expected to be temporary in nature although it can be extended in this direction.

<sup>47</sup>Brückner, Ciccone, and Tesei (2012).

<sup>48</sup>See for instance Wacziarg (2012).



effect of changing the opportunity cost of transitions. In this setting economic shocks occur independently and the resource process is stationary. Brückner and Ciccone (2011) focus on these temporary resource shocks, specifically droughts in Africa, and show that low rainfall shocks (i.e. negative transitory shocks) tend to predict democratizations consistently with Acemoglu and Robinson (2001, 2006).

We scrutinize similar empirical evidence to the literature in the context of our model in Table 3, which looks at triggers of political transitions. The analysis here is kept brief and essentially focused on confirming whether negative resource shocks act to move autocratic systems towards democracy, and more specifically towards competitive elections and minimalist democracy, in contrast with other democratic features less related to our theory, such as political inclusiveness.

We employ specifications close to the reduced-form regressions of Brückner and Ciccone (2011, Eq. 2), including jointly permanent (resource prices) and temporary (weather) shocks. While our theory relies on the former, omitting the role of the latter, which have been shown to be relevant in past research, could bias the analysis. Table 3 employs a country and year fixed effects specification (plus country specific linear time trends) of the change between year  $t$  and  $t + 1$  of four institutional dependent variables: the Polity 2 score, electoral competitiveness, political inclusiveness, and executive constraints. The set of independent variables of interest includes the price growth of the main commodity exported by a country based on United Nation's Comtrade data (following the protocol spelled out by Caselli and Tesei, 2011) and the log Global Precipitation Climatology Project rainfall estimates at time  $t$  and at time  $t - 1$ . The sample coincides with the set of Sub-Saharan African countries identified by Brückner and Ciccone for which we have commodity quantities and prices.

Column 1 of Table 3 can be seen as a replication and robustness check of Brückner and Ciccone (2011) or of Caselli and Tesei (2011). It shows that resource shortfalls, in terms of lower rainfalls or lower commodity prices, strengthen the level of democracy by significantly increasing the Polity 2 overall score. Both temporary and permanent shocks appear to matter in this reduced-form environment. Quantitatively, the effect of one standard deviation drop in log rainfall at  $t - 1$  ( $-0.57$ ) implies an increase of 1.4 Polity 2 points. A one standard deviation decrease in commodity price growth between  $t$  and  $t - 1$  ( $-0.23$ ) produces an increase of 0.2 Polity 2 points and a one standard deviation fall in commodity price growth between  $t - 1$  and  $t - 2$  ( $-0.22$ ) produces an increase of 0.23 Polity 2 points. Consistently with our discussion in Section 3, electoral competitiveness appears to respond statistically to resource shortfalls. Both commodity price declines and droughts increase electoral competitiveness in column 2, pushing autocracies towards minimalist democracies. Importantly for our theory, this does not happen for political inclusiveness measures (statistically insignificant and very noisy in column 3), which more properly pertain to fully representative (as opposed to minimalist) democracies.<sup>49</sup> In column 4 executive constraints appear to respond weakly to rainfall shocks and do not systematically respond to resource shocks. This ambiguity is not surprising, as in Figure A3 executive constraints show an uptake in between electoral competitiveness and inclusiveness. Columns (5) to (8) show the robustness of our findings to the exclusion of Polity IV interregnum periods, as those periods require interpolation of Polity 2 scores and could be overly influential around periods of political transition.

In conclusion, Table 3 reiterates evidence for the view that resource value declines seem to push autocratic regimes toward democratization. But importantly, this appears true along the electoral competitiveness dimension and for declines that affect the permanent value of state resources, both features that are central to our analysis.

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<sup>49</sup>Although suggestive, the combination of coefficient magnitude and considerable noise in the estimates for Inclusive politics does not allow however to pinpoint 'precise zeros'.

## 7 Conclusions and Future Directions

This paper sheds light on the relevance of minimalist democracies, i.e. electoral democracies with possibly very limited representation, a frequent form of institutional profile and one that in Section 2 we show to be systematically emergent out of autocratic regimes.

We believe this is relevant for a large number of the world's weak polities that lie between the extreme poles of consolidated autocracy and consolidated democracy. The minimalist democracies that we study embody elements from both ends of the political spectrum. Their underlying context is one in which power seems to be determined by force, as the institutions in such countries are weak. Yet leaders hold elections and even voluntarily leave power when they lose, as in Nigeria in 2015. In these democracies, leaders who control violence, and hence sufficient force to stay in power, voluntarily choose to step aside and respect electoral outcomes. We first establish why a dictator, in control of power through force, would choose to implement a self-enforcing minimalist democracy.

Secondly, we develop the conditions under which minimalist democracy may emerge. By offering a probabilistic share of future leadership spoils to insiders, leaders in minimalist democracies can obtain peace and security from attempts against their regime. Democracy can only be sustained if leaders fear that by flouting democratic rules they will face immediate threats to the stability of their regime. An important lesson here then is that: *Peaceful democracy rests on violent threats – necessarily*. If these threats against recalcitrant leaders can be mitigated – as they are when sufficient graft is available – then democracy can *never* be self-sustainable.

Thirdly, we extensively explore the conditions under which voters may or may not be replaceable by a pure randomization device, one that would allow the elite an alternative way to peacefully share power. In general a minimalist democracy with elections and voters cannot be replicated by such a device. To this point, we probe at length the robustness of our theoretical mechanism to relaxing our core set of assumptions.

There is a final question that naturally follows from the analysis. Does this framing of the emergence of minimalist democracy tell us anything about the process by which minimalist democracy turns in to a fully-fledged or consolidated democracy? Qualitative discussions of the rationale of transition sequences can be traced back to the work of Dahl (1971). A plausible conjecture would be that the transition to minimalist democracy gives rise to the possibility of a new form of political actor to occupy elite roles, but the mechanisms appear unclear. In autocracies, the political elites are those able to mobilize (potentially violent) support, which they may sustain through limited distribution of excludable private goods to their followers. This does not necessarily change in minimalist democracies. What certainly changes is that elite supporters now assume a double role as voters vis-a-vis the elite. When and how precisely the addition of the electoral dimension may induce a shift from provision of club goods to non-rival pure public goods appears to be key in producing the transition from minimalist to representative (and redistributive) democracy. We provide in future research a fuller analysis of this mechanism.

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**Table 1: Democracies in Diamond (2002) “Gray Zone” are also minimal**

	Share of country-Year Observations with Most Democratic Score as Defined in Column (1)		
	Sample: Polity2 ∈ (8,10] (N=2712)	Sample: Polity2 ∈ [0,8] (N=1711)	Sample: Polity2 ∈ [-5,0) (N=992)
(1)	(2)	(3)	(4)
<b>Electoral Competitiveness</b> Polity dimension XRCOMP =2 (transitional arrangements between selection, ascription and/or designation, and competitive election) or XRCOMP =3 (election)	100%	<b>85.7%</b>	12.4%
<b>Electoral Competitiveness</b> Polity dimension XROPEN =4 (Open executive recruitment)	100%	<b>87.3%</b>	55.5%
<b>Inclusiveness</b> Polity dimension PARCOMP =4 (transitional arrangements to fully politically competitive patterns of all voters) or PARCOMP =5 (competitive: alternative preferences for policy and leadership can be pursued in the political arena.)	92.4%	29.5%	6.2%
<b>Executive Constraints</b> Polity dimension XCONST ≥ 5 (substantial limitations on executive authority)	100%	69.5%	3.2%

**Table 2: Yearly transition matrix**

	To non-democracy at t	To minimalist democracy at t	To alternative democracy at t	To representative democracy at t
<i>Panel A: Raw Transition Matrix</i>				
<b>From non-democracy at t-1</b> (4143 Total obs.)	97.7%	1.4%	0.3%	0.5%
<b>From minimalist democracy at t-1</b> (1289 Total obs.)	4.9%	92.0%	0.1%	2.9%
<b>From alternative democracy at t-1</b> (112 Total obs.)	0.9%	0.0%	91.1%	8.0%
<b>From representative democracy at t-1</b> (2865 Total obs.)	0.4%	0.8%	0.0%	98.8%
<i>Panel B: Transition matrix, conditional on experiencing a transition</i>				
<b>From non-democracy at t-1</b>		63.6%	13.6%	22.7%
<b>From minimalist democracy at t-1</b>	62.0%		1.2%	36.7%
<b>From alternative democracy at t-1</b>	10.1%	0.0%		89.9%
<b>From representative democracy at t-1</b>	33.3%	66.6%	0.0%	

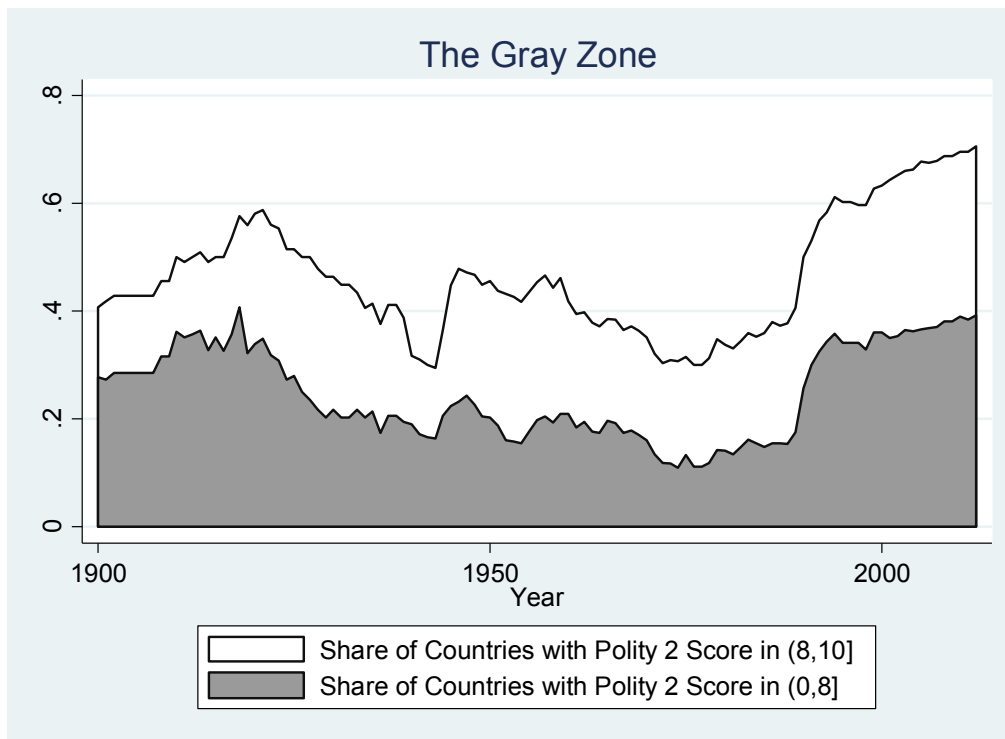
Notes: Electoral Competitiveness: Polity dimension XRCOMP =2 (transitional arrangements between selection, ascription and/or designation, and competitive election) or XRCOMP =3 (election). Inclusiveness: Polity dimension PARCOMP =4 (transitional arrangements to fully politically competitive patterns of all voters) or PARCOMP =5 (competitive: alternative preferences for policy and leadership can be pursued in the political arena.) Non-democracy if Electoral competitiveness = 0 and Inclusiveness = 0. Minimalist democracy if Electoral competitiveness = 1 and Inclusiveness = 0. Alternative democracy if Electoral competitiveness = 0 and Inclusiveness = 1. Representative democracy if Electoral competitiveness = 1 and Inclusiveness = 1.

**Table 3: Resource abundance and autocratizations**

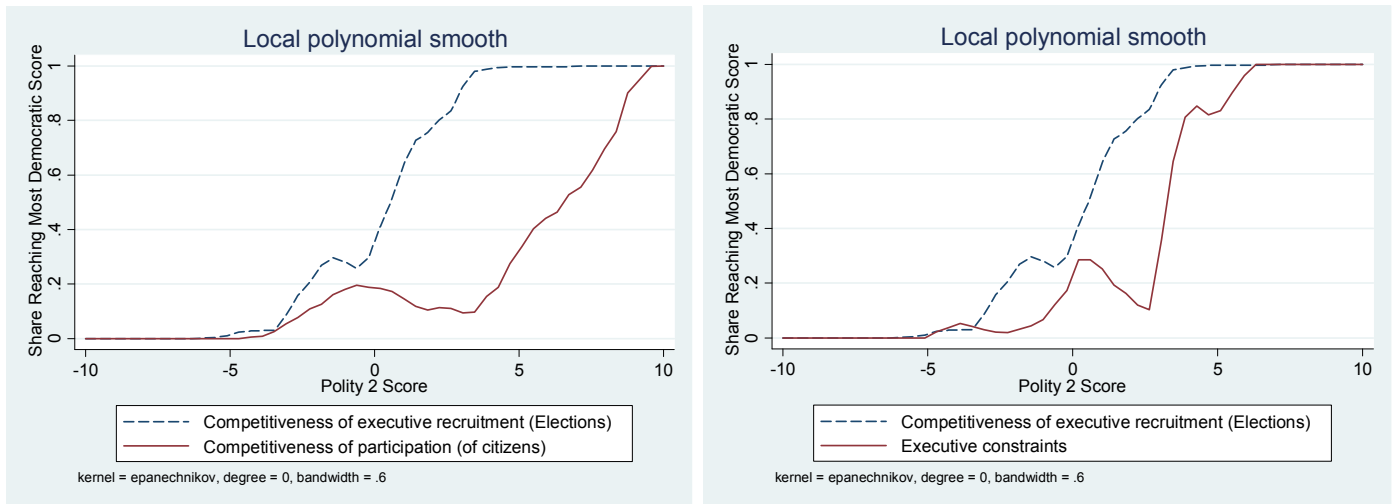
	$\Delta$ Polity 2	$\Delta$ Electoral Competitiveness	$\Delta$ Inclusiveness	$\Delta$ Executive Constraints	$\Delta$ Polity 2	$\Delta$ Electoral Competitiveness	$\Delta$ Inclusiveness	$\Delta$ Executive Constraints
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Log rainfall, t	<b>-0.07</b>	<b>0.04</b>	-0.21	0.10	<b>-0.21</b>	<b>0.02</b>	-0.21	0.10
	[0.52]	[0.06]	[0.20]	[0.16]	[0.53]	[0.06]	[0.20]	[0.16]
Log rainfall, t-1	<b>-2.44</b>	<b>-0.25</b>	-0.82	-0.68	<b>-2.52</b>	<b>-0.23</b>	-0.82	-0.68
	[1.00]**	[0.09]***	[0.39]**	[0.34]**	[1.01]**	[0.09]**	[0.39]**	[0.34]**
Price Growth of Main Commodity between t-1 and t	<b>-0.86</b>	<b>-0.09</b>	-0.13	-0.17	<b>-0.67</b>	<b>-0.07</b>	-0.13	-0.17
	[0.38]**	[0.03]***	[0.22]	[0.12]	[0.40]*	[0.03]**	[0.22]	[0.12]
Price Growth of Main Commodity between t-2 and t-1	<b>-1.03</b>	<b>-0.05</b>	-0.19	-0.30	<b>-0.91</b>	<b>-0.06</b>	-0.19	-0.30
	[0.50]**	[0.04]	[0.20]	[0.15]**	[0.50]*	[0.04]	[0.20]	[0.15]**
R-Squared	0.03	0.03	0.01	0.02	0.03	0.03	0.01	0.02
Observations	668	672	651	651	651	655	651	651
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-Specific Linear Trend	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: All changes for the dependent variables (indicated with  $\Delta$ ) are computed between time t and t+1. Electoral Competitiveness is defined as a dummy taking value 1 if Polity dimension XRCOMP =2 (transitional arrangements between selection, ascription and/or designation, and competitive election) or XRCOMP =3 (election) and 0 otherwise. Inclusiveness is defined as a dummy taking value 1 if Polity dimension PARCOMP =4 (transitional arrangements to fully politically competitive patterns of all voters) or PARCOMP =5 (competitive: alternative preferences for policy and leadership can be pursued in the political arena.) and 0 otherwise. Executive Constraints is defined as a dummy taking value 1 if Polity dimension XCONST =5 (substantial limitations on executive authority) or higher, and 0 otherwise. Columns (5) to (8) report the same specifications as Columns (1) to (4) excluding periods of interregnum (Polity = -77). Standard errors clustered at the country level in brackets below coefficients. \*Significant at 90% confidence; \*\*95% confidence; \*\*\*99% confidence level.

**Figure 1: Consolidated Democracies and the “Gray Zone” (Weak/Hybrid Democracies – Polity2 $\in$ (0,8))**

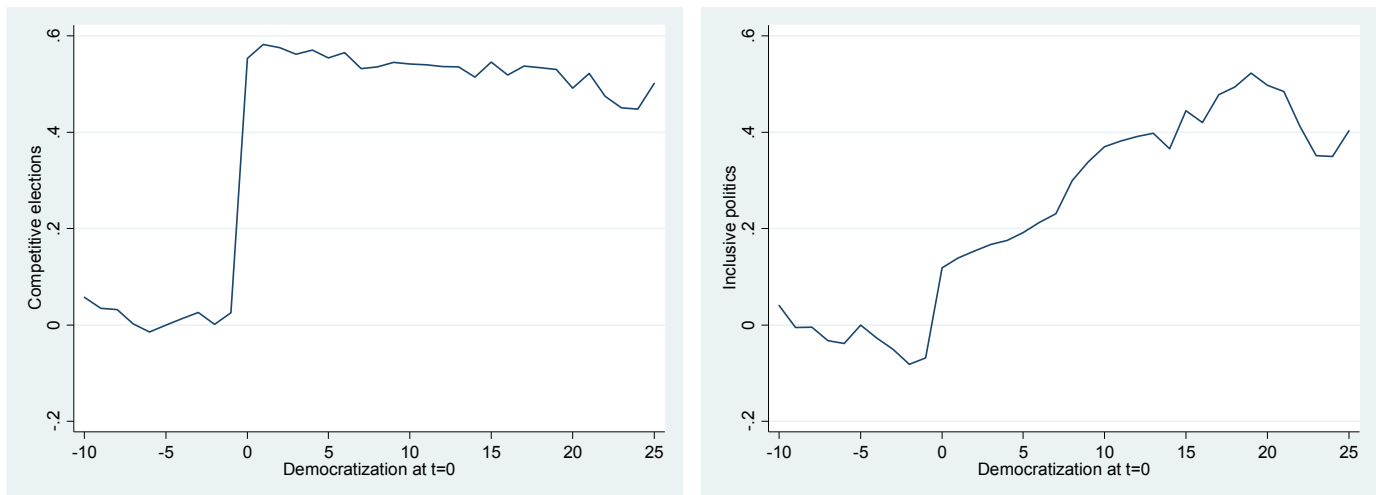


**Figure 2: Weak Democracies fare as well as consolidated democracies in terms of Competitiveness of Executive Recruitment (Polity dimension XRCOMP –dashed line). Much less in terms of Competitiveness of Participation (PARCOMP – solid line, left) and Executive Constraints (XRCONST – solid line, right).**



Notes: Sample starts in 1945 and excludes periods of interruption (Polity = -66), interregnum (Polity = -77), transition (Polity = -88). Dashed line = Nonparametric representation by local polynomial of the relationship between a dummy taking value 1 if Polity dimension XRCOMP =2 (transitional arrangements between selection, ascension and/or designation, and competitive election) or XRCOMP =3 (election), and zero otherwise, and Polity 2 score. Solid line = Nonparametric representation by local polynomial of the relationship between a dummy taking value 1 if Polity dimension PARCOMP =4 (transitional arrangements to fully politically competitive patterns of all voters) or PARCOMP =5 (competitive: alternative preferences for policy and leadership can be pursued in the political arena.), and zero otherwise, and Polity 2 score.

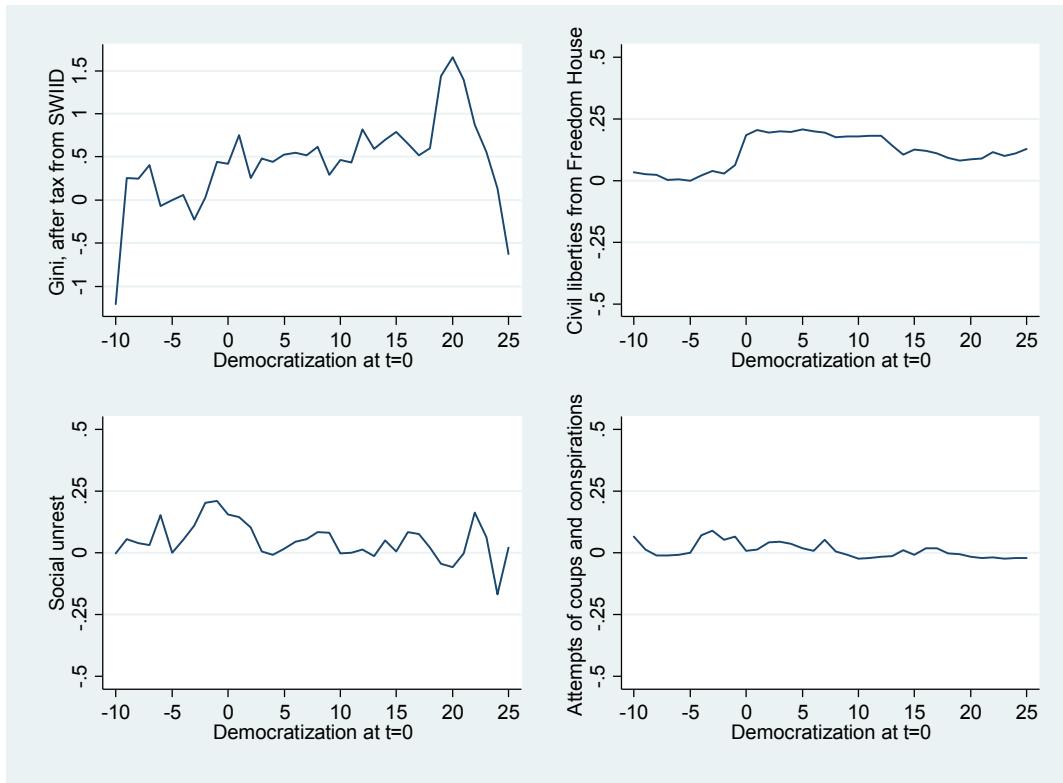
**Figure 3: Competitive elections and Inclusive politics at democratization.**



Notes: Events considered are the Acemoglu, Naidu, Restrepo, and Robinson (2013) 122 democratizations. For each variable considered in the event study, we partial out year and country fixed effects and normalize the residual mean level 5 years before a democratization to 0. In each figure, the democratization event takes place at t=0 and the behavior of the variable is plotted in a window around it

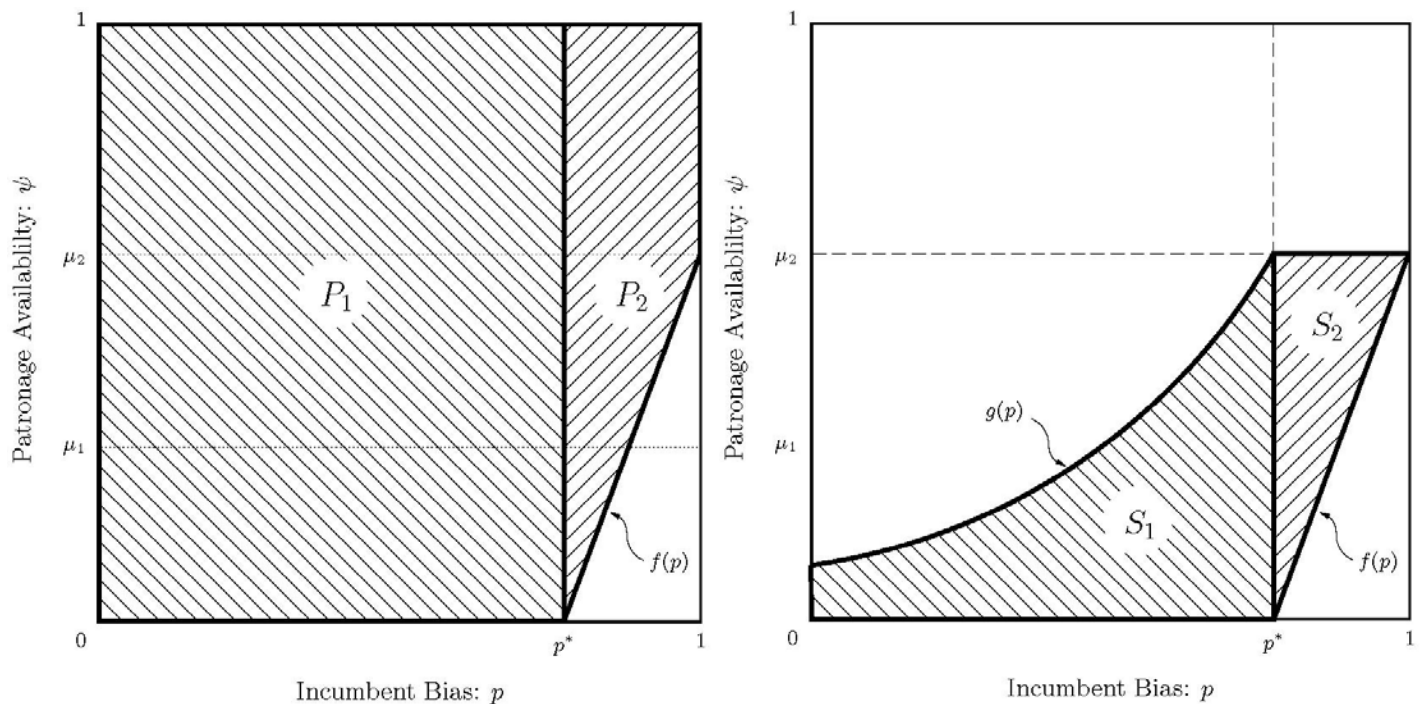


**Figure 4: Redistribution and social conflict at democratization.**



Notes: Events considered are the Acemoglu, Naidu, Restrepo, and Robinson (2013) 122 democratizations. For each variable considered in the event study, we partial out year and country fixed effects and normalize the residual mean level 5 years before a democratization to 0. In each figure, the democratization event takes place at  $t=0$  and the behavior of the variable is plotted in a window around it

**Figure 5: Peaceful Power Transfers and Self-Enforcing Democracy.**



## A Further Details, Proofs, Additional Figures: FOR ONLINE APPENDIX

### A.1 Markov Perfect Equilibrium

A Markov strategy describes actions that are conditioned on the player's role (leader or insider) and the electoral state. When the leader, this involves a state-contingent transfer offer  $\tau_\omega \in [0, U]$ , and a state-contingent indicator of whether elections are respected,  $z_\omega \in \{0, 1\}$ ,<sup>50</sup> for  $\omega \in \{\omega_p, \omega_0\}$ . For ease of presentation we impose the fact that a leader would never want to step down in state  $\omega_0$ —i.e.  $z_{\omega_0} = 0$  (the proof is provided in section A.2 below). Furthermore, our focus on pure strategies for the leader reflects our primary interest in autocratic and democratic equilibria. Thus, the “leader” component of a Markov strategy for the leader is given by three numbers  $\sigma_L \equiv \{\tau_{\omega_p}, \tau_{\omega_0}, z_{\omega_p}\}$ .

When an insider, a Markov strategy consists of a state-contingent probability of mounting a coup following each possible transfer,  $c_\omega(\tau) \in [0, 1]$ , for  $\omega \in \{\omega_p, \omega_0\}$  and  $\tau \in [0, U]$ . Thus, the “insider” component of a Markov strategy is given by a pair of functions  $\sigma_N \equiv \{c_{\omega_p}(\tau), c_{\omega_0}(\tau)\}$ .

If all players use a particular Markov strategy,  $\sigma^* = \{\sigma_L^*, \sigma_N^*\}$  where  $\sigma_L^* \equiv \{\tau_{\omega_p}^*, \tau_{\omega_0}^*, z_{\omega_p}^*\}$  and  $\sigma_N^* \equiv \{c_{\omega_p}^*(\tau), c_{\omega_0}^*(\tau)\}$ , we can derive value functions as follows. In state  $\omega_p$ , the value of being a leader at the start of the period,  $V_{\omega_p}^L$ , the value of being a leader following an election loss,  $\tilde{V}_{\omega_p}^L$ , and the value of being a non-leader faced with a transfer offer of  $\tau$ ,  $V_{\omega_p}^N(\tau)$ , satisfy:

$$V_{\omega_p}^L = \max_{\tau \in [0, U]} \{F + U - \tau + (1 - \delta) \cdot [c_{\omega_p}^*(\tau) \cdot (1 - \gamma) \cdot V_{\omega_p}^L + (1 - c_{\omega_p}^*(\tau)) \cdot [p \cdot V_{\omega_p}^L + (1 - p) \cdot \tilde{V}_{\omega_p}^L]]\} \quad (28)$$

$$\tilde{V}_{\omega_p}^L = \max_{z \in \{0, 1\}} \{z \cdot V_{\omega_p}^N(\tau_{\omega_p}^*) + (1 - z) \cdot V_{\tilde{\omega}}^L\} \quad (29)$$

$$V_{\omega_p}^N(\tau) = \max_{c \in [0, 1]} \{c \cdot [(1 - \delta) \cdot \gamma \cdot V_{\omega_p}^L] + (1 - c) \cdot [\tau + (1 - \delta) \cdot [p \cdot V_{\omega_p}^N(\tau_{\omega_p}^*) + (1 - p) \cdot \tilde{V}_{\omega_p}^N]]\} \quad (30)$$

where  $\tilde{V}_{\omega_p}^N$  is the value of being a non-leader following an election victory:

$$\tilde{V}_{\omega_p}^N \equiv z_{\omega_p}^* \cdot V_{\omega_p}^L + (1 - z_{\omega_p}^*) \cdot [(1 - \delta) \cdot V_{\tilde{\omega}}^N(\tau_{\tilde{\omega}}^*) + \delta \cdot V_{\omega_p}^N(\tau_{\omega_p}^*)] \quad (31)$$

and  $\tilde{\omega}$  is the state next period following a refusal to respect an election loss:

$$\tilde{\omega} \equiv \begin{cases} \omega_p & \text{if } z_{\omega_p}^* = 0 \\ \omega_0 & \text{if } z_{\omega_p}^* = 1 \end{cases} \quad (32)$$

In state  $\omega_0$ , we use the fact that  $z_{\omega_0}^* = 0$ , to get the analogous value functions:

$$V_{\omega_0}^L = \max_{\tau \in [0, U]} \{F + U - \tau + (1 - \delta) \cdot [c_{\omega_0}^*(\tau) \cdot (1 - \gamma) \cdot V_{\omega_0}^L + (1 - c_{\omega_0}^*(\tau)) \cdot V_{\omega_0}^L]\} \quad (33)$$

$$V_{\omega_0}^N(\tau) = \max_{c \in [0, 1]} \{c \cdot [(1 - \delta) \cdot \gamma \cdot V_{\omega_p}^L] + (1 - c) \cdot [\tau + (1 - \delta) \cdot [(1 - \delta) \cdot V_{\omega_0}^N(\tau_{\omega_0}^*) + \delta \cdot V_{\omega_p}^N(\tau_{\omega_p}^*)]]\} \quad (34)$$

<sup>50</sup>Since elections only occur if there is no coup, the only prior action within the period is the transfer amount. We economize on extraneous notation by imposing that the leader respects an election with a probability that is independent of the specific transfer that dissuaded a coup. Nothing of substance would change if we allowed for randomization in the decision to respect elections, so we ignore this possibility for simplicity.

The proposed strategy profile is an equilibrium profile if the components solve the problems posed on the right side of the above equations. That is:

$$\tau_{\omega_p}^* \in \arg \max_{\tau \in [0, U]} \{F + U - \tau + (1 - \delta) \cdot [c_{\omega_p}^*(\tau) \cdot (1 - \gamma) \cdot V_{\omega_p}^L + (1 - c_{\omega_p}^*(\tau)) \cdot [p \cdot V_{\omega_p}^L + (1 - p) \cdot \tilde{V}_{\omega_p}^L]]\} \quad (35)$$

$$z_{\omega_p}^* \in \arg \max_{z \in \{0, 1\}} \{z \cdot V_{\omega_p}^N(\tau_{\omega_p}^*) + (1 - z) \cdot V_{\omega}^L\} \quad (36)$$

$$c_{\omega_p}^*(\tau) \in \arg \max_{c \in [0, 1]} \{c \cdot [(1 - \delta) \cdot \gamma \cdot V_{\omega_p}^L] + (1 - c) \cdot [\tau + (1 - \delta) \cdot [p \cdot V_{\omega_p}^N(\tau_{\omega_p}^*) + (1 - p) \cdot \tilde{V}_{\omega_p}^N]]\} \quad (37)$$

$$\tau_{\omega_0}^* \in \arg \max_{\tau \in [0, U]} \{F + U - \tau + (1 - \delta) \cdot [c_{\omega_0}^*(\tau) \cdot (1 - \gamma) \cdot V_{\omega_0}^L + (1 - c_{\omega_0}^*(\tau)) \cdot V_{\omega_0}^L]\} \quad (38)$$

$$c_{\omega_0}^*(\tau) \in \arg \max_{c \in [0, 1]} \{c \cdot [(1 - \delta) \cdot \gamma \cdot V_{\omega_p}^L] + (1 - c) \cdot [\tau + (1 - \delta) \cdot [(1 - \delta) \cdot V_{\omega_0}^N(\tau_{\omega_0}^*) + \delta \cdot V_{\omega_p}^N(\tau_{\omega_p}^*)]]\} \quad (39)$$

**Definition 1.** A (symmetric) Markov Perfect Equilibrium is a strategy,  $\sigma^* = \{\sigma_L^*, \sigma_N^*\}$ , such that (28) to (39) simultaneously hold.

## A.2 It is never optimal to step down in state $\omega_0$ : $z^*(\omega_0) = 0$

Suppose that the leader in state  $\omega_0$  stepped down. Then since voters still perceive the leader to be a totalitarian, and since we take  $\eta \rightarrow 0$ , they will (almost surely) lose an election against the new leader. Since the incumbent wins with probability 1, label such a state  $\omega_1$ . Since the leader in this state always wins elections, and since we take  $\eta \rightarrow 0$ , the leader (almost surely) can not take actions that change citizen beliefs. As such, the state remains at  $\omega_1$  until the original leader (i.e. the perceived totalitarian) dies. Upon this death, the replacement would become a totalitarian with probability  $\varepsilon$  upon taking the leadership and thus citizens once again become indifferent between the candidates. That is, there is a return to state  $\omega_p$ .

A successful coup in state  $\omega_1$  delivers a continuation value of  $V_{\omega_0}^L$  (since the coup instigator is still perceived to be a totalitarian). Thus, the value of being the insider in state  $\omega_1$  satisfies the following:

$$V_{\omega_1}^N = c_{\omega_1}^* \cdot [(1 - \delta) \cdot \gamma \cdot V_{\omega_0}^L] + (1 - c_{\omega_1}^*) \cdot [\tau_{\omega_1}^* + (1 - \delta) \cdot V_{\omega_1}^N] \quad (40)$$

where  $\tau_{\omega_1}^*$  is the equilibrium transfer, and  $c_{\omega_1}^* \equiv c_{\omega_1}^*(\tau_{\omega_1}^*)$  is the equilibrium probability of mounting a coup, in state  $\omega_1$ .

**Result 1.** The leader in state  $\omega_0$  will never want to step down: i.e.  $V_{\omega_1}^N < V_{\omega_0}^L$ .

*Proof.* The result will follow by establishing that  $V_{\omega_1}^N = (1 - \delta) \cdot \gamma \cdot V_{\omega_0}^L$ . If  $c_{\omega_1}^* = 1$  then this is obvious from (40). If  $c_{\omega_1}^* < 1$ , then  $\tau_{\omega_1}^* > 0$  (if instead  $\tau_{\omega_1}^* = 0$ , then the implied value of  $V_{\omega_1}^N$  would be zero, making a coup strictly preferable). But then  $\tau_{\omega_1}^*$  must be set at that critical transfer value that makes the non-leader indifferent to a coup. Thus, for any possible value of  $c_{\omega_1}^*$  we have  $V_{\omega_1}^N = (1 - \delta) \cdot \gamma \cdot V_{\omega_0}^L$ , so that  $V_{\omega_1}^N < V_{\omega_0}^L$  as required. ■

## B Supporting Results

**Result 2.** *In any minimalist democracy equilibrium we have  $V_D^L > V_D^N$ .*

**Proof of Result 2:**

*Proof.* In any minimalist democracy equilibrium it is either the case that  $\tau_D > 0$  or  $\tau_D = 0$ . If  $\tau_D > 0$ , then  $\tau_D = \hat{\tau}_D$  which ensures  $V_D^N = \gamma \cdot (1 - \delta) \cdot V_D^L < V_D^L$ . If instead  $\tau_D = 0$ , then the value functions (11) and (12) imply  $V_D^L > V_D^N$ . To see this, note that  $V_D \equiv V_D^L + V_D^N = (F + U)/\delta$ . This implies  $V_D^N = V_D - V_D^L$ , which can be substituted into (11) and solved to get  $V_D^L = \frac{\delta + (1 - \delta)(1 - p)}{1 - p} \cdot \frac{V_D}{2}$ . Since  $\delta > 0$  implies the first fraction is greater than unity, it follows that  $V_D^L > V_D/2$  and thus that  $V_D^L > V_D^N$  as required. Thus, in all cases we have  $V_D^L > V_D^N$ . ■

**Lemma 6.** *A leader in the violation state avoids coups whenever strictly feasible. That is,  $\hat{\tau}_T < U \Rightarrow c_T = 0$ .*

**Proof of Lemma 6**

*Proof.* The result is obvious if  $\hat{\tau}_T \leq 0$  since coups can be avoided for free. Suppose then that  $\hat{\tau}_T \in (0, U)$ . The strategy is to show that (i) there is no profitable deviation from  $\tau_T = \hat{\tau}_T$  and (ii) there is always a profitable deviation from any  $\tau_T \neq \hat{\tau}_T$ . This will establish that  $c_T = 0$  since strict feasibility implies that leaders can offer infinitesimally more than  $\hat{\tau}_T$  and ensure that insiders coup with probability zero.

Suppose that  $\tau_T = \hat{\tau}_T \in (0, U)$ . There is a profitable deviation only if it is profitable to deviate to  $\tau = 0$ : it is never profitable to deviate to any  $\tau \in (\hat{\tau}_T, U]$  since coups are still avoided but at a higher cost, and any deviation to some  $\tau \in (0, \hat{\tau}_T)$  is dominated by  $\tau = 0$  since coups are still not avoided but at a lower cost. Since it will induce a coup for sure, it is not profitable to deviate to  $\tau = 0$  if  $V_T^L \geq F + U + (1 - \gamma) \cdot (1 - \delta) \cdot V_T^L$ . That is, we need to show that

$$V_T^L \geq \frac{\delta}{\delta + \gamma \cdot (1 - \delta)} \cdot \frac{F + U}{\delta} \quad (41)$$

whenever  $\tau_T = \hat{\tau}_T \in (0, U)$ . To this end, note that  $\tau_T = \hat{\tau}_T$  implies that insiders are indifferent to holding a coup. Since the expected payoff to a coup is the same as in the democracy state (i.e. becoming a democratic leader), the fact that there are no coups in democracy implies  $V_D^N \geq \gamma \cdot (1 - \delta) \cdot V_D^L = V_T^N$ . Note too that  $\tau_T = \hat{\tau}_T < U$  implies insiders coup with probability zero. Using  $c_T = 0$  along with  $V_D^N \geq V_T^N$  in (14) gives  $V_T^N \geq \hat{\tau}_T + (1 - \delta) \cdot V_T^N$ . Use this along with (13) to get  $V_T \equiv V_T^L + V_T^N \geq \frac{F + U}{\delta}$ . Since  $V_D^L + V_D^N = \frac{F + U}{\delta}$ , we have  $V_T^L + V_T^N \geq V_D^L + V_D^N$ . This, along with  $V_D^N \geq V_T^N$  implies  $V_T^L \geq V_D^L$ . We therefore have  $V_T^L = V_T - V_T^N = V_T - \gamma \cdot (1 - \delta) \cdot V_D^L \geq \frac{F + U}{\delta} - \gamma \cdot (1 - \delta) \cdot V_T^L$ . Rearranging gives  $V_T^L \geq \frac{1}{1 + \gamma \cdot (1 - \delta)} \cdot \frac{F + U}{\delta}$ . Condition (41) follows from noting that  $\frac{1}{1 + \gamma \cdot (1 - \delta)} > \frac{\delta}{\delta + \gamma \cdot (1 - \delta)}$ .

Suppose that  $\tau_T \neq \hat{\tau}_T \in (0, U)$ . There is clearly a profitable deviation to  $\tau = \hat{\tau}_T$  if  $\tau_T \in (\hat{\tau}_T, U]$  and to  $\tau = 0$  if  $\tau_T \in (0, \hat{\tau}_T)$ . Thus, if there is an equilibrium with  $\tau_T \neq \hat{\tau}_T \in (0, U)$  then it must be  $\tau_T = 0$ . In this case insiders coup with probability one since  $\tau_T = 0 < \hat{\tau}_T$ . Using  $c_T = 1$  and  $\tau_T = 0$  in (9) tells us that the equilibrium value of being a violation state leader is given by the right side of (41). But this can not be an equilibrium since there is a profitable deviation to choosing  $\tau_T = \hat{\tau}_T$  for all future periods. This will ensure that there are no coups and therefore the payoff to this strategy coincides with the value of  $V_T^L$  derived above in the case where  $\tau_T = \hat{\tau}_T \in (0, U)$ . That is, the left side of (41). The fact that this represents a profitable deviation follows from noting that we proved above that (41) holds with a strict inequality.

Therefore if  $\hat{\tau}_T \leq 0$  then it is clearly optimal to set  $\tau_T = 0$  and  $c_T = 0$  as a result. If  $\hat{\tau}_T \in (0, U)$ , we have shown that the only equilibrium has  $\tau_T = \hat{\tau}_T$  and since  $\hat{\tau}_T < U$  it must be that  $c_T = 0$  in this case also. Thus  $\hat{\tau}_T < U \Rightarrow c_T = 0$ . ■

**Result 3.** *Democratic equilibria with differing transfer levels never coexist.*

*Proof.* Lemma 3 establishes that if parameters are in  $P_1$ , then a democratic equilibrium must have  $\tau_D = 0$ . Thus, the only possible way for there to be multiplicity is if equilibria with different positive transfer levels coexist (and thus parameters are in  $P_2$ ). But if there is an equilibrium with transfers  $\tau_D = \tau'$ , then parameters must be such that  $\tau' = \hat{\tau}_D$ , where  $\hat{\tau}_D$  is given by (43) where  $\{V_D^L, V_D^N\}$  are computed from (11) and (12) using  $\tau_D = \tau'$ . The resulting condition has a unique solution for  $\tau'$ , so that an equilibrium with a transfers of  $\tau' > 0$  precludes there being an equilibrium with any other transfer. ■

## C Proofs

### Proof of Lemma 1:

*Proof.* From (3) we have:

$$\hat{\tau}_A \equiv (1 - \delta) \cdot [\gamma \cdot V_A^L - V_A^N]. \quad (42)$$

1. We proceed by showing that  $\hat{\tau}_A < U$  implies that (i) there are no profitable deviations from choosing  $\tau = \hat{\tau}_A$ , and (ii) there is always a profitable deviation from choosing any  $\tau \neq \hat{\tau}_A$ .

Suppose  $\hat{\tau}_A < U$  and that  $\tau_A = \hat{\tau}_A$ . Since  $\hat{\tau}_A < U$ , it must be that there are no coups in equilibrium (otherwise raising  $\tau$  by a marginal amount will cause coups to occur with probability zero). If there is a profitable deviation, it will be to setting  $\tau = 0$ . This will definitely induce a coup (since  $\tau = 0 < \hat{\tau}_A$ ). Thus, there is not a profitable deviation if

$$F + U + (1 - \delta) \cdot (1 - \gamma) \cdot V_A^L \leq V_A^L.$$

That is, if

$$V_A^L \geq \frac{F + U}{1 - (1 - \delta) \cdot (1 - \gamma)} = \frac{\delta}{\delta + \gamma \cdot (1 - \delta)} \cdot \frac{F + U}{\delta}.$$

Using  $c_A = 0$  along with (42) in (5) gives  $V_A^N = \gamma \cdot (1 - \delta) \cdot V_A^L$ . Adding (4) and (5) and re-arranging gives

$$V_A \equiv V_A^L + V_A^N = \frac{F + U}{\delta}.$$

Therefore  $V_A^L = V_A - V_A^N = V_A - \gamma \cdot (1 - \delta) \cdot V_A^L$ , so that

$$V_A^L = \frac{1}{1 + \gamma \cdot (1 - \delta)} \cdot V_A = \frac{1}{1 + \gamma \cdot (1 - \delta)} \cdot \frac{F + U}{\delta} \geq \frac{\delta}{\delta + \gamma \cdot (1 - \delta)} \cdot \frac{F + U}{\delta},$$

as required. Thus, there are no profitable deviations from  $\tau = \hat{\tau}_A$ .

Now suppose that  $\tau_A \neq \hat{\tau}_A$ . If  $\tau_A > \hat{\tau}_A$  then  $\tau = \hat{\tau}_A$  is clearly a profitable deviation (it achieves coups with the same probability, zero, at a lower cost). Similarly, if  $\tau_A \in (0, \hat{\tau}_A)$  then  $\tau = 0$  is clearly a profitable deviation (it achieves coups with the same probability, one, at a lower cost). The only remaining possibility is  $\tau = 0$ . To show that there is a profitable deviation consider a deviation to  $\tau = \hat{\tau}_A$ . If this is a profitable deviation, then it must be that

$$F + U - \hat{\tau}_A + (1 - \delta) \cdot V_A^L > V_A^L.$$

That is, if

$$F + U > \hat{\tau}_A + \delta \cdot V_A^L$$

Use the fact that  $V_A^N = \gamma \cdot (1 - \delta) \cdot V_A^L$  to get  $\gamma \cdot V_A^L = V_A^N / (1 - \delta)$  which can then be used in (42) to get  $\hat{\tau}_A = V_A^N - (1 - \delta) \cdot V_A^N = \delta \cdot V_A^N$ . Using this in the above equation implies that we need to show

$$F + U > \delta \cdot [V_A^L + V_A^N].$$

Adding (4) and (5) and using  $c_A = 1$  and  $\tau_A = 0$ , we get  $V_A^L + V_A^N = F + U + (1 - \delta) \cdot V_A^L$ . That is,

$$F + U = \delta \cdot V_A^L + V_A^N > \delta \cdot [V_A^L + V_A^N],$$

as required. Thus, there can not be an equilibrium with  $\tau_A = 0$  if  $\hat{\tau}_A < U$ .

An implication of this is that  $\hat{\tau}_A < U$  implies a secure autocracy.<sup>51</sup> But this is not so when  $\hat{\tau}_A = U$ . Insiders may hold coups with a positive probability when offered all available patronage:  $\tau_A = \hat{\tau}_A = U$ . If this coup probability is sufficiently low then leaders will opt to transfer everything and face a small coup probability. However, if this coup probability is sufficiently high then leaders will opt to transfer nothing and face coups with probability one. Of course, if  $\hat{\tau}_A > U$  then it is impossible to dissuade insiders from mounting coups, and a strongly insecure autocracy is the only possibility.

2. Follows from  $V_A^L \geq \gamma \cdot V_A^L > V_A^N$  where the first inequality follows from  $\gamma \leq 1$  and the second inequality follows from the fact that  $\hat{\tau}_A > 0$ . To demonstrate the latter fact, suppose instead that we had  $\hat{\tau}_A \leq 0$ . Since  $\tau \geq 0 \geq \hat{\tau}_A$  we must have  $c = 0$ . From the optimality conditions we have  $\tau_A = 0$  since  $\sigma_A(\tau) = 0$  for all  $\tau$ . Using this in the expressions for the value functions gives  $V_A^N = 0$  and  $V_A^L = (F + U) / \delta$ . Thus,  $\gamma \cdot V_A^L - V_A^N > 0$  which implies  $\hat{\tau}_A > 0$  which is a contradiction. ■

### Proof of Proposition 1:

*Proof.* The strategy is to first characterize the set of parameters for which an autocratic equilibrium with  $\hat{\tau}_A > U$ ,  $\hat{\tau}_A < U$ , and  $\hat{\tau}_A = U$  exist. This will allow us to then characterize the set of parameters for which a secure, insecure, and partially secure autocratic equilibrium exists. Since these cases cover all possible autocratic equilibria

<sup>51</sup>If this were not true, then it could not be optimal for the leader to pay  $\tau_A = \hat{\tau}_A$  since a marginally higher transfer would ensure a secure autocracy (achieving a discrete increase in benefit at a marginal increase in cost).

and since the characterized parameter sets will be generically disjoint (two of the sets will share a boundary), it follows that autocratic equilibria are generically unique.

To this end, we begin by characterizing the set of parameters that support an autocratic equilibria in which  $\hat{\tau}_A > U$ . Such equilibria must have insecure autocrats since the required transfer is infeasible. The parameter set is those for which  $\hat{\tau}_A > U$ , where  $\hat{\tau}_A$  is given by (42) where  $\{V_A^L, V_A^N\}$  are computed using  $\tau_A = 0$  and  $c_A = 1$ . This gives  $\psi < \mu_1$

Next, we characterize the set of parameters that support an autocratic equilibrium in which  $\hat{\tau}_A < U$ . Such equilibria must have secure autocrats by the above lemma. The parameter set is those for which  $\hat{\tau}_A < U$ , where  $\hat{\tau}_A$  is given by (42) where  $\{V_A^L, V_A^N\}$  are computed using  $\tau_A = \hat{\tau}_A$  and  $c_A = 0$ . This gives  $\psi > \mu_2$ .

Next, we characterize the set of parameters that support an autocratic equilibrium in which  $\hat{\tau}_A = U$ . We divide this case into three sub-cases.

1. The equilibrium will have a strongly insecure autocrat if and only if parameters satisfy  $\hat{\tau}_A = U$ , where  $\hat{\tau}_A$  is given by (42) where  $\{V_A^L, V_A^N\}$  are computed using  $\tau_A = 0$  and  $c_A = 1$  (offering  $\tau = U$  is not a profitable deviation because we can have insiders holding a coup with probability one in this event, removing any incentive to offer more than zero). This gives  $\psi = \mu_1$ .
2. The equilibrium will have a secure autocrat if and only if parameters satisfy  $\hat{\tau}_A = U$ , where  $\hat{\tau}_A$  is given by (42) where  $\{V_A^L, V_A^N\}$  are computed using  $\tau_A = U$  and  $c_A = 0$  (offering  $\tau = 0$  is not a profitable deviation for reasons identical to those given in lemma 1). This gives  $\psi = \mu_2$ .
3. The equilibrium will have a weakly insecure autocrat if and only if parameters satisfy  $\hat{\tau}_A = U$ , where  $\hat{\tau}_A$  is given by (42) where  $\{V_A^L, V_A^N\}$  are computed using  $\tau_A = U$ , the implied value of  $c_A$  satisfies  $c_A \in (0, 1)$ , and we verify that there are no incentives to deviate to offering  $\tau = 0$ . This gives  $\psi \in [\mu_1, \mu_2)$

In summary then, a secure autocratic equilibrium exists if and only if  $\psi \geq \mu_2$ . A strongly insecure autocratic equilibrium exists if and only if  $\psi \leq \mu_1$ , and a weakly insecure autocratic equilibrium exists if and only if  $\psi \in [\mu_1, \mu_2)$ . Thus, autocratic equilibrium is unique unless  $\psi = \mu_1$ , in which case two equilibria exist (one weakly insecure and one strongly insecure). ■

## Proof of Lemma 2:

*Proof.* From (8) we have

$$\hat{\tau}_D \equiv (1 - \delta) \cdot [\gamma \cdot V_D^L - (p \cdot V_D^N + (1 - p) \cdot V_D^L)]. \quad (43)$$

It is obvious that  $\tau_D = 0$  if  $\hat{\tau}_D \leq 0$ , since the leader can dissuade coups for free. Consider a proposed democratic equilibrium in which  $\hat{\tau}_D \in (0, U]$ . Since coups are avoided in any democratic equilibrium, we have  $\tau_D = \hat{\tau}_D$ . From (43) and (12) we get  $V_D^N = \gamma \cdot (1 - \delta) \cdot V_D^L$ , and by adding (11) and (12) we get  $V_D^L + V_D^N = (F + U)/\delta$ .

If there is a profitable deviation, it is to  $\tau = 0$  (which must incite a coup by virtue of  $\hat{\tau}_D > 0$ ). Thus, there is not a profitable deviation if

$$F + U + (1 - \gamma) \cdot (1 - \delta) \cdot V_D^L \leq V_D^L,$$

but since  $V_D^N = \gamma \cdot (1 - \delta) \cdot V_D^L$ , this is  $F + U \leq \delta \cdot V_D^L + V_D^N$ . But this is ensured because

$$F + U = \delta \cdot V_D^L + \delta \cdot V_D^N < \delta \cdot V_D^L + V_D^N,$$

where the equality follows from  $V_D^L + V_D^N = (F + U)/\delta$ . ■

### Proof of Lemma 3:

*Proof.* The strategy is to first prove the ‘only if’ statements. The second step is to note that the fact that  $P_1 \equiv \{p, \delta, \gamma, U, F \mid p \leq p^*\}$  and  $P_2 \equiv \{p, \delta, \gamma, U, F \mid p > p^*, \psi \geq f(p)\}$  are disjoint implies the ‘if’ conditions.

If a democratic equilibrium involves  $\tau_D = 0$ , then it must be the case that  $\hat{\tau}_D \leq 0$ , where  $\hat{\tau}_D$  is given by (43) where  $\{V_D^L, V_D^N\}$  are computed from (11) and (12) using  $\tau_D = 0$ . This gives  $p \leq p^*$ .

If a democratic equilibrium involves  $\tau_D \in (0, U]$  then  $\hat{\tau}_D \in (0, U]$ , where  $\hat{\tau}_D$  is given by (43) where  $\{V_D^L, V_D^N\}$  are computed from (11) and (12) using  $\tau_D = \hat{\tau}_D$ . This gives  $p > p^*$  and  $\psi \geq f(p)$ .

So far we have established that if there is a democratic equilibrium with zero transfers then parameters are in  $P_1 \equiv \{p, \delta, \gamma, U, F \mid p \leq p^*\}$ , and that if there is a democratic equilibrium with positive transfers then parameters are in  $P_2 \equiv \{p, \delta, \gamma, U, F \mid p > p^*, \psi \geq f(p)\}$ . But the fact that  $P_1$  and  $P_2$  are disjoint implies the ‘if’ conditions. That is, if there is a democratic equilibrium with parameters in  $P_1$  then it must involve zero transfers since a democratic equilibrium either has zero or positive transfers, yet it can not have positive transfers because parameters being in  $P_1$  preclude them from being in  $P_2$  (and similarly for the consequences of parameters in  $P_2$ ). ■

### Proof of Lemma 4:

*Proof.* From (10) we have

$$\hat{\tau}_T \equiv (1 - \delta) \cdot [\gamma \cdot V_D^L - (\delta \cdot V_D^N + (1 - \delta) \cdot V_T^N)]. \quad (44)$$

The strategy is to show that if violation state leaders are secure then the value to being such a leader is at least as great as being a leader in democracy and therefore strictly better than being an insider in democracy since  $V_D^L > V_D^N$  (see Result 2).

If a violation state leader is secure, then  $c_T = 0$  and either  $\hat{\tau}_T \leq 0$  or  $\hat{\tau}_T \in (0, U]$ . If  $\hat{\tau}_T \leq 0$  then  $\tau_T = 0$  and (13) implies

$$V_T^L = \frac{F + U}{\delta} = V_D^L + V_D^N > V_D^L > V_D^N \quad (45)$$

where the second equality comes from adding (11) and (12) and re-arranging. If on the other hand  $\hat{\tau}_T \in (0, U]$ , then  $\tau_T = \hat{\tau}_T$  and thus  $V_T^N = \gamma \cdot (1 - \delta) \cdot V_D^L$ . Since the right side is the value of holding a coup in democracy, we have  $V_T^N \leq V_D^N$ . But then using this in the right side of (14) we have  $V_T^N \geq \tau_T + (1 - \delta) \cdot V_T^N$  so that

$$\tau_T \leq \delta \cdot V_T^N \quad (46)$$



Using this in (13) gives  $V_T^L \geq F+U-\delta \cdot V_T^N+(1-\delta) \cdot V_T^L$ , and using  $V_T^N \leq V_D^N$  gives  $V_T^L \geq F+U-\delta \cdot V_D^N+(1-\delta) \cdot V_T^L$ . Therefore we have

$$V_T^L+V_D^N \geq \frac{F+U}{\delta}=V_D^L+V_D^N. \quad (47)$$

Thus  $V_T^L \geq V_D^L > V_D^N$ , implying again that election results are not respected. ■

### Proof of Lemma 5:

*Proof.* The strategy is to note that a violation state leader is insecure only if  $\hat{\tau}_T \geq U$  where  $\hat{\tau}_T$  is given by (44) where the values of  $\{V_D^L, V_D^N\}$  are given by the solutions to (11) and (12) using  $\tau_D = 0$  if parameters are in  $P_1$  and  $\tau_D = \hat{\tau}_D$  if parameters are in  $P_2$  where  $\hat{\tau}_D$  is given by (43), and where  $V_T^N = \gamma \cdot (1-\delta) \cdot V_D^L$  (since the insider is either indifferent to mounting a coup or strictly prefers it).

Using  $V_T^N = \gamma \cdot (1-\delta) \cdot V_D^L$  in (44) gives:

$$\hat{\tau}_T = (1-\delta) \cdot \delta \cdot (\gamma \cdot (2-\delta) \cdot V_D^L - V_D^N). \quad (48)$$

If parameters are in  $P_1$ , then we have

$$V_D^L = \frac{1-p \cdot (1-\delta)}{(2-\delta) \cdot (1-p) + p \cdot \delta} \cdot \frac{F+U}{\delta} \quad (49)$$

$$V_D^N = \frac{(1-p) \cdot (1-\delta)}{(2-\delta) \cdot (1-p) + p \cdot \delta} \cdot \frac{F+U}{\delta}, \quad (50)$$

which, when used in (48), makes the requirement that  $\hat{\tau}_T \geq U$  equivalent to  $\psi \leq g(p)$ .

If instead parameters are in  $P_2$ , then we have

$$V_D^L = \frac{1}{1+\gamma \cdot (1-\delta)} \cdot \frac{F+U}{\delta} \quad (51)$$

$$V_D^N = \frac{\gamma \cdot (1-\delta)}{1+\gamma \cdot (1-\delta)} \cdot \frac{F+U}{\delta}, \quad (52)$$

which, when used in (48), makes the requirement that  $\hat{\tau}_T \geq U$  equivalent to  $\psi \leq \mu_2$ . ■

### Proof of Proposition 2:

*Proof.* The ‘only if’ part follows from Lemmas 3 and 5. The strategy for showing the ‘if’ part is to show that elections are respected if violation state leaders are insecure (and  $\gamma^2 \geq \delta/(1-\delta)^2$ ).

If  $p \leq p^*$  and  $\psi < g(p)$  or  $p > p^*$  and  $\psi \in [f(p), \mu_2)$ , then equilibrium must have  $\hat{\tau}_T > U$  (by virtue of  $\psi < g(p)$  and  $\psi < \mu_2$ ). This implies that it is impossible for a violation state leader to dissuade a coup, and thus any equilibrium must have  $c_T = 1$  and  $\tau_T = 0$ . As such, (13) implies that

$$V_T^L = \frac{F+U}{\delta + \gamma \cdot (1-\delta)}. \quad (53)$$

If  $p > p^*$  and  $\psi \in [f(p), \mu_2]$  (parameters are in  $S_2$ ), then we have  $\tau_D = \hat{\tau}_D$  where  $\hat{\tau}_D$  is given by (43). This, along with (11) and (12), gives:

$$V_D^N = \frac{\gamma \cdot (1 - \delta)}{1 + \gamma \cdot (1 - \delta)} \cdot \frac{F + U}{\delta}. \quad (54)$$

It then follows that elections are respected (i.e.  $V_D^N \geq V_T^L$ ) if and only if

$$\frac{\gamma \cdot (1 - \delta)}{1 + \gamma \cdot (1 - \delta)} \geq \frac{\delta}{\delta + \gamma \cdot (1 - \delta)}, \quad (55)$$

which holds if and only if  $\gamma^2 \geq \delta / (1 - \delta)^2$ .

If instead  $p \leq p^*$  and  $\psi < g(p)$  (parameters are in  $S_1$ ), then we have  $\tau_D = 0$  and from (11) and (12) we get:

$$V_D^N = \frac{(1 - p) \cdot (1 - \delta)}{(2 - \delta) \cdot (1 - p) + p \cdot \delta} \cdot \frac{F + U}{\delta}. \quad (56)$$

It then follows that elections are respected (i.e.  $V_D^N \geq V_T^L$ ) if and only if

$$\frac{(1 - p) \cdot (1 - \delta)}{(2 - \delta) \cdot (1 - p) + p \cdot \delta} \geq \frac{\delta}{\delta + \gamma \cdot (1 - \delta)}, \quad (57)$$

which is equivalent to

$$\frac{p}{1 - p} \leq \gamma \left( \frac{1 - \delta}{\delta} \right)^2 - \frac{1}{\delta}. \quad (58)$$

But note that the left side is increasing in  $p$ . But since  $p \leq p^*$ , this condition is satisfied for all  $p \leq p^*$  if it is satisfied at  $p^*$ . Since

$$\frac{p^*}{1 - p^*} = \frac{1 - \gamma}{\gamma \cdot \delta}, \quad (59)$$

equation (58) is indeed satisfied at  $p = p^*$  if  $\gamma^2 \geq \delta / (1 - \delta)^2$ .

Thus, as long as  $\gamma^2 \geq \delta / (1 - \delta)^2$  holds, if  $p \leq p^*$  and  $\psi < g(p)$  or  $p > p^*$  and  $\psi \in [f(p), \mu_2]$  then a unique equilibrium with the stated properties exists.

The exact same existence arguments apply in the knife-edge cases of  $p \leq p^*$  and  $\psi = g(p)$  or  $p > p^*$  and  $\psi = \mu_2$ , except that another democratic equilibrium will exist. If  $p \leq p^*$  and  $\psi = g(p)$  the added equilibrium will have still have zero transfers in the democratic state, but will have  $\tau_T = U$  and some  $c_T > 0$  in the violation state. Similarly, if  $p > p^*$  and  $\psi = \mu_2$  the added equilibrium will have still have positive transfers in the democratic state, but will have  $\tau_T = U$  and some  $c_T > 0$  in the violation state. This establishes the ‘if’ statement and the generic uniqueness. ■

### Proof of Proposition 3:

*Proof.* This proof follows closely from the proof of proposition 2. Specifically, if  $\gamma^2 < \delta / (1 - \delta)^2$ , then (55) can not hold and as a result a democratic equilibrium can not exist if parameters are in  $S_2$ . If an equilibrium with parameters in  $S_1$  is to exist, then (58) must hold.

Note that the condition is not satisfied for any  $p \in [0, 1]$  (implying a democratic equilibrium does not exist) if  $\gamma < \delta / (1 - \delta)^2$ . Intuitively, there is a maximum possible payoff that an insider in democracy can receive

and it must be the case that this is larger than the amount an insecure totalitarian can obtain. Specifically, the maximum share of total available surplus (i.e.  $(F + U)/\delta$ ) that can accrue to the insider in equilibrium is  $(1 - \delta)/(2 - \delta)$  (corresponding to  $p = 0$ ). This maximum share is decreasing in  $\delta$ . The amount that an insecure violation state leader is able to secure is decreasing in  $\gamma$  as coups become less of a threat. Thus, the existence of a democratic equilibrium is jeopardized when  $\gamma$  is relatively low (and/or when  $\delta$  is relatively high). ■

#### Proof of Proposition 4:

*Proof.* From lemma 5, the existence of democratic equilibrium implies  $\psi \leq \mu_2$  (since  $g$  is increasing in  $p$  with  $g(p^*) = \mu_2$ ). Thus, whenever a democratic equilibrium exists, we have  $V_A^N = \gamma \cdot (1 - \delta) \cdot V_A^L$ . Since  $\gamma \cdot (1 - \delta) \cdot V_D^L \leq V_D^N$  (no coups) we have that  $V_A^L < V_D^L \Rightarrow V_A^N < V_D^N$ : i.e. insiders strictly prefer democracy to autocracy whenever leaders do. Thus, for the strict inequality claims, it is sufficient to show that  $V_A^L < V_D^L$  when  $\psi < \mu_2$ .

If  $\psi \in [0, \mu_1]$ , then the result follows since  $V_A^L = V_T^L \leq V_D^N < V_D^L$ . The equality follows since the autocrat is strongly insecure, the weak inequality follows from the self-enforcing condition, and the strict inequality is readily computed from the value functions.

If  $\psi \in (\mu_1, \mu_2)$ , then

$$\hat{\tau}_A = U \leq \hat{\tau}_T, \quad (60)$$

with strict inequality if parameters are in  $P_2$ . The equality follows from the autocrat being weakly insecure and the inequality follows from a violation state leader necessarily being insecure (strictly so if in  $P_2$ ). Furthermore,

$$\hat{\tau}_T \leq (1 - \delta) \cdot \delta \cdot \gamma \cdot V_D^L, \quad (61)$$

with strict inequality if parameters are in  $P_1$ . This follows because the fact that  $V_T^N = \gamma \cdot (1 - \delta) \cdot V_D^L \leq V_D^N$  implies  $\hat{\tau}_T \equiv (1 - \delta) \cdot [\gamma \cdot V_D^L - \delta \cdot V_D^N + (1 - \delta) \cdot V_T^N] \leq (1 - \delta) \cdot [\gamma \cdot V_D^L - V_T^N] = (1 - \delta) \cdot [\gamma \cdot V_D^L - \gamma \cdot (1 - \delta) \cdot V_D^L] = (1 - \delta) \cdot \delta \cdot \gamma \cdot V_D^L$ , where the inequalities are strict if in  $P_1$ . Finally,

$$\hat{\tau}_A = (1 - \delta) \cdot \delta \cdot \gamma \cdot V_A^L. \quad (62)$$

This follows because  $V_A^N = \gamma \cdot (1 - \delta) \cdot V_A^L$  implies  $\hat{\tau}_A \equiv (1 - \delta) \cdot [\gamma \cdot V_A^L - V_A^N] = (1 - \delta) \cdot [\gamma \cdot V_A^L - \gamma \cdot (1 - \delta) \cdot V_A^L] = (1 - \delta) \cdot \delta \cdot \gamma \cdot V_A^L$ . But then using (60)-(62) gives

$$(1 - \delta) \cdot \delta \cdot \gamma \cdot V_A^L = \hat{\tau}_A = U \leq \hat{\tau}_T \leq (1 - \delta) \cdot \delta \cdot \gamma \cdot V_D^L, \quad (63)$$

implying that  $V_A^L < V_D^L$  as required. This is because the first inequality is strict if parameters are in  $P_2$  and the second inequality is strict if parameters are in  $P_1$ .

If  $\psi = \mu_2$ , then the existence of a democratic equilibrium implies that we are in region  $P_2$ . Thus the no-coup constraint holds with equality:  $\gamma \cdot (1 - \delta) \cdot V_D^L = V_D^N$ . But then the fact that  $V_A^N = \gamma \cdot (1 - \delta) \cdot V_A^L$  implies that  $V_A^L = V_D^L \Rightarrow V_A^N = V_D^N$ . To show that  $V_A^L = V_D^L$  when parameters are in  $P_2$  and  $\psi = \mu_2$ , an argument similar that presented above can be used, noting that (60) holds with equality when  $\psi = \mu_2$  and (61) holds with equality when parameters are in  $P_2$ . ■

**Lemma 7.** *In any supported simple power-sharing agreement, we have  $V_i(\omega_i) > V_i(\omega_{-i})$ .*

**Proof of Lemma 7:**

*Proof.* If  $\tau_{-i} > 0$  then:

$$V_i(\omega_{-i}) = \gamma \cdot (1 - \delta) \cdot V_i(\kappa_{-i}) \leq \gamma \cdot (1 - \delta) \cdot \max\{V_i(\tilde{\omega}_i), V_i(\omega_i)\} < \max\{V_i(\tilde{\omega}_i), V_i(\omega_i)\},$$

where the first inequality follows from  $\kappa_{-i} \in \{\tilde{\omega}_i, \omega_i\}$  and the second from  $\gamma \cdot (1 - \delta) < 1$ . But by the self-enforcing condition we have that

$$\max\{V_i(\tilde{\omega}_i), V_i(\omega_i)\} \leq \max\{V_i(\omega_{-i}), V_i(\omega_i)\}.$$

We thus conclude that  $V_i(\omega_{-i}) < \max\{V_i(\omega_{-i}), V_i(\omega_i)\}$ . It cannot be that  $\max\{V_i(\omega_{-i}), V_i(\omega_i)\} = V_i(\omega_{-i})$  for otherwise we would have  $V_i(\omega_{-i}) < V_i(\omega_{-i})$ . It must therefore be that  $\max\{V_i(\omega_{-i}), V_i(\omega_i)\} = V_i(\omega_i)$ . But then we have  $V_i(\omega_{-i}) < V_i(\omega_i)$ , which is the desired conclusion.

If  $\tau_{-i} = 0$ , then:

$$\begin{aligned} V_i(\omega_i) &\geq F + (1 - \delta) \cdot (\rho_i \cdot V_i(\omega_i) + (1 - \rho_i) \cdot V_i(\omega_{-i})) \\ V_i(\omega_{-i}) &= (1 - \delta) \cdot (\rho_{-i} \cdot V_i(\omega_{-i}) + (1 - \rho_{-i}) \cdot V_i(\omega_i)). \end{aligned}$$

Where the former follows since  $\tau_i \leq U$ . Subtract the latter from the former to get

$$\Delta \geq F + (1 - \delta) \cdot (1 - p_i - p_{-i}) \cdot \Delta, \quad (64)$$

where  $\Delta \equiv V_i(\omega_i) - V_i(\omega_{-i})$ . Thus  $\Delta = F / [1 - (1 - \delta) \cdot (1 - p_i - p_{-i})] > 0$ . ■

**Proof of Proposition 5:**

*Proof.* We show that if a simple power-sharing agreement is implementable, then either (i)  $\kappa_i \neq \tilde{\kappa}_i$  for all  $i$  or (ii) there exists an  $i$  for which  $V_i(\omega_i) > V_i(\tilde{\omega}_i)$  and  $V_{-i}(\omega_i) \geq V_{-i}(\tilde{\omega}_i)$ . Specifically, we show that if (i) does not hold (i.e. if  $\kappa_i = \tilde{\kappa}_i$  for some  $i$ ) then (ii) must hold.

To this end, suppose that for some player  $i$  we have  $\kappa_i = \tilde{\kappa}_i$ . From Lemma 7 (above) and the self-enforcing condition applied to elite  $i$ :

$$V_i(\omega_i) > V_i(\omega_{-i}) \geq V_i(\tilde{\omega}_i). \quad (65)$$

Thus the leader always strictly prefers state  $\omega_i$  to state  $\tilde{\omega}_i$ . Then, from the no coup condition as applied to  $-i$ , the supposition that  $\kappa_i = \tilde{\kappa}_i$ , and the fact that  $-i$  mounts a coup in state  $\tilde{\omega}_i$ :

$$V_{-i}(\omega_i) \geq \gamma \cdot (1 - \delta) \cdot V_{-i}(\kappa_i) = \gamma \cdot (1 - \delta) \cdot V_{-i}(\tilde{\kappa}_i) = V_{-i}(\tilde{\omega}_i). \quad (66)$$

As an aside, notice that the first inequality is strict if the power-sharing agreement ‘strictly’ involves  $\tau_i = 0$  (that is, cases in which the prospects of returning to power are enough to dissuade coups in the absence of transfers). Thus if there is some player  $i$  for which  $\kappa_i = \tilde{\kappa}_i$ , then the non-leader weakly prefers state  $\omega_i$  to state  $\tilde{\omega}_i$ . Thus, either  $\kappa_i \neq \tilde{\kappa}_i$  for all  $i$  or we arrive at the above conclusion that  $V_i(\omega_i) > V_i(\tilde{\omega}_i)$  and  $V_{-i}(\omega_i) \geq V_{-i}(\tilde{\omega}_i)$ . ■

**Modification of sufficient conditions for  $\lambda < 1$ :**

The regions  $S_1$  and  $S_2$  are also sufficient if  $\gamma$  is high enough. The value of  $\lambda$  will affect this critical  $\gamma$ . Specifically,  $S_1$  and  $S_2$  are sufficient if

$$\gamma \geq \gamma^* \equiv \frac{-(1-\lambda) \cdot (1-\delta) \cdot (2-\delta) + \sqrt{((1-\lambda) \cdot (1-\delta) \cdot (2-\delta))^2 + 4 \cdot \lambda \cdot (1-\delta)^2 \cdot (1-\lambda \cdot (1-\delta))}}{2 \cdot \lambda \cdot (1-\delta)^2}. \quad (67)$$

Note that  $\gamma^*$  decreasing in  $\lambda$  (and does not alter the qualitative conclusion that  $\gamma^*$  is increasing in  $\delta$ ). Thus a lower  $\lambda$  requires that  $\gamma$  be larger in order for  $S_1$  and  $S_2$  to be sufficient. When  $\lambda = 1$  we had the feature that if  $\delta$  is sufficiently small then  $\gamma \geq \gamma^*$  for any  $\gamma$ . That is,  $\gamma_{\delta=0, \lambda=1}^* = 0$ . This feature does not carry through to cases where  $\lambda < 1$ . Yet the weaker qualitative conclusion remains: for any  $\lambda$  there exist values of  $\gamma$  for which  $\gamma \geq \gamma^*$  for  $\delta$  sufficiently small. That is,  $\gamma_{\delta=0, \lambda=1}^* < 1$  (specifically,  $\gamma_{\delta=0, \lambda=1}^* = 0.5$ ). The specific shape of  $\gamma^*$  is depicted in the figure where  $\gamma^*$  is plotted against  $\delta$  for different values of  $\lambda$ .

**Calculations**

The expression for  $\gamma^*$  is derived in parallel to the derivation in Proposition 2 except that the value to being a leader in the violation state now satisfies:

$$V_T^L = F + U + (1-\gamma)(1-\delta) \cdot [\lambda \cdot V_T^L + (1-\lambda) \cdot V_D^L] \quad (68)$$

and thus is given by

$$V_T^L = \frac{F + U + (1-\gamma)(1-\delta) \cdot (1-\lambda) \cdot V_D^L}{1 - (1-\gamma)(1-\delta) \cdot \lambda} \quad (69)$$

We seek the conditions under which  $V_D^N \geq V_T^L$ . This is most difficult to satisfy when  $p > p^*$ . In such cases we have

$$V_D^N = \frac{\gamma \cdot (1-\delta)}{1 + \gamma \cdot (1-\delta)} \cdot \frac{F + U}{\delta} \quad (70)$$

and

$$V_D^L = \frac{1}{1 + \gamma \cdot (1-\delta)} \cdot \frac{F + U}{\delta} \quad (71)$$

Thus  $V_D^N \geq V_T^L$  becomes

$$\frac{\gamma \cdot (1-\delta)}{1 + \gamma \cdot (1-\delta)} \cdot \frac{F + U}{\delta} \geq \frac{F + U + (1-\gamma)(1-\delta) \cdot (1-\lambda) \cdot \frac{1}{1 + \gamma \cdot (1-\delta)} \cdot \frac{F + U}{\delta}}{1 - (1-\gamma)(1-\delta) \cdot \lambda} \quad (72)$$

which is

$$\frac{\gamma \cdot (1-\delta)}{1 + \gamma \cdot (1-\delta)} \geq \frac{\delta}{1 - (1-\gamma)(1-\delta) \cdot \lambda} + \frac{(1-\gamma)(1-\delta) \cdot (1-\lambda) \cdot \frac{1}{1 + \gamma \cdot (1-\delta)}}{1 - (1-\gamma)(1-\delta) \cdot \lambda} \quad (73)$$

which is

$$[\gamma \cdot (1-\delta)] \cdot [1 - (1-\gamma)(1-\delta) \cdot \lambda] \geq \delta \cdot [1 + \gamma \cdot (1-\delta)] + (1-\gamma)(1-\delta) \cdot (1-\lambda) \quad (74)$$

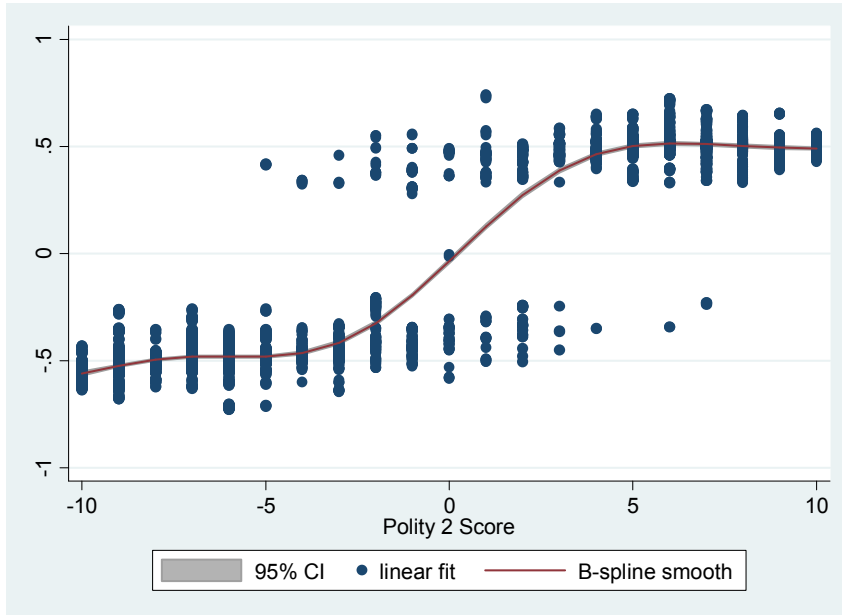
which is

$$\gamma^2 \cdot [\lambda \cdot (1-\delta)^2] + \gamma \cdot [(1-\lambda) \cdot (1-\delta) \cdot (2-\delta)] - [1 - \lambda \cdot (1-\delta)] \geq 0 \quad (75)$$

which gives the stated expression above.

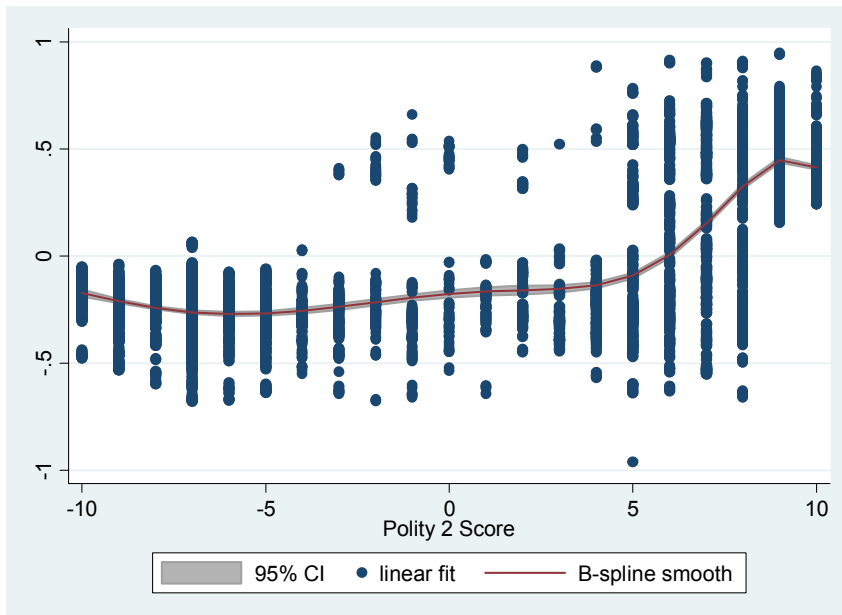
**APPENDIX FIGURES – NOT FOR PUBLICATION**

**Figure A1: Competitiveness of executive recruitment emerges at Polity 2 levels around 0.**



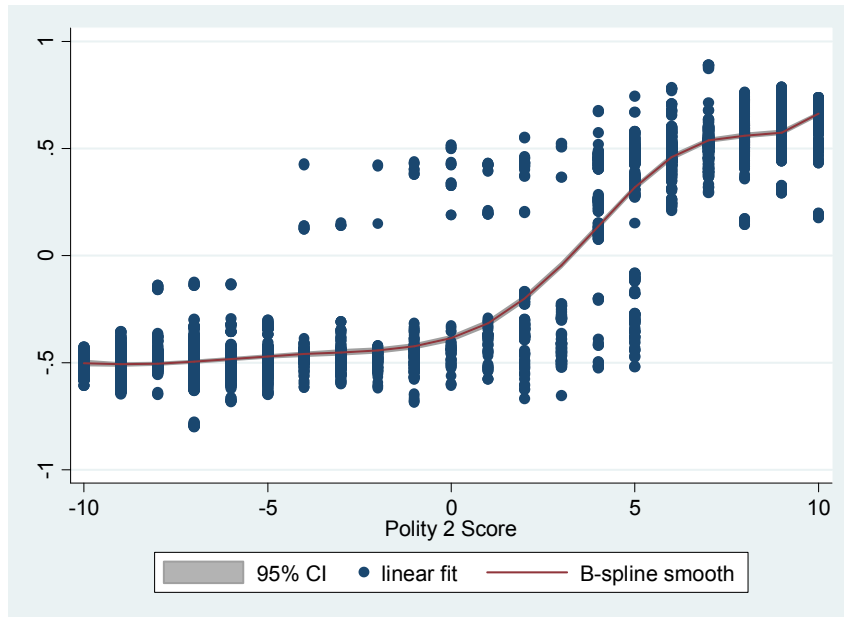
Notes: Sample starts in 1945 and excludes periods of interruption (Polity = -66), interregnum (Polity = -77), transition (Polity = -88). Solid line = Semiparametric representation by spline smoothing of the relationship between a dummy taking value 1 if Polity dimension XRCOMP =2 (transitional arrangements between selection, ascription and/or designation, and competitive election) or XRCOMP =3 (election), and zero otherwise, and Polity 2 score. Controls for country and year fixed effects. 95 % confidence interval shaded around the spline smooth based on a clustered variance covariance matrix at the country level. Spline knots at Polity 2 values [-5, 0, 5].

**Figure A2: Political inclusiveness emerges at Polity 2 levels around 8.**



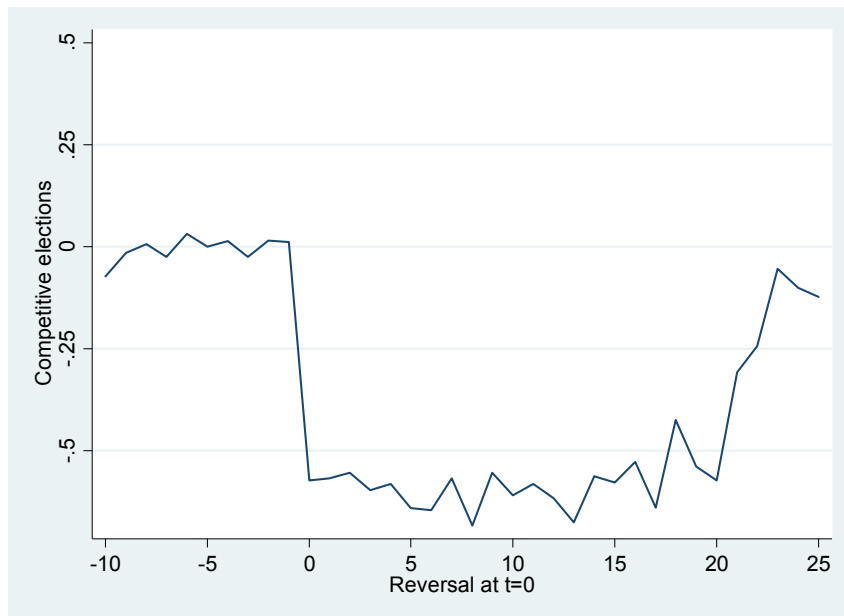
Notes: Sample starts in 1945 and excludes periods of interruption (Polity = -66), interregnum (Polity = -77), transition (Polity = -88). Solid line = Semiparametric representation by spline smoothing of the relationship between a dummy taking value 1 if Polity dimension PARCOMP =4 (transitional arrangements to fully politically competitive patterns of all voters) or PARCOMP =5 (competitive: alternative preferences for policy and leadership can be pursued in the political arena.), and zero otherwise, and Polity 2 score. Controls for country and year fixed effects. 95 % confidence interval shaded around the spline smooth based on a clustered variance covariance matrix at the country level. Spline knots at Polity 2 values [-5, 0, 5].

**Figure A3: Constraints on chief executive emerge at Polity 2 levels around 4.**



Notes: Sample starts in 1945 and excludes periods of interruption (Polity = -66), interregnum (Polity = -77), transition (Polity = -88). Solid line = Semiparametric representation by spline smoothing of the relationship between a dummy taking value 1 if Polity dimension XCONST =5 (substantial limitations on executive authority) or higher, and zero otherwise, and Polity 2 score. Controls for country and year fixed effects. 95 % confidence interval shaded around the spline smooth based on a clustered variance covariance matrix at the country level. Spline knots at Polity 2 values [-5, 0, 5].

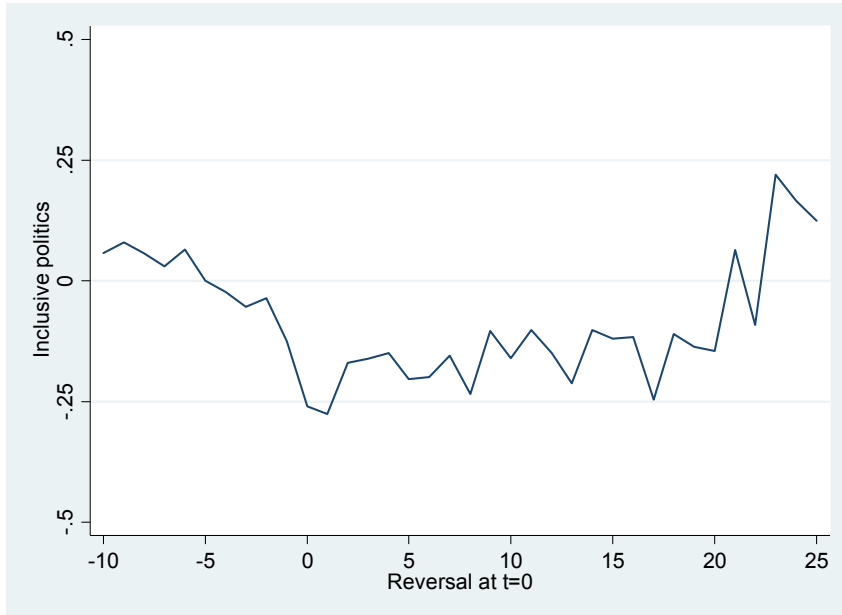
**Figure A4: Competitive elections at reversal.**



Notes: Events considered are the Acemoglu, Naidu, Restrepo, and Robinson (2013) 71 reversals. For each variable considered in the event study, we partial out year and country fixed effects and normalize the residual mean level 5 years before a reversal to 0. In each figure, the reversal event takes place at  $t=0$  and the behavior of the variable is plotted in a window around it

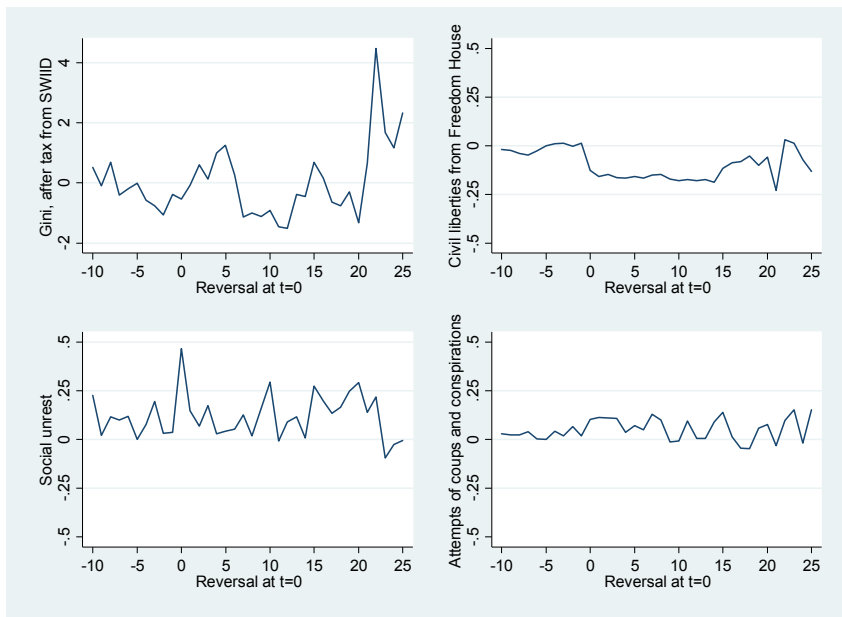


**Figure A5: Inclusive politics at reversal.**



Notes: Events considered are the Acemoglu, Naidu, Restrepo, and Robinson (2013) 71 reversals. For each variable considered in the event study, we partial out year and country fixed effects and normalize the residual mean level 5 years before a reversal to 0. In each figure, the reversal event takes place at t=0 and the behavior of the variable is plotted in a window around it

**Figure A6: Redistribution and social conflict at reversal.**



Notes: Events considered are the Acemoglu, Naidu, Restrepo, and Robinson (2013) 71 reversals. For each variable considered in the event study, we partial out year and country fixed effects and normalize the residual mean level 5 years before a reversal to 0. In each figure, the reversal event takes place at t=0 and the behavior of the variable is plotted in a window around it

Figure A7: Peaceful Power Transfers.

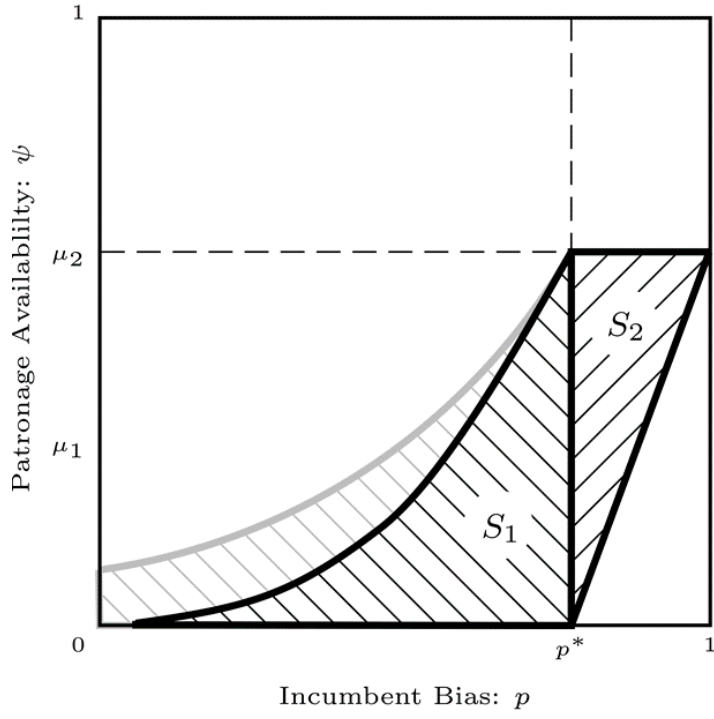


Figure A8: Self-Enforcing Democracy.

