A THEORY OF MINIMALIST DEMOCRACY

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ABSTRACT

A majority of the world democracies are far from the benchmark of representative democracy. This paper presents a model of political transitions based on a minimalist conception of the democratic state, i.e. a form of government solely characterized by competitive elections. We show that the model can produce dynamics of transition into democracy without requiring any role for redistribution or representation of voters, but solely based on interactions among the ruling elites. This allows the model to match several relevant stylized facts concerning the organization of new and consolidating democracies, weakly institutionalized countries, and hybrid regimes.

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1 Introduction

Consolidated democracies are characterized by a long list of complementary attributes that many scholars deem necessary for effective democratic representation of the populace. Dahl (1971) spells out several institutional guarantees that need to be met: freedom to form and join organizations; freedom of expression; the right to vote; eligibility for public office; the right to compete for support and votes; alternative sources of information; free and fair elections; the dependence of public policies on citizens' preferences.

A large share of democracies worldwide appears less than consolidated however. In the words of Diamond (2002), such systems operate in the "*political gray zone...between full-fledged democracy and outright dictatorship*". These 'hybrid' systems are empirically relevant. According to the 2012 Polity IV Project, a popular data series coding authority characteristics of states in the world since 1800, of the 115 countries that had a (Polity2) score above 0 – entering the incremental democratic score range between 0 and 10 points – only 51 countries had a score above 8 (e.g. above Paraguay, Philippines, Ghana or Indonesia in 2012). The pervasiveness of political systems gravitating around democratic principles, but failing to fully meet the conditions of a representative democracy, is evident in Figure 1, which reports their historical evolution.

As a starting point, this paper establishes in Section 2 that most of these hybrid regimes share some precise systematic features. They meet an electoral criterion for being defined democracies (i.e. they hold competitive elections for executive office), but not much else. More specifically, competitive elections appear to be the first emergent feature of political regimes exiting from autocratic form[1]. Constraints on executive power or widespread political inclusiveness appear to systematically lag electoral competition. In the words of Dahl (1971), contestation leads inclusiveness.[2]

Emphasis on elections as the primary feature of democracy and the role of elections in the transfer of power without bloodshed (Popper, 1963) has a long tradition in political philosophy, political science, and political economics. Indeed, a *minimalist* conception of democracy, discussed in Schumpeter (1942) and later in Przeworski (1999) and others, simply puts competitive elections as the fulcrum of the very definition of democracy: "*A system in which rulers are selected by competitive elections...Governments are elected by the toss of a, not necessarily fair, coin....citizens have no electoral sanction and incumbents have no electoral incentives to behave well.*"

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[1]There are multiple historical examples of this phenomenon. A pertinent instance is the wave of African democratizations in the 1990's. According to Bratton and van de Walle (1997), and discussed in Block (2002), in pre-1990 Sub-Saharan Africa (SSA), elections were "*largely non-competitive affairs in which, by forgone conclusion, a dominant ruling party won all available seats.*" The authors report that over the 1985-89 period only 9 countries out of 47 had competitive elections. Only one SSA incumbent ruler (Seewoosagur Ramgoolam of Mauritius) was ever replaced through elections over the 1980-1989 period. In contrast, the authors report that in the early democratization phase between 1990 and 1994, 38 countries out of 47 experienced competitive elections and 11 SSA incumbents were replaced through elections. Yet, over the same sample period, 37 of the 47 SSA countries were not full democracies according to Polity IV scores.

[2]Dahl (1971, ch. 3) indicates as the most robust path towards stable polyarchy one of increased political competition followed by the expansion of participation, citing the historical sequences of the United States and the United Kingdom as examples. See also Coppedge, Alvarez, and Maldonado (2008) for a discussion.

Motivated by the empirical prevalence of minimal democracies, a relevant question to ask is therefore: Is an electoral criterion a purely procedural phenomenon without bite? Glaeser, La Porta, Lopez-de-Silanes and Shleifer (2004), for instance, criticize the use of Polity2 series as an institutional measure because it "*provides a rapidly moving assessment of electoral outcomes over time, not a measure of actual political constraints on government.*" This paper provides a negative answer to this question and addresses a set of pertinent and related ones: Is there value in the minimalist approach? Why would an unconstrained dictator call elections and then abide by the results? Given that so many developing economies only meet minimalist democratic criteria, if any, answering such questions offers important insights to their political development and their process of institutional consolidation.

To this goal the paper characterizes the problem of leadership survival for an autocrat facing coup threats from regime insiders. The empirical frequency of coups and insider-induced leader terminations suggests that the main threat to a dictator's survival comes from within an autocrat's regime, not from the masses.[3] The autocrat can assuage challengers to leadership through patronage disbursements. However, lacking sufficient resources triggers instability. A minimalist democracy (allowing competitive elections and some chance of leadership replacement) is shown to be a sufficiently attractive institutional setting to be selected by leaders exposed to coup attempts in equilibrium. This paper thus provides a theoretical analysis of what Kendall-Taylor and Frantz (2014, p.38) argue is an important new realization in the literature on autocracies. Namely that: " *the primary reason an autocrat creates legislatures or holds multi-party elections is to maintain the loyalty and co-opt the support of regime insiders.*" We show that the chance given to challengers to ascend to the leadership plays an important role in disciplining them.

In our setting elections have two main benefits for leadership survival: First, they generate uncertainty as to the identity of the leader, hence offering a mechanism of stochastic power-sharing of leadership rents to the non-leader insiders; second, when credible, elections allow the transfer of power without bloodshed (Popper, 1963), hence avoiding welfare losses due to coups (which are typically violent and surplus destroying, as often either the leader or the coup plotter dies). For elections to be able to do this without any additional coercive power, it is necessary that citizens have a specific set of beliefs that distinguishes the electoral democracy we study here from the pure coin toss case forwarded by Przeworski (1999). Though the stochastic aspect is needed – all protagonists should have some chance of winning office through an election – more is required. Specifically, voters must not willingly support leaders who are perceived to be tyrannical in their disregard of the electorate's choices. A leader who chooses to stay in office without an electoral mandate is able to do so in our framework –as elections have no coercive power. But such a leader can never again hope to receive an electoral mandate from the citizens who care about having their electoral will respected. Such a leader can thus never credibly promise that he will subject himself to allowing insiders a chance at power sharing through the electoral process. He is forced to rule as an autocrat, with all its attendant existential insecurity, from then on. This threat can be enough for leaders to choose to respect electoral outcomes. We characterize the conditions under which this holds, and hence under

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[3]See Kendall-Taylor and Frantz (2014), Geddes (2003), Svolik (2009) and Ezrow and Frantz (2011) for further analysis of turnovers in autocracies and empirical evidence in support of this statement.

which minimalist democracy arises in equilibrium. Section 3 presents the setup of our model and the main results.

Our theory departs markedly from current economic models of political transitions. First, our framework does not rely on democracy being redistributive or representative in nature. This separates our work from models of political transitions based on redistributive motives à la Meltzer and Richard (1981), including prominently the contributions of Acemoglu and Robinson (2001, 2006) and Boix (2003)[4]. A theory of democratization that does not rely on redistributive motives is relevant from an empirical perspective: redistributive democratizations are in fact *not* observed in the data (see Acemoglu, Naidu, Restrepo, Robinson, 2013; Mulligan, Gil, Sala-i-Martin, 2004). The broken nexus of democratizations and redistribution is as close as an uncontroversial empirical finding as the literature has uncovered over the last decades. Indeed, most democratic transitions remain elite-versus-elite affairs, political representation is limited, and income inequality does not systematically decrease after democratic transitions.

Second, our theory does not require elections having any 'bite' in terms of political accountability, nor do elections or the democratic process per se impose on participants any technological or physical constraints that would otherwise limit their use of force to secure political objectives. Participants decide whether to abide by electoral rules. This is another important difference from Acemoglu and Robinson (2001, 2006) for instance, where the commitment power of institutions is assumed and in fact central to policy outcomes. Leaders here are free to void election results going against their interest and to remain in power if they choose so. Government insiders are free to stage coups against democratically elected leaders if they have the opportunity to do so. Moreover, these opportunities are assumed to be symmetric in democracies and autocracies. Thus, a minimalist democracy as we characterize it can only exist if democratic rules are self-enforcing in the sense of those with the capacity to use violence for political ends *choosing* not to do so, which we will show they can be.

We offer also a discussion of the robustness of our mechanism. Section 4 discusses the nature of other equilibria that arise when loosening the restriction to Markov strategies in the main part of the paper. In Section 5, we discuss how this paper contributes to the literature on political transitions by reconciling several sets of empirical facts. Our theory presents a rationale not just for hybrid regimes meeting the electoral criterion alone, which is pervasive in the data, but the model is also consistent with the systematic lack of redistributional aspects to democratizations in the data, and it identifies a role for state resources in the characterization of political equilibria that matches a substantial body of evidence in the political resource curse literature.[5]

A comprehensive review of the several branches of this vast area of research, spanning political science, economics, and political philosophy, is beyond the scope of this paper. More concisely, we speak to the literature on the causes of democratizations and democratic transitions. The literature dates at least back to Lipset (1959)and his modernization hypothesis, postulating economic development as a prerequisite to democratization[6] , and includes prominently the contributions by Huntington (1991) on the third wave of democratizations, Przeworski, Al-

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[4]Also related is the work of Benhabib and Przeworski (2006).

[5]See also Robinson, Torvik, and Verdier (2006) for a specific political model of the resource curse.

[6]Indeed, much earlier than that. Lipset himself often refers in his writing to hypotheses postulated by Aristotle in his *Politics*.

varez, Cheibub (1996), the cross-country empirical work by Barro (1999), the selectorate theory of Bueno de Mesquita, Smith, Siverson, Morrow (2003), and theories of democracy as commitment to redistribution as in Acemoglu and Robinson (2001, 2006). Similar to Lizzeri and Persico (2004) we address the issue of when elites will expand the franchise to non-elites when there is no direct threat to elite continuation. In their framework, policies which a majority of the elite would want are not deliverable in the elite-only equilibrium. They show that if these policies are coincident with the interests of the non-elite, expanding the franchise can be a way to achieve them. As they report, this appears consistent with the composition of spending changes that accompanied the expansion of the British franchise in the early nineteenth century. In contrast, we go even further in our emphasis on the passiveness of the non-elite in this process. As is consistent with the Schumpeterian/Pryszworski view, there is no policy accountability accompanying transitions to minimalist democracy which appears consistent with much of the twentieth century democratization process.

We also touch on the literature investigating the socioeconomic consequences of democratizations as in Acemoglu, Naidu, Restrepo, and Robinson (2013) and Przeworski, Alvarez, Cheibub, Limongi (2000), but also the work by Persson and Tabellini (2009) on democratic capital accumulation and growth, and Rodrik and Wacziarg (2005) on the economic effects of democracy, among others.

Finally, it is possible to directly connect our work to other recent contributions in the political economy of development and of autocratic survival in neopatrimonial systems. A set of recent contributions in this direction includes Geddes (2003), Posner (2005), Gandhi (2008), and Francois, Rainer and Trebbi (2014a,b). Here, we share the focus that Svolik (2012) emphasizes on the importance of 'internal' threats to autocratic survival in the form of coups. This is a principle point of contrast with Fearon (2011) who also studies how democratic elections can become 'self-enforcing', but who instead emphasizes the threat of 'external' rebellion on the part of the citizenry in disciplining their leaders, what Svolik (2012) describes as the "Problem of Authoritarian Control". We, in contrast, model what he describes as the other pressing problem faced by autocrats: the "Problem of Authoritarian Power-Sharing". Svolik (2012) argues, with evidence, that the empirically greatest threats for leaders are those arising from within, but as recently evidenced by the Arab Spring, popular rebellion can also dispel leaders from power. In the discussion of Section 5 we carefully contrast our results with Fearon's, which will be seen to differ dramatically due to this difference in the source of the threats. We present some considerations on future directions of research in Section 6.

2 Motivating Facts

This section has the goal of providing a set of stylized facts justifying our focus on electoral (minimalist) democracies. In the previous section we briefly motivated our analysis by emphasizing how prevalent less than consolidated democracies are. As reported in Figure 1, they cover a sizeable share of polities world wide and over time.

Even more interestingly, less than consolidated democracies are typically minimalist, in the sense of satisfying electoral competitiveness requirements but little more. This could be readily observed in 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 Robert Dahl's famous decomposition of the democratic state.

The Polity IV project (Marshall, 2013), a standard reference in the measurement of political regimes characteristics, offers such decomposition, producing scores for competitiveness of executive recruitment (XRCOMP), openness of executive recruitment (XROPEN), limitations on the executive authorities (XCONST) and inclusiveness/competitiveness of political participation (PARCOMP) among different groups in society. Polity IV also offers an aggregate measure indicating 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.[7] 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 along what dimensions the process of democratic development typically unfolds.

It is easy to show that electoral competitiveness emerges systematically earlier 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 full democratic scores for the different dimensions: a. competitiveness of executive recruitment, defined as XRCOMP = 2 (transitional arrangements between selection, ascription and/or designation, and competitive election) or XRCOMP = 3 (election); b. political inclusiveness, defined as 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.); c. executive constraints, defined as XCONST = 5 (substantial limitations on executive authority) or higher. In a sense, Table 1 tries to capture which dimensions of democracy 'mature' first.

Quite naturally, consolidated (mature) democracies fare as well in terms of competitiveness of executive recruitment as in terms of limitations on the executive authorities and the competitiveness and inclusiveness of political participation. Weak/unconsolidated democracies fare almost as well as consolidated democracies in terms of competitiveness of executive recruitment (XRCOMP) through elections. However, these hybrid regimes fare much worse in terms of limitations on the executive authority (XCONST) and on the competitiveness and inclusiveness of political participation (PARCOMP). Weak autocracies finally lose the competitiveness of executive recruitment. 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 synthesis, electoral competition is the earliest democratic feature arising when a country transitions from autocracy.

In 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 much earlier in the process of democratic consolidation than the same line but for political inclusiveness (in solid). In Fig-

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[7]For details see http://www.systemicpeace.org/inscr/p4manualv2012.pdf

ure 3 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 much earlier in the process of democratic consolidation than executive constraints (in solid). In Figures 4, 5, and 6 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 later on in the democratic consolidation process.

The evidence so far shows that exit from autocracy entails a gradual process of institutional change, early on through competitive elections for authority recruitment and, only secondarily, through constraining such authority and guaranteeing inclusion of other political agents (the poor, for instance). It remains to be shown what are typical triggers of democratizations and whether they primarily affect the presence of competitive elections as the evidence above suggests. We formalize this issue next.

3   Model

3.1   Setup

Consider an infinite horizon discrete time economy populated by two types of agents: citizens and the elite. At each date t there are N elites, one of which is the *leader* and the remainder are *insiders.* A member of the elite dies (for exogenous reasons) with probability δ each period. An elite that dies is replaced by another in the next period (in a process that is exogenous to the model) and the replacement occupies the same position.

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 endowed with U units of transferable patronage (graft, cash, resource revenues, public offices, bribes, etc.).[8] The leader then decides how to allocate the available patronage across the elite. Thus, if τ units of patronage are allocated to the insiders in some period, then the leader obtains a payoff of $F + U - \tau$ in that period. It is key to all of the results that will follow that at least some part of the total value of holding the leader's position is in a non-transferrable form. 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.[9] Again, it is

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[8]Patronage is a ubiquitous feature of weakly institutionalized polities: Bratton and Van de Walle (1994):

> "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..."

[9]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).

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, and we recognize this as distinct from regular patronage by fixing F to the leader.

Insiders observe their allocated patronage and decide whether they wish to mount a coup. We assume that one (and only one) of the insiders has the opportunity to mount a coup in any given period, and that this is determined randomly after the patronage has been allocated. A coup requires that the allocated patronage is forgone and the coup succeeds with probability γ. 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, then the leader can choose whether to hold an election. The role of citizens in the model is the determination of election results. Following the election, the leader chooses whether they are going to respect the result.

In terms of describing the preferences of citizens, we stress that a leader's maintenance of power here ultimately depends only on being able to survive coup attempts. We deliberately set aside the possibility of revolutionary threats in order to highlight the equilibrium logic of a *minimalist* democracy. As such, and as is consistent with repeated observation in weakly politicized settings, citizens correctly anticipate that leaders do not deliver pro-citizen policies. The only possible distinguishing feature in the eyes of citizens is whether or not the leader respects the election results. We assume that voters derive an intrinsic value from having election results adhered to. Specifically, we assume that a leader is one of two types – a regular type that follows equilibrium incentives and a *tyrant* type that never steps down following an election defeat. We assume that a leader becomes a tyrant with probability ϵ when taking office through an exogenous i.i.d. process. In evaluating candidates, citizens vote for the one that is least likely to act like a tyrant. If all candidates are equally likely to act like a tyrant, we suppose that the incumbent wins with probability p. The value of p captures actual preferences for the incumbent but also the extent to which elections favour the incumbent.

This assumption, deliberately, averts any instrumental value of democracy (i.e. of voters placing any value on policy, which for all purposes of the model remains pertinence of the elite for the elite). Again, this allows us to distance ourselves from redistributive motives for democratization. We justify this assumption as a non-instrumental feature of the electoral process, which is a good in itself. Voters prefer not to be governed by a tyrant because they place intrinsic value in the electoral process per se. As discussed in Cohen (1973, p.268) "Democracy may be prized for its own sake, because it has intrinsic value" and as in Sen (1999) voters may object to tyrants because "political participation [...] has intrinsic value for human life and well-being. To be prevented from participation in the political life of the community is a major deprivation." This view is not common among economists, but has a substantial grounding in political and moral philosophy (e.g. Anderson, 2009; Ober, 2007 among the many) and democratic theory. Anecdotal evidence in support of the assumption and pertinent to relevant instances is available. For instance, Mattes and Thiel, (1999 p.126) report that "in response to

a [...] question tapping belief in the intrinsic value of democracy, 76 percent [of 1995 World Value Survey in South Africa] said having a democratic political system would be a good way of governing the country" and Bratton and Mattes (2001 p.473) conclude "The fact that African survey respondents support democracy while being far from content with its concrete achievements suggests a measure of intrinsic support for the democratic regime form that supersedes instrumental considerations."

Citizens observe whether elections are held and respected and update their beliefs about the probability that the incumbent is a tyrant accordingly (the details of which will depend on equilibrium play, as explained below). These beliefs translate into a probability that the incumbent is re-elected in the event of an election, π. We focus on Markov-perfect equilibria (MPE), where strategies depend only on the payoff relevant state variable, π, and prior actions taken within the period.[10] Specifically, the strategy of the leader maps their probability of being re-elected, π, into a patronage allocation decision, and a pair of functions that indicate the probability of holding an election and of respecting an election loss as a function of the history of actions observed in the period. The strategy of an insider maps π to a function that indicates a coup probability as a function of the offered patronage.

We are interested in *autocratic* and *democratic* equilibria. An autocratic equilibrium is one in which leaders never respect an election loss (equivalently, never hold elections). A democratic equilibrium is one in which elections are held and respected. These are analyzed in turn.

3.2 Autocratic Equilibrium

In order to highlight the elite's motivation for establishing and adhering to minimalist democracy, we begin by analysing 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 an unwillingness to share power, 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 show that this is not 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–even if the leader oversees a strongly insecure autocracy–if no-one is expected to hand over the leadership in the future.

3.2.1 Equilibrium Conditions

Markov strategies are particularly simple to describe when leaders ignore elections. If leaders never respect an election loss, then all election candidates are equally likely to act like tyrants, since both regular types and tyrants ignore election results. As such, $\pi_t = p$ for all t, so that

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[10]We consider equilibria with non-Markov strategies in section 4 below.

there is only one state. Equilibrium strategies boil down to a patronage transfer level, τ_A, and a coup probability function, $\sigma_A(\tau)$.

To establish the behavior as an equilibrium, we must ensure the optimality of behavior at each decision point. For simplicity, assume from now on that there is a single insider –and all results generalize to multiple insiders. Specifically, if we let V_A^L be the value of starting a period as the leader and V_A^N be the value of starting a period as the insider, then the leader is optimizing in their transfer choice if

$$\tau_A \in \arg\max_{\tau \in [0,U]} \left\{ F + U - \tau + (1 - \sigma_A(\tau) \cdot \gamma) \cdot (1 - \delta) \cdot V_A^L \right\} \tag{1}$$

and the insider is optimizing at each possible transfer if

$$\sigma_A(\tau) \in \arg\max_{\sigma \in [0,1]} \left\{ \sigma \cdot [\gamma \cdot (1 - \delta) \cdot V_A^L] + (1 - \sigma) \cdot [\tau + (1 - \delta) \cdot V_A^N] \right\} \tag{2}$$

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

$$V_A^L = F + U - \tau_A + (1 - c_A \cdot \gamma) \cdot (1 - \delta) \cdot V_A^L \tag{3}$$

$$V_A^N = c_A \cdot [\gamma \cdot (1 - \delta) \cdot V_A^L] + (1 - c_A) \cdot [\tau_A + (1 - \delta) \cdot V_A^N]. \tag{4}$$

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

$$V_A^L \geq V_A^N. \tag{5}$$

The strategies τ_A and $\sigma_A(\tau)$ form an *autocratic equilibrium* if conditions (1)-(5) 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

We begin with the insiders' problem of determining whether to mount a coup when presented with a transfer offer. From (2), it is clear that insiders must follow a cut-off strategy whereby the insider requires a critical transfer level, denoted $\hat{\tau}_A$, in order to be dissuaded from a coup. The value of $\hat{\tau}_A$ makes the insider indifferent to holding a coup and thus satisfies $\hat{\tau}_A + (1 - \delta) \cdot V_A^N = \gamma \cdot (1 - \delta) \cdot V_A^L$. That is:

$$\hat{\tau}_A \equiv (1 - \delta) \cdot \left[\gamma \cdot V_A^L - V_A^N \right]. \tag{6}$$

By establishing a basic property of $\hat{\tau}_A$, the following result indicates that avoiding coups is costly in any autocratic equilibrium.

Lemma 1. *Avoiding a coup requires a positive transfer:* $\hat{\tau}_A > 0$

Turning to the leader's patronage transfer problem (1), we see that the leader's optimal transfer is either $\hat{\tau}_A$ or zero. Paying the former helps dissuade coups but the latter preserves patronage for the leader's consumption. The following shows that leaders will always prefer to make the positive transfer and avoid coups whenever strictly possible.

Lemma 2. *Coups are avoided whenever it is strictly feasible to do so:* $\hat{\tau}_A < U$ *implies* $\tau_A = \hat{\tau}_A$.

Thus, leaders will never keep patronage if giving it away could dissuade a coup (even if γ is small), so that political violence in equilibrium reflects insufficient patronage rather than the leader's optimal risk-taking. Intuitively, this is because 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 is always claimed by the leader through his discretionary allocations of τ_A, ensures that, whenever possible, coups are avoided along the equilibrium path.

An implication of this is that $\hat{\tau}_A < U$ implies a secure autocracy. The argument is that if it 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). The fact that this argument does not apply when $\hat{\tau}_A = U$ explains the importance of the 'strict' qualifier. That is, it is possible that insiders hold a coup 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 coups 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.

We now turn to the self-enforceability condition, (5). This requires that a leader prefers to retain the leadership rather than handing it over and becoming an insider. This condition 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 following result indicates such a threat never materializes.

Result 1. *Autocracy is always self-enforcing: conditions (1)-(4) imply condition (5).*

The intuition is that one becomes an insider by stepping down. Since they can mount a coup, insiders can ensure themselves at least the expected value of a coup. But in autocracy, this is also the most that they will achieve. This is clear in strongly insecure equilibria since insiders mount coups on the equilibrium path. If insiders were to achieve a higher value in a weakly insecure or secure equilibrium then by definition they must be receiving a transfer greater than the indifference threshold, $\hat{\tau}_A$. But this would imply that leaders could not be optimizing since they could lower the transfer marginally (which is always feasible by Lemma 1) while still avoiding coups. Thus, the most that an insider can get is the expected value of holding a coup, which is strictly less than the value of being the leader since coups are not always successful. Thus stepping down and becoming an insider will yield a value strictly less than the value of remaining the leader, and therefore autocracy is always self-enforcing.

Given the above discussion, we would expect that secure autocracy arises when there is sufficient patronage, a strongly insecure autocracy to arise when there is insufficient patronage, and a weakly insecure autocracy to arises when patronage falls between these. In order to help state the following proposition, let the availability of patronage be denoted by $\psi \equiv U/(U+F)$, and define the critical values $\mu_1 \equiv \frac{\delta \cdot \gamma \cdot (1-\delta)}{\delta + \gamma \cdot (1-\delta)}$ and $\mu_2 \equiv \frac{\gamma \cdot (1-\delta)}{1 + \gamma \cdot (1-\delta)}$, 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 $\psi \geq \mu_2$,*

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- *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 afford to pay off insiders an amount that fully dissuades them from holding a coup when anticipating becoming a secure autocrat. When patronage falls in the middle region, $\psi \in (\mu_1, \mu_2)$, the leader does not have enough patronage to dissuade insiders from holding a coup when anticipating becoming a secure autocrat, yet does has enough patronage to dissuade insiders from holding a coup 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 this and mounting a coup anticipating 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 must increase as patronage decreases. At some point though, when μ falls to μ_2, the probability of a coup becomes so great that leaders prefer to keep the transfer and face coups with probability one. These forces become more acute as patronage is reduced further, even coming to the point at which the leader does not have the resources to dissuade insiders from holding a coup and becoming a strongly insecure autocrat if successful. Leaders are therefore resigned to facing coups each period when patronage is sufficiently scarce.

This result thus 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 (Bango)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

Another implication is that, 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 Lemma 2, 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. For such autocrats, peace is unaffordable and thus consumption is the only feasible use of extra patronage. In all other cases, at least some of the marginal increase will be transferred to insiders, and *all* of it is transferred if the autocrat is weakly insecure–i.e. those for whom $\psi \in (\mu_1, \mu_2)$. In this range we have seen that equilibrium involves occasional coups – insiders are indifferent to undertaking coups and remaining loyal. A marginal increase in patronage that was not transferred to insiders would thus lead to coups with probability one – as it raises leadership value without affecting that of insiders and would thus never be chosen by a leader. A marginal increase that was only partially transferred to insiders so that they remained indifferent to undertaking coups would also not be chosen by the leader. Any such partial transfer that could maintain insider indifference to coups is dominated by a slightly higher one that would buy leader security for sure. The full transfer of any marginal increases to insiders, on the other hand, is an equilibrium response. Insiders remain indifferent to undertaking coups: the probability of a coup falls making leaders better off and the higher transfers increase the value of being an insider too. Marginal increases in patronage availability in the range $\psi \in (\mu_1, \mu_2)$ are thus fully transferred to insiders, with insider incentives remaining balanced between loyalty and coups and the equilibration achieved via the magnitude of the decline in coup frequency.

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 were instead offered the promise of future power via elections. We now turn to this issue.

3.3 Minimalist Democracy Equilibrium

We now investigate the possibility of situations in which leaders call elections and use the outcomes of these to determine whether they will stay in power. A minimalist democracy equilibrium has two key features. The first is this respect for election results and the second is that democratic leaders do not have their rule truncated by coups. We capture this by considering democratic equilibria of our model. Such equilibria involve peaceful power transfers among the elite: i.e., a lack of coups and leader replacement after electoral loss. Coups are dissuaded by the promise of legitimately obtaining power via elections (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. This condemns them to rule as a tyrant and, as we shall demonstrate, minimalist democracy depends on ruling as a tyrant being sufficiently unattractive. This will be the case when insiders are especially motivated to mount coups against tyrants.

3.3.1 Equilibrium Conditions

Winning elections and remaining in office tells voters nothing about the type of a leader in democracy – both regular and tyrannical types respond identically to election wins – so voters do not update their belief about the leader being a 'tyrant' away from ϵ. But if regular leaders always respect an election loss, then refusing to step down when losing elections raises a

Bayesian citizen's belief that the leader is a 'tyrant' above ϵ. To evaluate the impact of this on future elections, consider voter beliefs about the tyrannical possibilities of an electoral challenger.

Citizens' beliefs regarding challengers can essentially be divided up in to two categories: an insider who was previously a leader, an insider who has never before been a leader. In the latter case, the insider is currently a regular type, but were he to come to power he would be subject to a tyranny shock so he will be a tyrannical leader with probability ϵ. A challenger who was previously a leader and is standing for office again cannot have been a tyrant when he previously ruled. A tyrant would never have left office voluntarily, and if deposed in a coup would be dead. Consequently, a challenger who was previously a leader also has probability ϵ of becoming a tyrant once he comes to power. This makes a leader that has not stepped down less attractive relative to any possible challengers in the eyes of citizens. Given their preference for non-tyrants citizens will *never* vote back a leader who has violated an election result.

As such, there are two possible states: $\pi = 0$ if the current leader has failed to step down from an election loss in the past, and $\pi = p$ otherwise. We call the former the 'tyranny' state and the latter the 'democratic' state. State transitions can thus occur only when leaders are replaced or refuse to step down. If the state is $\pi = p$, then it remains so if the leader wins election, loses election and steps down, or dies. If the leader loses election and stays, the state transitions to $\pi = 0$. If the state is $\pi = 0$, it remains so as long as the leader stays in power. If he dies or is deposed, then it transitions to $\pi = p$.

Equilibrium strategies boil down to a patronage transfer level and a coup probability function for each of the two states: $\{\{\tau_D, \sigma_D(\tau)\}, \{\tau_T, \sigma_T(\tau)\}\}$. To establish behavior as an equilibrium, we must establish the optimality of behavior at each decision point. In order to describe this, let V_θ^L and V_θ^N be the values of starting a period as the leader and insider in state $\theta \in \{D, T\}$ respectively.

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

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

and the insider is optimizing at each possible transfer if

$$\sigma_D(\tau) \in \arg\max_{\sigma \in [0,1]} \{\sigma \cdot [\gamma \cdot (1 - \delta) \cdot V_D^L] + (1 - \sigma) \cdot [\tau + (1 - \delta) \cdot (p \cdot V_D^N + (1 - p) \cdot V_D^L)].\} \tag{8}$$

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

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

and the insider is optimizing at each possible transfer if

$$\sigma_T(\tau) \in \arg\max_{\sigma \in [0,1]} \{\sigma \cdot [\gamma \cdot (1 - \delta) \cdot V_D^L] + (1 - \sigma) \cdot [\tau + (1 - \delta) \cdot (\delta \cdot V_D^N + (1 - \delta) \cdot V_T^N)].\} \tag{10}$$

Given equilibrium outcomes, τ_D, τ_T and $c_T \equiv \sigma(\tau_T)$, the value functions satisfy

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

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

and

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

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

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. Tyrannic 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 imposed 'democratic' actions – that leaders hold elections and respect the outcome – are indeed optimal. For leaders to optimally hold elections, they must prefer doing so to acting as a tyrant:

$$V_D^L \geq V_T^L. \tag{15}$$

For a leader to optimally step down following an election defeat–i.e. for democracy to be *self-enforcing*–they must prefer being an insider in democracy to being a tyrant:

$$V_D^N \geq V_T^L. \tag{16}$$

In addition to the above, our conception of minimalist democracy also requires that democracy is *peaceful*–there must be no coups in the democracy state:

$$\tau_D + (1-\delta)\cdot(p\cdot V_D^N + (1-p)\cdot V_D^I) \geq \gamma\cdot(1-\delta)\cdot V_D^L. \tag{17}$$

The strategies $\{\{\tau_D, \sigma_D(\tau)\}, \{\tau_T, \sigma_T(\tau)\}\}$ constitute a *democratic equilibrium* if (7)-(17) are satisfied.

3.3.2 Analysis

We begin by considering play in the democratic state, again starting with the insider's problem of deciding whether to attempt a coup for each possible transfer offer. From (8) it is clear that in order to dissuade a coup, the leader must make a sufficiently large transfer to the insider. Specifically, the transfer must be at least $\hat{\tau}_D$, where this ensures the insider is indifferent to holding a coup. Using (8), this is:

$$\hat{\tau}_D \equiv (1-\delta)\cdot[\gamma\cdot V_D^L - (p\cdot V_D^N + (1-p)\cdot V_D^I)]. \tag{18}$$

Unlike the autocracy case, it is possible that $\hat{\tau}_D \leq 0$: when the probability of an insider winning election, $1-p$, is sufficiently high they are willing to withhold coups without the need for transfers. The value of $\hat{\tau}_D$ is important for the existence of democratic equilibrium since leaders must pay it in equilibrium if coups are to be dissuaded. That is, (17) is equivalent to $\tau_D \geq \hat{\tau}_D$. We now turn to the leaders' transfer problem (7), and thus to a consideration of the 'no coup' condition.

3.3.3 No Coups in Democracy

In order to satisfy the 'no-coup condition' (17), it must be that the leader is willing and able to pay $\hat{\tau}_D$. This is clearly satisfied if $\hat{\tau}_D < 0$ since the leader can dissuade coups for free and therefore sets $\tau_D = 0$. The leader is clearly unable to dissuade coups if $\hat{\tau}_D > U$, implying that

([17](#)) is necessarily violated in this case. If $\hat{\tau}_D \in (0, U]$ then peace is costly for the leader. The next result addresses the issue of when a democratic leader finds it optimal to pay the required price.

Result 2. *Democratic leaders always find it optimal to avoid coups, even when it is costly. That is, if $\hat{\tau}_D \in (0, U]$ then there is no profitable deviation from $\tau_D = \hat{\tau}_D$.*

As a consequence of result [2](#), we have that the 'no-coup' condition is satisfied if and only if parameters are such that $\hat{\tau}_D \leq U$. The conditions under which this holds are characterized in the following lemma, which indicates that *in order to ensure that insiders do not attempt to seize power with violence, democracy requires the availability of sufficient patronage or that elections are sufficiently competitive.* To aid in the expression of the result, define $p^* \equiv \frac{1-\gamma}{1-\gamma \cdot (1-\delta)}$ and $f(p) \equiv \frac{(1-\delta) \cdot (\gamma - (p \cdot \gamma \cdot (1-\delta) + (1-p)))}{\delta \cdot (1+\gamma \cdot (1-\delta))}$.

Lemma 3. *The 'no coups' condition, ([17](#)), is satisfied if p is sufficiently low or if ψ 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 $\psi \geq f(p)$.*

Lemma [3](#) identifies conditions on parameters that are necessary to ensure that democracy is *peaceful*. These conditions are illustrated in figure 7, which identifies 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.[11] 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 result also helps establish the uniqueness of transfers in democratic equilibrium. 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. By ruling out the possibility of democratic equilibria with different positive transfers coexisting, Result [5](#) in the appendix establishes the uniqueness of transfers in democratic equilibrium.

3.3.4 Holding and Respecting Elections in Democracy

We now turn to the conditions under which leaders find it optimal to hold and respect elections. The first result in this regard indicates that we only need to worry about the conditions under which leaders respect elections.

Result 3. *If it is optimal for leaders to respect elections then it is optimal for leaders to hold elections. That is, condition ([15](#)) is redundant.*

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[11]Formally, $P_1 \equiv \{p, \delta, \gamma, U, F \mid p \leq p^*\}$ and $P_2 \equiv \{p, \delta, \gamma, U, F \mid p > p^*, \psi \geq f(p)\}$.

The result follows from verifying that agents prefer being a democratic leader to being a democratic insider. This is because if it is optimal to respect an election, then being a democratic insider is preferred to being a tyrant. Thus, if being a democratic leader is preferred to being a democratic insider then it must also be preferred to being a tyrant and as such leaders find it optimal to hold elections.

Given this, we now turn to the condition that elections are respected–i.e. that election losers optimally step down. This condition compares the value of being a democratic insider, V_D^N, with that of being a tyrant, V_T^L. The value of V_D^N has been pinned down by the above analysis,[12] so we need now to turn to an analysis of play in the tyrant state.

Recall that the tyrant state is triggered when the leader refuses to step down following an election. Citizens perceive the leader to be a tyrant with a greater probability than a challenger and therefore the leader is sure to lose any future election. As such, the leader who is believed to be a tyrant with a relatively high probability will never benefit from stepping down in future elections and will therefore remain in office until deposed via coup or death.

The tyrant leader is similar to the autocrat except that they face insiders that anticipate becoming a democratic leader following a successful coup (as opposed to becoming an autocrat). As with an autocrat, a tyrant may be secure (face coups with zero probability) or insecure (face coups with a positive probability). In determining whether a tyrant is secure, we note from the insider's problem in the tyrant state (10) that the insider must be transferred a minimum amount, denoted $\hat{\tau}_T$, to be dissuaded from a coup. This value makes an insider in the tyrant state indifferent to mounting a coup. From (10), it is given by:

$$\hat{\tau}_T \equiv (1-\delta) \cdot [\gamma \cdot V_D^L - (\delta \cdot V_D^N + (1-\delta) \cdot V_T^N)]. \tag{19}$$

This value is important for determining whether democracy is self-enforcing since it governs how costly it is to lead as a tyrant. That is, democracy is self-enforcing only if being a tyrant is sufficiently costly. For instance, being a tyrant with insufficient patronage is costly because of the perpetual coup attempts. But even secure tyrants face high costs to the extent that high transfers are required to dissuade coups. Nevertheless, the following result indicates that secure tyranny is *never* costly enough a prospect to convince election losers to step down.

Lemma 4. *Leaders respect elections only if tyrants are insecure.*

Intuitively, if peace is available to a tyrant leader then the total surplus available to all players in the game is the same under both democracy and under tyranny. Coups are the only surplus destroying event and they will then not occur in either tyranny or democracy. Under tyranny, the leader transfers just enough of this surplus to insiders to buy peace, and thus makes them indifferent to undertaking coups. Necessarily then under democracy either the leader transfers $\tau_D > 0$ leaving insiders indifferent to coups, or $\tau_D = 0$. In the latter case, the possibility of winning power through elections is sufficient to motivate insider loyalty. But then insiders strictly prefer loyalty over taking a coup, implying that their share of the surplus exceeds that which they would obtain under tyranny – where leader transfers make them just indifferent to undertaking coups. Necessarily then, leaders share more of the (same total) surplus with insiders in democracy than they do with insiders under secure tyranny implying that

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[12]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 (18)) if parameters are in P_2.

tyrannical rule must be preferred. Alternatively, the leader makes a positive transfer to insiders so that they are just indifferent to taking a coup under tyranny. But this implies that the leader's share of the total surplus is as high under democracy as it would be under tyranny. When that is the case a leader would never voluntarily step down from leadership, as staying on and ruling as a tyrant is just as good. In either case, democracy cannot be self-enforcing.

For democracy to be self-enforcing leaders must fear its alternative so much that they are willing to walk away from office when losing elections. But peaceful rule under tyranny is sufficiently attractive to losing leaders that they will never choose to do that. Democracies can be self-enforcing only when a leader violating democratic rules is forced to rule as a tyrant, and such rule features perpetual existential threats. If it fails to do so, then democracy fails.

Lemma 3 provides the set of necessary conditions implied by the requirement that democracy involves peaceful power transfers (i.e. a democratic equilibrium exists only if parameters are in P_1 or P_2). We now refine these conditions further by imposing the necessary conditions implied by the requirement that democracy be self-enforcing. Lemma 4 implies that we can do so by imposing the necessary conditions implied by insecure tyranny.

A tyrant is insecure if either it is infeasible to make the required transfer or if they optimally prefer to face coups than make the required transfer. As with autocrats and democrats, the latter never applies since tyrants are always willing to pay to avoid coups.

Result 4. *A tyrant avoids coups whenever strictly feasible. That is, $\hat{\tau}_T < U \Rightarrow c_T = 0$.*

An implication of this is that a tyrant is insecure, and thus democracy can be self-enforcing, only when they have insufficient patronage to dissuade coups. The following lemma characterizes the conditions under which this holds.

Lemma 5. *A tyrant is insecure only if p is sufficiently large or ψ is sufficiently small. Specifically, only if*

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

- $\psi \leq \mu_2$ *if parameters are in P_2.*

Since insecure tyrants are necessary for democracy to be self-enforcing, Lemma 5 identifies a tighter set of necessary conditions for the existence of democratic equilibrium. This is illustrated in figure 8 where democracy is self-enforcing only if parameters are in S_1 or S_2 (which are subsets of P_1 and P_2).[13] That is, 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. To get the intuition for the shapes, first consider S_1. In this region democratic equilibrium necessarily involves zero transfers. Thus a larger p makes elections more biased toward incumbents, and since transfers are zero, it must be that leaders in democracy are better off. But this gives insiders under tyranny a greater incentive to mount a coup. Thus tyranny becomes even more insecure 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 biased toward incumbents, which would induce insiders to strictly prefer a coup. To avoid this the equilibrium transfer required by the insider is raised. The net effect on payoffs is unaffected. Thus,

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[13]Formally, $S_1 \equiv \{p, \delta, \gamma, U, F \mid \psi \leq g(p)\} \cap P_1$ and $S_2 \equiv \{p, \delta, \gamma, U, F \mid \psi \leq \mu_2\} \cap P_2$.

the payoff to being a democratic leader is unchanging in p in this region and therefore incentives for insiders to mount a coup against a tyrant is unchanged. The security of tyranny 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, tyrannical rule is insecure with low levels of patronage. This makes it an unattractive choice for a leader, so he respects democratic rules. But this is also the reason why p cannot be too low. Insiders who depose tyrants via coups rule as democrats, so that when p is low, the attractiveness of coups is also low, making tyrannical rule more secure.

This result is opposite to that of Fearon (2011) who also studied a similar credibility of elections problem. Fearon considered the incentives for members of the public to undertake a rebellion to unseat a leader who had overstayed his electoral mandate. 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.

3.3.5 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 leading as an insecure tyrant. Intuitively, this requires that coups have a sufficiently high probability of succeeding–a higher threat lowers the value of being an insecure tyrant and also raises transfers to democratic insiders who are compensated for relinquishing coup opportunities. Indeed, the following result shows that insecure tyranny is sufficient if γ is high relative to δ.

Proposition 2. *If $\gamma \geq \delta^{1/2}/(1-\delta)$, then a democratic equilibrium exists if and only if tyrants 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 tyranny 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 tyranny state.*

This proposition establishes the conditions under which facing an insecure tyranny is sufficient to ensure a leader respects electoral outcomes and a democratic equilibrium exists. The restriction on γ simply ensures that being an insecure tyrant is worse than a transfer-receiving insider. Since insecure tyrants 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 tyrant is lower than this minimized value, leaders will choose to respect elections rather than stay on as tyrants.

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 γ as long as agents are sufficiently concerned about the future (i.e. as long as δ is low enough).

If γ is marginally lower than required for the above to hold, then insecure tyranny does not ensure that democracy is self-enforcing. Now being an insecure tyrant is preferred to being an insider when insider values are at their lowest possible value (i.e. when $p > p^*$). Nevertheless, democracy can still be self-enforcing when the value of being an insider is greater (that is, for values of $p < p^*$). This immediately 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*

$$\frac{p}{1-p} \leq \gamma \left(\frac{1-\delta}{\delta} \right)^2 - \frac{1}{\delta}. \tag{20}$$

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 tyrants are insecure but low enough that insiders are sufficiently optimistic about returning to power in the future. The no coup condition has no bite–if V_D^N is high enough to convince a leader to step down it is necessarily high enough to dissuade an insider from mounting a coup.

Note that this condition does not ensure that a democratic equilibrium exists. If γ gets too low then the value of being an insecure tyrant becomes larger than the largest value obtained by an insider (i.e. that arising when $p = 0$). For instance, $\gamma < \delta/(1 - \delta)^2$ is sufficient for non-existence since it requires $p < 0$.

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.

4   The Role of Elections and Non-Markov Equilibria

Our theory of minimalist democracy demonstrates how peaceful power-sharing among elites can be achieved via the use of elections. But can such arrangements be achieved without elections? If so, what advantages do elections have over the alternatives? We turn to these questions in this section.

In the equilibria analyzed above, the voters play the role of a randomization device that determines when power is to shift hands. However, their role is deeper than this owing to their aversion to voting for a leader that has ignored election results in the past. To explain, suppose that we ignored voters altogether but instead endowed the elites with a randomization device that dictates when power is to be handed over. Supporting peaceful power-sharing in this setting requires non-Markovian strategies,[14] yet the strategic environment of our democratic equilibrium can be replicated here. Simply have agents play the same strategies as described in the democratic equilibrium except that a leader's violation of the power sharing rule triggers a 'punishment phase' in which insiders hold coups until the leader is replaced. That is, a violating leader is forced to rule as a tyrant not because voters leave no other option but, rather, because their observed violation facilitates a coordinated shift toward punitive actions.

This argument nothwithstanding, we argue that the use of elections generally provides a firmer foundation for power-sharing arrangements than a randomization device as described above. Without elections, power-sharing requires the punishment phase to be triggered by an event that is not payoff relevant and thus does not reflect the 'bygones are bygones' spirit embodied in Markov perfect equilibria. Whilst not particularly problematic in itself, it is made all the more so by the fact that all players would be willing to 'forgive and forget' during any such punishment phase. That is, the equilibrium without elections described above is not *renegotiation proof* (Farrell and Maskin (1989), Bernheim and Ray (1989)).

To see this, note firstly that insiders must weakly prefer to return to the equilibrium path by virtue of the fact there are no coups in equilibrium. Secondly, since there are no coups on the

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[14]Since the outcome of the randomization device is not payoff relevant, Markov strategies are not rich enough to allow punishments following a leader's refusal to step down when required by the randomization device. As such, power sharing would not be possible in Markov strategies. This is not true in the main model above, where there are voters who are unwilling to re-elect election violators. Such an unwillingness *is* both rational and payoff relevant.

equilibrium path, it must be that $V_D^N \geq \gamma \cdot (1-\delta) \cdot V_D^L$. But the right side is also the value of being an insider in the punishment phase. Thus, insiders in the punishment phase weakly prefer to return to the equilibrium path as an insider. Since the leader respects the power-sharing rule, it must be that $V_D^N \geq V_T^L$. But the fact that $V_D^L > V_D^N$ then implies that $V_D^L > V_T^L$. Since the right side is the payoff to a leader in the punishment phase, the leader strictly prefers to return to the equilibrium path as a leader too. Both players would happily renegotiate back to equilibrium play rather than pursue punishment strategies.

In contrast, any such issues of renegotiation during the punishment phase are circumvented by introducing elections. Voters effectively strip a violating leader of future access to the power-sharing technology. Returning to the equilibrium path is simply not an option. In this light, elections can be seen as more than a simple randomization device – rather, they act as a randomization device that has the important property of becoming biased against those that have violated its directive in the past.[15]

4.1   Alternative Strategies to Support Power-Sharing

Even if we cannot replicate the full strategic environment of the democratic equilibrium without having a punishment phase that is vulnerable to renegotiation, it may of course still be possible to support the same *equilibrium path* using renegotiation-proof strategies by proposing different play off the equilibrium path. For instance, the argument establishing the vulnerability to renegotiation made above used the fact that the consequences of mounting a coup are the same in the punishment phase as on the equilibrium path (i.e. a successful coup allows the instigator to rule as a democratic leader). We can instead allow players to treat coups differently depending on the actions of the leader that the coup deposed. For instance, if we instead suppose that instigators of coups against leaders that had never violated power-sharing rules were *also* subject to the punishment phase, whereas those moving against power-sharing violators were not, then renegotiation-proof peaceful power-sharing can arise. To see how this would work, classify a leader as "illegitimate" if they have ever violated the power-sharing rule, or came to power via a coup against a leader that had never violated the power-sharing rule, otherwise classify them as "legitimate". If the randomization device is sufficiently biased toward the incumbent, then there is low value of being an insider relative to a leader. Yet, insiders may be dissuaded from mounting coups on the equilibrium path anticipating that, at best, they become an illegitimate leader. Being an illegitimate leader is unattractive since insiders can

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[15]We rationalized voter hesitation to vote for a previous election violator by supposing that voters were subject to some uncertainty over whether the leader was a tyrant type who never intends on stepping down. This suggests an alternative approach to the issue of renegotiation during the punishment phase in the absence of elections: retain the possibility of leaders becoming a tyrant type and suppose that insiders are similarly unsure about the leader's type. Renegotiation back to the equilibrium path would then not succeed because a violation causes insiders to believe that the leader never intends on stepping down (making a reversion to power-sharing impossible). Relative to the main model, this argument is unconvincing. Insiders, by their very nature, have close contact with the leader and thus good information regarding their character and motivations, unlike voters whose perception of leader type are necessarily informed by public acts. This observation suggests why even the elite would see virtue in a broad franchise – it ensures that the voting population is relatively ignorant of the private character and motivations of those in the inner circle, ensuring that autocratic acts are punished so that peaceful power-sharing is supported. It is a markedly different explanation for franchise extension than that suggested by Lizzeri and Persico (2004) as discussed in the introduction.

mount coups against you without fear of losing their legitimacy. They would want to do this since the value of being an insider is low relative to being a legitimate leader. Punishments can then be renegotiation-proof here since insiders relish the opportunity to become a legitimate leader rather than an insider and thus cannot be dissuaded from mounting a coup against an illegitimate leader.

Though this example works to sustain power-sharing, and is renegotiation-proof, it requires differential treatment of coups on and off the equilibrium path to render power-sharing renegotiation proof. The following lemma proves that this is necessary *in general*.

Lemma 6. *Any equilibrium with peaceful power-sharing on the equilibrium path cannot be renegotiation-proof if the continuation value associated with mounting a coup is constant across histories (and thus independent of leaders' past violations).*

The general finding here then is that intra-elite power-sharing conditioned on a randomization device requires that coup instigators face consequences that vary with the perceived legitimacy of their coup. This requires shared agreement amongst insiders on what is legitimate, generally suggesting such a means of power sharing to be limited to small and cohesive groups of elite. Anthropological work has indeed found evidence of systematic leadership position rotation amongst the elders in some Andean indigenous populations; Rasnake (1988). Also, the Yoruba of Nigeria have been reported to utilize rotation of leadership amongst elites; Lloyd (1960). Similar rotations have been reported in Hawaii, Tonga and in Kuwait where the reigning Emir traditionally alternated between the Al-Ahmed and the Al-Salem branches of the House of Al-Sabah.

Though possible amongst smaller or traditional groups, the lemma suggests that such arrangements are likely to find more difficulty in larger polities where shared understanding of the legitimacy of leadership acts is less likely to be present. For instance, suppose that the leader can attempt to undermine a political opponent via repression – by lowering γ of an insider, say – in a way that is only observed by the two players involved. The only way that the affected insider can dissuade the leader from engaging in repression is to mount a coup. But if the leader had hitherto adhered to the power-sharing rule, such a move would be seen as an illegitimate coup by the others and would have to be subject to punishment. This lowers the incentive for the insider to counter the repression attempt, but this, in turn, places peaceful power-sharing in jeopardy.

To summarize, the role of elections is more than that of a simple randomization device. Voters who are unwilling to vote for violators of previous elections play an important role. Their arm's length relationship to the elite skirts issues of renegotiation that would undermine power-sharing amongst elites in the absence of voters. Alternative power-sharing strategies could also be constructed without such third parties, but these depend heavily on shared information and perceptions amongst the elite regarding the legitimacy of leader acts. These may be present in simple polities (like villages or clans) or amongst close-knit elite, but would seem unlikely in nation states.

5 Democratization and Empirical Implications

The preceding analysis reveals how autocratic and democratic equilibria coexist. This is due to a dynamic complementarity whereby the optimal action for today's leader depends on the anticipated actions of future leaders.[16] 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 (Result 1). This is why there always exists an autocratic equilibrium whereby turnover only occurs through leader death (violent or peaceful) and the democratic machinery lies dormant (Proposition 1). At the same time, a democratic alternative may also exist (under the conditions stated in Propositions 2 and 3). Here, 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. As such the current leader voluntarily steps aside too when losing elections, and violent challenges to power disappear.

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. It is the non-divisibility of (at least a partial aspect of) power or prestige – which we have modelled through the utility term F – that generates leadership insecurity here. The converse implication is that if leading a state generates neither power, prestige nor any other non-transferable benefit, an autocratic leader will always be able to devise a means of transferring the state's divisible benefits to those who threaten him so that peace will ensue and autocratic power will persist. But with a non-divisible component of leadership this is no longer the case, and as we have shown, offering insiders a peaceful, stochastic avenue to power through elections may stop them using the (costly) coup technology. The following result establishes that doing so in fact makes both the leader and insiders strictly better off.

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. This has two interesting implications.

First, it highlights how our minimalist approach to democracy 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

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[16]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.

system, because of the existence of preferred equilibria without elections.[17]

Second, it provides a rationale for why the elite may have self-interested motives for engaging in reforms of the state that lower patronage. 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 putting them into the region where a democratic equilibrium exists. In short, destroying patronage renders tyrants insecure, thereby making democracy possible and thus helping engineer democratic transitions.

5.1 Empirical Implications

Due to the configuration of equilibria, a strong 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 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 democratiza-
> tion. 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.[18] This literature has investigated both permanent and temporary resource shocks.

Specifically, defining y_t the level of state resources available in year t, a shock ε_t has the feature of permanence when affecting future expected resources available in the indefinite future, i.e. ε_t affects $E_t\left[y_{t+1}\right], E_t\left[y_{t+2}\right]$, 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. As an instance of such shocks, consider the case of an oil-rich country. Given that international oil prices follow

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[17]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. Fearon instead focuses on the best equilibrium for the citizens, but here too the leader would prefer no elections: i.e. the leader gets a higher payoff in the best equilibrium for citizens without elections than in the best equilibrium for citizens with elections.

[18]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).

a random walk[19], $y_t = y_{t-1} + \varepsilon_t$, a negative shock ε_t permanently reduces expected oil revenues at any future $t+j$, for $j = 1, 2, 3...$, since $E_t \left[y_{t+j} \right] = y_t$. 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 ε shocks have persistent effects. The authors show that increases in commodity prices (and hence revenues from exports) tend to consolidate autocracies. 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.[20]

On the other hand, a shock ε_t is temporary if it has the feature of leaving future expected resources available in the indefinite future unchanged, i.e. ε_t does not affect $E_t \left[y_{t+1} \right], E_t \left[y_{t+2} \right]$, 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 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 2, 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 2 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.

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[19] Brückner, Ciccone, and Tesei (2012).

[20] See for instance Wacziarg (2012).

Column 1 of Table 2 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 (in column 3), which more properly pertain to fully representative (as opposed to minimalist) democracies. In column 4 executive constraints appear to respond weakly to rainfall shocks and do not respond to resource shocks. This ambiguity is not surprising, as in Figure 6 executive constraints show an uptake almost 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 synthesis, Table 2 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.

6   Conclusions and Future Directions

After positing a relevant set of stylized facts, some of which are novel, this paper studies political transitions in to and out of democracy based on the minimalist concept of Schumpeter (1942) and Przeworski (1999). The focus is the mere presence of competitive elections. The fact that elections allow a stochastic rent share from executive power to elites currently not in power can lead them to eschew coup opportunities. When the respect of such electoral outcomes is credible for leaders, elections can reduce losses to the elite as a whole that arise from coups d'état. These are distinctive advantages of hybrid systems which feature minimalist democracy and are a valuable avenue for autocratic leaders who cannot fend off coup threats with side payments.

The main contribution of the paper is to shed light on the relevance of a set of hybrid regimes – electoral democracies with drastically low inclusiveness and limited constraints on the executive – as a first step in the process of democratic transition. This exercise should therefore be interpreted as moving away from a coarse definition of a polity as purely democratic or purely autocratic, but rather as transiting through different hybrid phases, of which "electoral competition" represents a first basic stepping stone decoupled from any requirement of representation. We believe this is an important departure from the literature which is highly relevant for a large number of the world's weak polities that lie between these two extreme poles. The

Minimalist Democracies that we have studied embody elements from both ends of the political schema. Their underlying context is one in which power would seem to be determined by force, as the institutions in such countries are weak. Yet leaders hold elections, and even leave power when they lose. In these democracies, leaders who control violence, and hence sufficient force to stay in power, choose to step aside and respect electoral outcomes. We have first established why a dictator, in control of power through force, would choose to implement a minimalist democracy. Relatedly we have demonstrated how the process of holding elections can serve a substantive function when the leader – controlling force – can always choose to annul results and remain in office.

Secondly, we have developed 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. Additionally, they can pay (from the patronage available to them) insiders who would threaten them less in democracies than they would have to in autocracies in order to secure peace. Importantly, however, we have demonstrated that reducing patronage transfers is never a sufficient motivation for minimalist democracy to be implemented by a leader. 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 sustainable.

There is a third question that naturally follows from this analysis. Here we provide some conjectures about it but leave to future research a fuller 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? The process we have analyzed points to some intriguing possibilities. The threat of force sustains a commitment to patronage transfers in autocracies. To ensure that their current share of spoils extends in to the future, elites thus only need to sustain that threat through maintaining their power-base – i.e., through their links to the rank-and-file. However, as we have seen, this threat of force does not guarantee graft transfers in minimalist democracies since a probabilistic share of leadership benefits replaces it. This contrasts with autocracies where the very lack of institutional commitments to sharing power ensure a credible commitment on the autocrat's part to share graft. Democratic contests between political elites thus supplant the role that graft transfers from the leader to political elites perform in autocracy.

A plausible conjecture would thus be that the transition to minimalist democracy gives rise to the possibility of a new form of political actor to occupy elite roles. In autocracies, the political elites are those able to mobilize (potentially violent) support. The threat they pose must be placated by autocrats seeking security through transfers of graft. After minimalist democratic transitions, violent threats are ameliorated by democratic participation – elites eschew coup opportunities and instead participate in electoral politics. Since graft transfers fall (and often disappear) in minimalist democracies, the resources that would enable elites to maintain the support of the rank-and-file through the allocation of patronage dry up. The political elite who control violence shift from being key players with a claim to resources into marginal players through whom resources need not ever flow. We believe that this transition may play

an important role in allowing the emergence of an alternative, non-violent and rival form of elite who are able to offer policy benefits (in lieu of graft) to the rank-and-file in return for their support. We explore this conjecture in future work.

A Supporting Results

Result 5. *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 co-exist (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 (18) 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 τ', so that an equilibrium with a transfers of $\tau' > 0$ precludes there being an equilibrium with any other transfer. $\qquad\square$

B Proofs

Proof of Lemma 1:

Proof. 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 τ. Using this is 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. $\qquad\square$

Proof of Lemma 2:

Proof. 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 τ 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 (6) in (4) gives $V_A^N = \gamma \cdot (1 - \delta) \cdot V_A^L$. Adding (3) and (4) 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 (6) 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 (3) and (4) 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 $\hat{\tau}_A < U$. $\square$

Proof of Result 1:

Proof. 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 is implied by lemma 1. $\square$

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 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 (6) 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 (6) 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 (6) 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 (6) 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 2). 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 (6) 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 equilbrium is unique unless $\psi = \mu_1$, in which case two equilibria exist (one weakly insecure and one strongly insecure). $\qquad\square$

Proof of Result 2:

Proof. Consider a proposed democratic equilbrium in which $\hat{\tau}_D \in (0, U]$. Since coups are avoided in any democratic equilibrium, we have $\tau_D = \hat{\tau}_D$. From (18) 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 $V_D^L + V_D^N = (F + U)/\delta$. $\qquad\square$

Proof of Result 3:

Proof. The strategy is to show that $V_D^L > V_D^N$, since this along with (16) implies (15) as claimed.

If there were coups in equilibrium, then we would have $V_D^N = \gamma \cdot (1 - \delta) \cdot V_D^L < V_D^L$. If there were no coups, then 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 $V_D^L = \frac{\delta + (1 - \delta) \cdot (1 - p)}{1 - p} \cdot \frac{V_D}{2}$. 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 $V_D^L > V_D^N$. But then this and (16) implies $V_D^L > V_D^N \geq V_T^L$, which implies $V_D^L \geq V_T^L$ as required. $\qquad\square$

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 (18) 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 (18) 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). $\quad\square$

Proof of Lemma 4:

Proof. The strategy is to show that if tyrants are secure then the value to being a tyrant leader is at least as great as being a leader in democracy and therefore strictly better than being an insider in democracy since $V_D^L > V_D^N$ (this is formally proven as part of the proof of Result 3).

If a tyrant 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

$$V_T^L = \frac{F + U}{\delta} = V_D^L + V_D^N > V_D^L > V_D^N \tag{21}$$

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

$$\tau_T \leq \delta \cdot V_T^N \tag{22}$$

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

$$V_T^L + V_D^N \geq \frac{F + U}{\delta} = V_D^L + V_D^N. \tag{23}$$

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

Proof of Result 4

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

$$V_T^L \geq \frac{\delta}{\delta + \gamma \cdot (1 - \delta)} \cdot \frac{F + U}{\delta} \tag{24}$$

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 (24) 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 tyrant is given by the right side of (24). 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 (24). The fact that this represents a profitable deviation follows from noting that we proved above that (24) 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 $\hat{\tau}_T < U \Rightarrow c_T = 0$. $\qquad \square$

Proof of Lemma 5:

Proof. The strategy is to note that a tyrant is insecure only if $\hat{\tau}_T \geq U$ where $\hat{\tau}_T$ is given by (19) 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 (18), 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 (19) gives:

$$\hat{\tau}_T = (1 - \delta) \cdot \delta \cdot \left(\gamma \cdot (2 - \delta) \cdot V_D^L - V_D^N \right). \tag{25}$$

If parameters are in P_1, then we have

$$V_D^L = \frac{1 - p \cdot (1 - \delta)}{(2 - \delta) \cdot (1 - p) + p \cdot \delta} \cdot \frac{F + U}{\delta} \tag{26}$$

$$V_D^N = \frac{(1 - p) \cdot (1 - \delta)}{(2 - \delta) \cdot (1 - p) + p \cdot \delta} \cdot \frac{F + U}{\delta}, \tag{27}$$

which, when used in (25), 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

$$V_D^L = \frac{1}{1+\gamma \cdot (1-\delta)} \cdot \frac{F+U}{\delta} \tag{28}$$

$$V_D^N = \frac{\gamma \cdot (1-\delta)}{1+\gamma \cdot (1-\delta)} \cdot \frac{F+U}{\delta}, \tag{29}$$

which, when used in (25), makes the requirement that $\hat{\tau}_T \geq U$ equivalent to $\psi \leq \mu_2$. $\qquad\square$

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 tyrants 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 tyrant to dissuade a coup, and thus any equilibrium must have $c_T = 1$ and $\tau_T = 0$. As such, (13) implies that

$$V_T^L = \frac{F+U}{\delta + \gamma \cdot (1-\delta)}. \tag{30}$$

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 (18). This, along with (11) and (12), gives:

$$V_D^N = \frac{\gamma \cdot (1-\delta)}{1+\gamma \cdot (1-\delta)} \cdot \frac{F+U}{\delta}. \tag{31}$$

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

$$\frac{\gamma \cdot (1-\delta)}{1+\gamma \cdot (1-\delta)} \geq \frac{\delta}{\delta + \gamma \cdot (1-\delta)}, \tag{32}$$

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:

$$V_D^N = \frac{(1-p) \cdot (1-\delta)}{(2-\delta) \cdot (1-p) + p \cdot \delta} \cdot \frac{F+U}{\delta}. \tag{33}$$

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

$$\frac{(1-p) \cdot (1-\delta)}{(2-\delta) \cdot (1-p) + p \cdot \delta} \geq \frac{\delta}{\delta + \gamma \cdot (1-\delta)}, \tag{34}$$

which is equivalent to

$$\frac{p}{1-p} \leq \gamma \left(\frac{1-\delta}{\delta} \right)^2 - \frac{1}{\delta}. \tag{35}$$

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

$$\frac{p^*}{1-p^*} = \frac{1-\gamma}{\gamma \cdot \delta}, \tag{36}$$

equation (35) 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.

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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 tyranny 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 tyranny 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 (32) 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 (35) 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 tyrant 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 δ. The amount that an insecure tyrant is able to secure is decreasing in γ as coups become less of a threat. Thus, the existence of a democratic equilibrium is jeopardized when γ is relatively low (and/or when δ is relatively high). □

Proof of Lemma 6:

Proof. By contradiction, suppose that there did exist such an equilibrium that was renegotiation-proof. Let V_C^N denote the continuation value associated with mounting a coup.

There must exist a history, necessarily off the equilibrium path, such that (i) the insider's equilibrium strategy calls for a coup, and (ii) the leader faces a continuation value strictly lower than that associated with being a leader on the equilibrium path. To see this, suppose that the leader considers a deviation to transferring nothing and never stepping down. If the insider's equilibrium strategy never called for a coup, then this deviation would be profitable (since power is shared in equilibrium). Thus, a coup must be held at some point following a history in which the leader has refused to step down and transferred zero ever since. Consider the first time that such a coup is held. If the leader's continuation value at this point were weakly greater than the value of being a leader on the equilibrium path, then the deviation to not stepping down when required (and transferring nothing forevermore) must be strictly profitable since such a deviation has a continuation value of at least that associated with being a leader on the equilibrium path and therefore strictly greater than that of being an insider on the equilibrium path.

Consider the sub-game starting at such a history. Since the leader strictly prefers to return to the equilibrium path as a leader, in order to be renegotiation-proof it must be the case that $V_C^N > V_D^N$ (otherwise returning to the equilibrium path would Pareto dominate continuing with the coup). But since democratic equilibrium requires that there are no coups on the equilibrium path, we have $V_D^N \geq V_C^N$, which is a contradiction. □

Proof of Proposition 4:

Proof. The no coup condition in democracy, (17), implies $V_D^N \geq \gamma \cdot (1-\delta) \cdot V_D^L$ which implies $V_D \equiv V_D^N + V_D^L \geq (1 + \gamma \cdot (1-\delta)) \cdot V_D^L$. 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, unless $\psi = \mu_2$ there must be coups in autocracy (i.e. $c_A > 0$) whenever parameters are such that a democratic equilibrium exists. As such, we have $V_A^N = \gamma \cdot (1-\delta) \cdot V_A^L$, which implies $V_A \equiv V_A^N + V_A^L = (1 + \gamma \cdot (1-\delta)) \cdot V_A^L$. But from (3) and (4) we get that $c_A > 0 \Rightarrow V_A < (F+U)/\delta = V_D$ (where the last equality comes from (11) and (12)). But $V_D > V_A$ implies $V_D^L > V_A^L$. Therefore $V_D^N \geq \gamma \cdot (1-\delta) \cdot V_D^L > \gamma \cdot (1-\delta) \cdot V_A^L = V_A^N$. Therefore $V_D^L > V_A^L$ and $V_D^N > V_A^N$ unless $\psi = \mu_2$. If $\psi = \mu_2$ then $c_A = 0$ and the above arguments extend in the obvious way to produce $V_D^L = V_A^L$ and $V_D^N = V_A^N$. $\qquad\square$

References

[1] **Acemoglu, Daron and James Robinson.** 2001. "A Theory of Political Transitions" *American Economic Review*, 4 (Sep.), pp. 938-963.

[2] **Acemoglu, Daron and James Robinson.** 2006. *Economic Origins of Dictatorship and Democracy.* Columbia University Press, New York.

[3] **Acemoglu, Daron, Suresh Naidu, Pascual Restrepo, James A. Robinson.** 2013. "Democracy, Redistribution and Inequality", *Handbook of Income Inequality* Forthcoming

[4] **Anderson, Elizabeth.** 2009. "Democracy: Instrumental vs. Non-Instrumental Value." Pp. 213-27 in *Contemporary debates in political philosophy*, ed. T. Christiano and J. Christman, Malden, MA: Wiley Blackwell.

[5] **Barro, Robert J.** 1999. "The Determinants of Democracy." *Journal of Political Economy*, 107(6): S158–83.

[6] **Benhabib, Jess, and Adam Przeworski.** 2006. "The Political Economy of Redistribution under Democracy" *Economic Theory*, 29, 271-290.

[7] **Bernheim, Douglas. and Debraj Ray.** 1989. "Collective Dynamic Consistency in Repeated Games" *Games and Economic Behavior*, 1, 295-326.

[8] **Bidner, Chris and Francois, Patrick** 2013. "The Emergence of Political Accountability " *Quarterly Journal of Economics*, 128 (3): 1397-1448.

[9] **Block, Steven.** 2002. "Political Business Cycles, Democratizations, and Economic Reform: The Case of Africa" *Journal of Development Economics*, 67(1): 205-228.

[10] **Boix, Carles.** 2003. *Democracy and Redistribution.* New York: Cambridge University Press.

[11] **Bratton, Michael and Robert Mattes** 2001. "Support for Democracy in Africa: Intrinsic or Instrumental?" *British Journal of Political Science*, vol. 31, no. 3, pp. 447-474.

[12] **Bratton, Michael and Nicholas Van de Walle**. 1997. *Democratic experiments in Africa.* Cambridge: Cambridge University Press.

[13] **Brückner, Markus and Ciccone, Antonio** 2011. "Rain and the Democratic Window of Opportunity". *Econometrica*, 79: 923–947.

[14] **Brückner, Markus, Ciccone, Antonio, Tesei Andrea** 2012. "Oil Price Shocks, Income, and Democracy". *Review of Economics and Statistics*, 94(2): 389-399

[15] **Bueno de Mesquita, Bruce, Alastair Smith, Randolph Siverson, and James D. Morrow.** 2003. *The Logic of Political Survival.* MIT Press, Cambridge.

[16] **Caselli, Francesco, Andrea Tesei.** 2011. "Resource Windfalls, Political Regimes, and Political Stability", *NBER WP* 17601.

[17] **Cohen, Carl** 1973. *Democracy.* The Free Press Macmillan NY.

[18] **Coppedge, Michael; Alvarez, Angel, Maldonado, Claudia**. 2008. "Two Persistent Dimensions of Democracy: Contestation and Inclusiveness". *Journal of Politics*, 70(3).

[19] **Dahl, Robert A.** 1971. *Polyarchy: Participation and Opposition.* New Haven: Yale University Press.

[20] **Diamond, Larry.** 2002. "Elections Without Democracy: Thinking about Hybrid Regimes." *Journal of Democracy*, Vol. 13 no. 2, pp. 21-35

[21] **Djankov, Simeon, Jose Montalvo, Marta Reynal-Querol**, 2008. "The Curse of Aid." *Journal of Economic Growth*, vol. 13(3), pp. 169-194.

[22] **Ezrow, Natasha and Erica Frantz** *Dictators and Dictatorships: Understanding Authoritarian Regimes and Their Leaders.* New York: The Continuum International Publishing Group.

[23] **Farrell, Joseph and Eric Maskin.** 1989. "Renegotiation in Repeated Games " *Games and Economic Behavior*, 1, 327-360.

[24] **Fearon, J.** 2011. 'Self-Enforcing Democracy', *Quarterly Journal of Economics*, 126(4), 1661-1708.

[25] **Francois, Patrick, Ilia Rainer, and Francesco Trebbi**. 2014a. "How Is Power Shared in Africa?" *Econometrica,* Forthcoming.

[26] **Francois, Patrick, Ilia Rainer, and Francesco Trebbi**. 2014b. "The Dictator's Inner Circle" *mimeo* University of British Columbia.

[27] **Gandhi, Jennifer and Przeworski, Adam.** 2006. "Cooperation, cooptation and rebellion under dictatorship." *Economics and Politics*, 18(1), 1-26.

[28] **Gandhi, Jennifer.** 2008. *Political Institutions under Dictatorship.* New York: Cambridge University Press.

[29] **Geddes, Barbara.** 2003. *Paradigms and sand castles: Research design in comparative politics.* Ann Arbor: University of Michigan Press.

[30] **Glaeser, E., R. la Porta, F. Lopez-de-Silanes, and A. Shleifer.** 2004. "Do Institutions Cause Growth?" *Journal of Economic Growth*, Vol. 9, No. 3, pp. 271-303.

[31] **Huntington, Samuel P**. 1991. *The Third Wave: Democratization in the Late Twentieth Century.* Norman, OK: University of Oklahoma Press.

[32] **Kendall-Taylor, Andrea, and Frantz, Erica.** 2014 "How Autocracies Fall" *The Wasthington Quarterly*, 37:1, 35-47.

[33] **Lipset, Seymour Martin.** 1959. "Some Social Requisites of Democracy: Economic Development and Politcal Legitimacy." *American Political Science Review*, 53(1): 69–105.

[34] **Lizzeri, A and N. Persico** 2004. "Why Did the Elites Extend the Suffrage: Democracy and the Scope of Government, with and Application to Britain's 'Age of Reform' ", *Quarterly Journal of Economics*, May, 707-765.

[35] **Lloyd P. C.** 1960. "Sacred Kingship and Government among the Yoruba", *Africa*, 30(03), 221-237.

[36] **Meltzer, Allan H., and Richard, Scott F.** 1981. "A Rational Theory of the Size of Government." *Journal of Political Economy* 89 (5), 914-27.

[37] **Marshall, Monty**. 2013: "Polity IV Project: Dataset Users'Manual," Center for Systemic Peace. Available at http://www.systemicpeace.org/inscr/p4manualv2012.pdf.

[38] **Mattes, Robert and Hermann Thiel.** 1999. "Consolidation and Public Opinion in South Africa." in *Democratization in Africa*, ed. Larry Diamond and Marc Plattner, JHU Press.

[39] **Mulligan, Casey B., Ricard Gil, and Xavier Sala-i-Martin.** 2004. "Do Democracies Have Different Public Policies Than Nondemocracies?" *Journal of Economic Perspectives*, 18(1): 51–74.

[40] **Ober, Josiah** 2007. "Natural Capacities and Democracy as a Good-in-Itself." *Philosophical Studies*, 132: 59-73.

[41] **Padilla, Art, Robert Hogan and Robert, B. Kaiser.** 2007. "The toxic triangle: destructive leaders, susceptible followers and conducive environments. " *The Leadership Quarterly.* 18: 176-194.

[42] **Persson, Torsten, and Guido Tabellini.** 2009. "Democratic Capital: The Nexus of Political and Economic Change." *American Economic Journal: Macroeconomics*, 1(2): 88-126.

[43] **Popper, Karl.** 1963. *Conjectures and Refutations: The Growth of Scientific Knowledge.* London: Routledge.

[44] **Posner, Daniel.** 2005. *Institutions and Ethnic Politics in Africa.* Cambridge: Cambridge University Press.

[45] **Przeworski, Adam.** 1991. *Democracy and the market: political and economic reforms in Eastern Europe and Latin America*, Cambridge University Press.

[46] **Przeworski, Adam.** 1999. "Minimalist Conception of Democracy: A Defense." in *Democracy's Value*, ed. Ian Shapiro and Casiano Hacker-Cordón, Cambridge: Cambridge University Press, pp. 23–55.

[47] **Przeworski, Adam, Michael E. Alvarez, Jose Antonio Cheibub, and Fernando Limongi**. 2000. *Democracy and Development: Political Institutions and Well-Being in the World 1950–1900.* Cambridge, UK: Cambridge University Press.

[48] **Rasnake, Roger Neil.** 1988. *Domination and Cultural Resistance: Authority and Power Among an Andean People.* North Carolina: Duke University Press

[49] **Robinson, James, Ragnar Torvik, Thierry Verdier.** 2006. "Political Foundations of the Resource Course" *Journal of Development Economics*, 79(2): 447-468.

[50] **Rodrik, Dani, and Romain Wacziarg.** 2005. "Do Democratic Transitions Produce Bad Economic Outcomes?" *American Economic Review*, 95(2): 50–55.

[51] **Sen, Amartya** 1999. "Democracy as a Universal Value" *Journal of Democracy*, vol. 10, no. 2, pp 3-17.

[52] **Svolik, Milan.** 2009 "Power Sharing and Leadership Dynamics in Authoritarian Regimes,"*American Journal of Political Science*, 53 no. 2: 477-494

[53] **Svolik, Milan.** 2012 *The Politics of Authoritarian Rule* Cambridge University Press, New York.

[54] **Schumpeter, Joseph.** 1942. *Capitalism, Socialism, And Democracy*. New York: Harper & Row.

[55] **Tsui, Kevin K.** 2011. "More Oil, Less Democracy: Evidence from Worldwide Crude Oil Discoveries" *Economic Journal*, 121(551): 89-115.

[56] **Wacziarg, Romain.** 2012. "The First Law of Petropolitics" *Economica*, vol. 79, no. 316

[57] **Wantchekon, Leonard.** 1999. "Why do resource dependent countries have authoritarian governments?" *Leitner Working Article*, Yale University.

Table 1: Weak Democracies Are Also Minimal

(1)	Share of country-Year Observations with Most Democratic Score as Defined in Column (1)	Share of country-Year Observations with Most Democratic Score as Defined in Column (1)	Share of country-Year Observations with Most Democratic Score as Defined in Column (1)
	Sample: Polity2 ∈ (8,10] (2712 Total Obs.)	Sample: Polity2 ∈ [0,8] (1711 Total Obs.)	Sample: Polity2 ∈ [-5,0) (992 Total Obs.)
(1)	(2)	(3)	(4)
Electoral Competitiveness Polity dimension XRCOMP =2 (transitional arrangements between selection, ascription and/or designation, and competitive election) or XRCOMP =3 (election)	100%	**85.7%**	12.4%
Electoral Competitiveness Polity dimension XROPEN =4 (Open executive recruitment)	100%	**87.3%**	55.5%
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.)	92.4%	29.5%	6.2%
Executive Constraints Polity dimension XCONST =5 (substantial limitations on executive authority) or higher.	100%	69.5%	3.2%

Table 2: Resource Abundance and Autocratizations

	ΔPolity 2	ΔElectoral Competive ness	ΔInclusive ness	ΔExecutive Constraints	ΔPolity 2	ΔElectoral Competive ness	ΔInclusive ness	ΔExecutive Constraints
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Log rainfall, t	**-0.07**	**0.04**	-0.21	0.10	**-0.21**	**0.02**	-0.21	0.10
	[0.52]	**[0.06]**	[0.20]	[0.16]	**[0.53]**	**[0.06]**	[0.20]	[0.16]
Log rainfall, t-1	**-2.44**	**-0.25**	-0.82	-0.68	**-2.52**	**-0.23**	-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	**-0.86**	**-0.09**	-0.13	-0.17	**-0.67**	**-0.07**	-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	**-1.03**	**-0.05**	-0.19	-0.30	**-0.91**	**-0.06**	-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 Δ) 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∈[0,8])

Democracies: Consolidated vs. Gray Zone

Share of Countries with Polity2 > 0
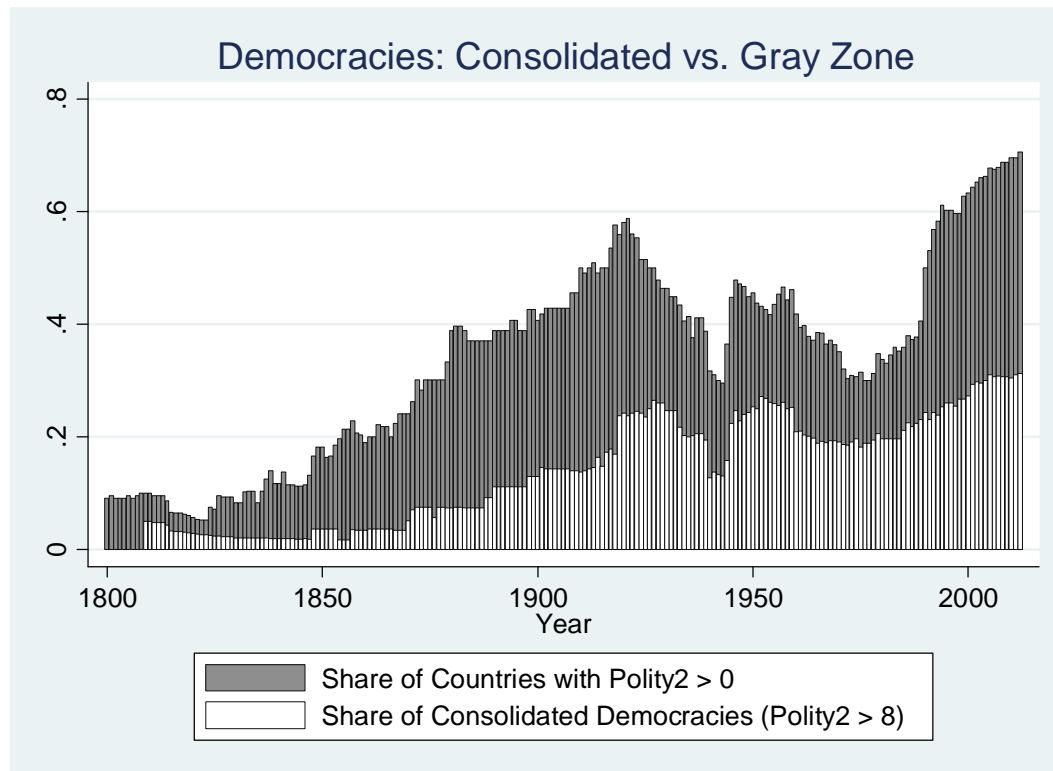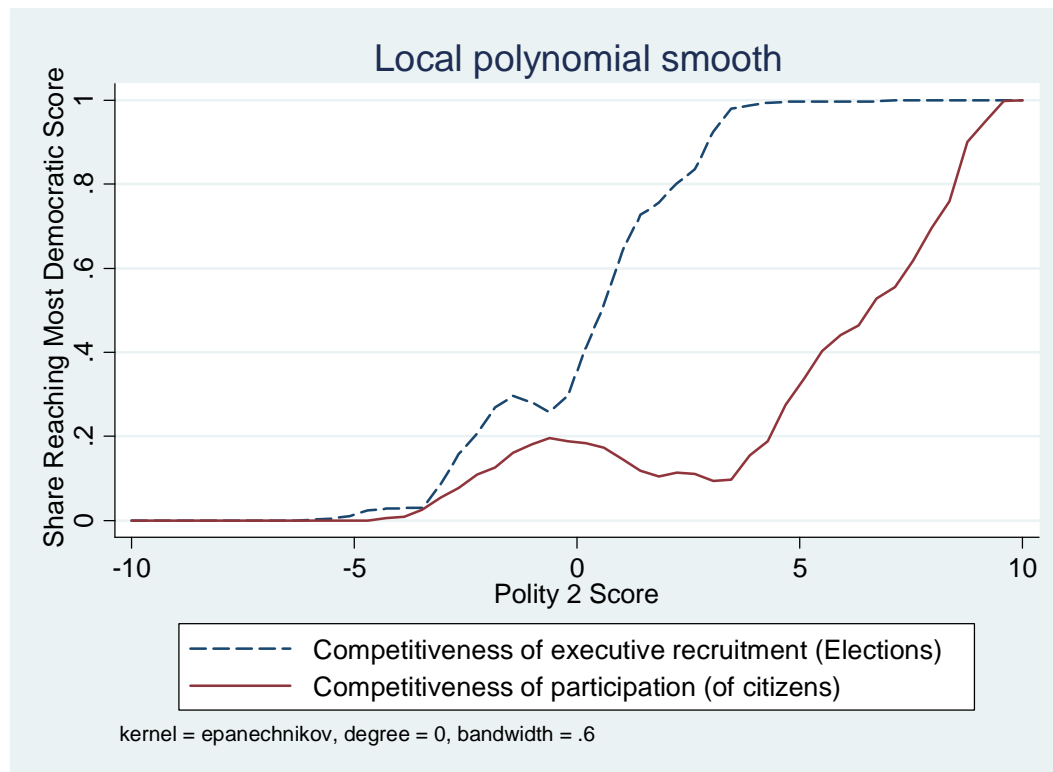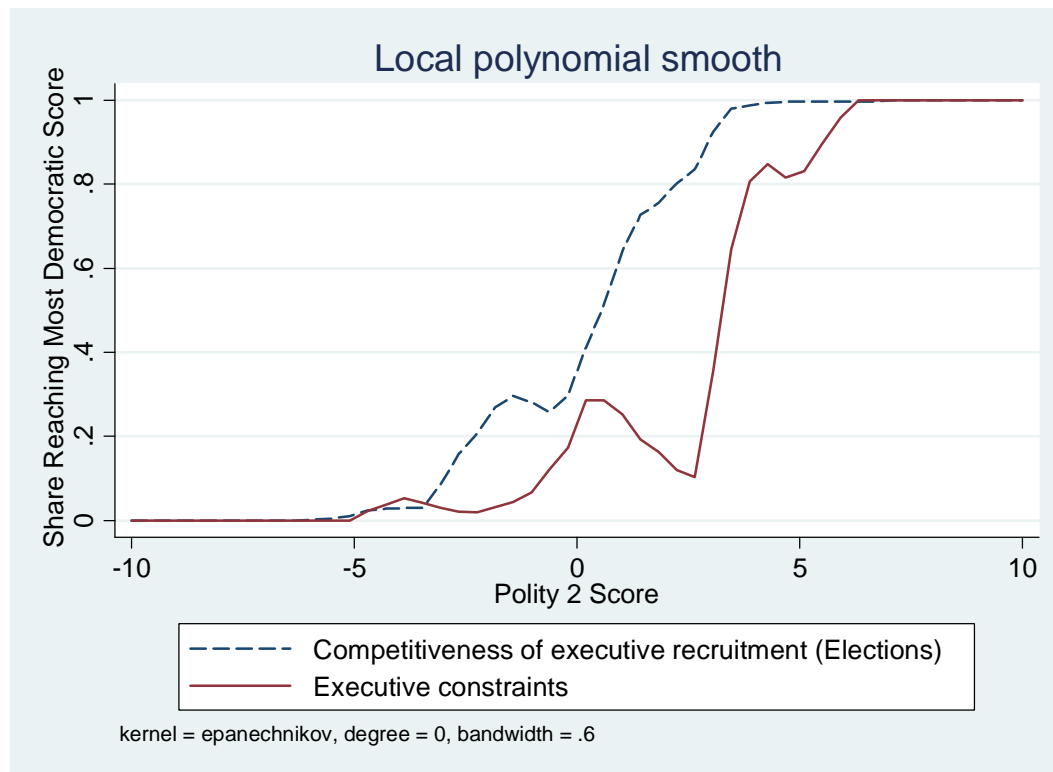Share of Consolidated Democracies (Polity2 > 8)

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).

Notes:

a. Sample starts in 1945 and excludes periods of interruption (Polity = -66), interregnum (Polity = -77), transition (Polity = -88).

b. 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, ascription and/or designation, and competitive election) or XRCOMP =3 (election), and zero otherwise, and Polity 2 score.

c. 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.
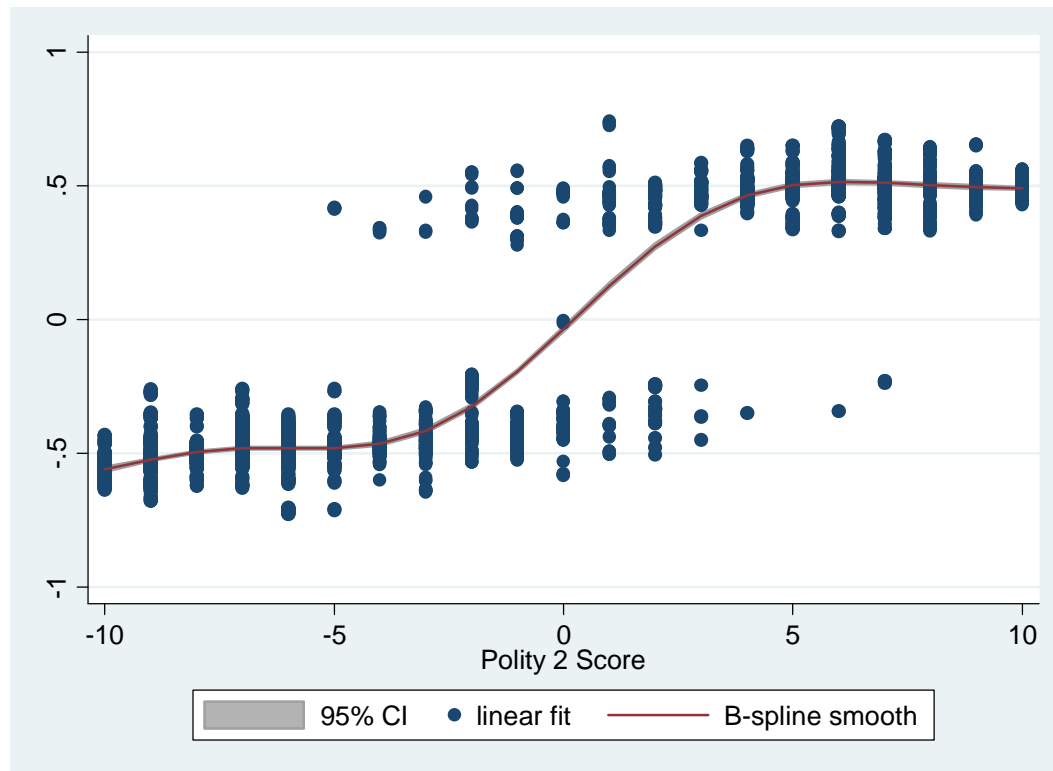
Figure 3: Weak Democracies fare as well as consolidated democracies in terms of Competitiveness of Executive Recruitment (Polity dimension XRCOMP –dashed line). Much less in terms of limitations on the Constraints on Chief Executive (XCONST – solid line).

Notes:

a. Sample starts in 1945 and excludes periods of interruption (Polity = -66), interregnum (Polity = -77), transition (Polity = -88).

b. 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, ascription and/or designation, and competitive election) or XRCOMP =3 (election), and zero otherwise, and Polity 2 score.

c. Solid line = Nonparametric representation by local polynomial 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.

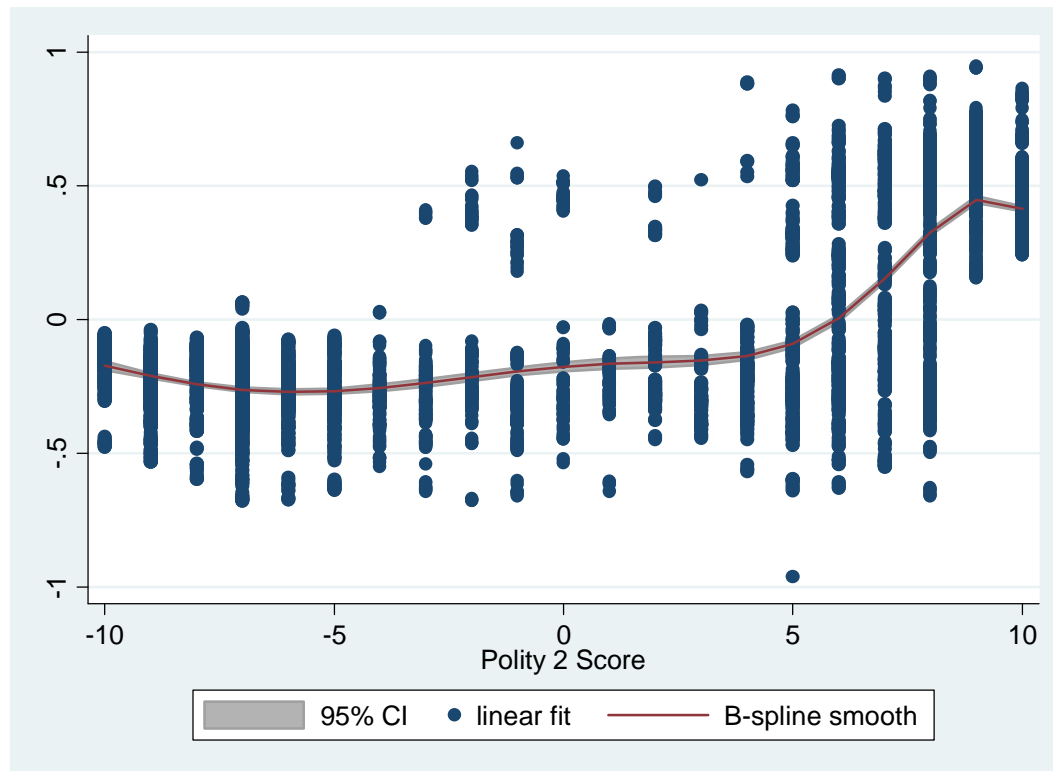**Figure 4: Competitiveness of executive recruitment emerges at Polity 2 levels around 0.**

Notes:

a. Sample starts in 1945 and excludes periods of interruption (Polity = -66), interregnum (Polity = -77), transition (Polity = -88).

b. 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].

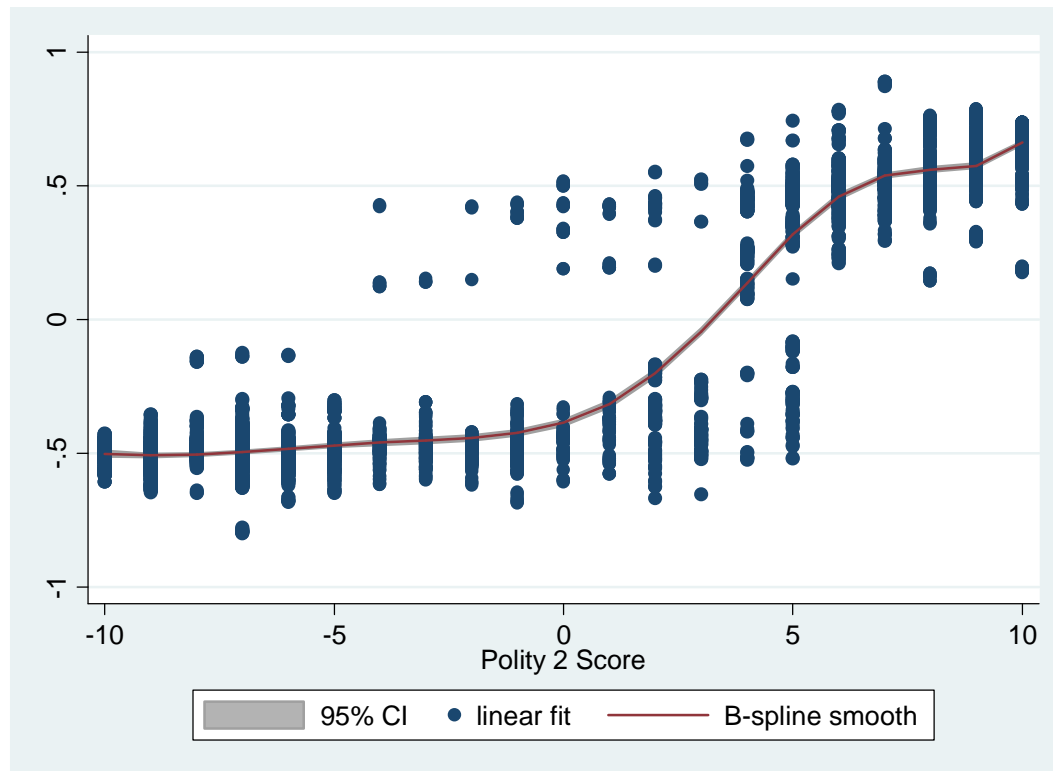**Figure 5: Political inclusiveness emerges at Polity 2 levels around 8.**

Notes:

a. Sample starts in 1945 and excludes periods of interruption (Polity = -66), interregnum (Polity = -77), transition (Polity = -88).

b. 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 6: Constraints on chief executive emerge at Polity 2 levels around 4.

Notes:

a. Sample starts in 1945 and excludes periods of interruption (Polity = -66), interregnum (Polity = -77), transition (Polity = -88).

b. 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].
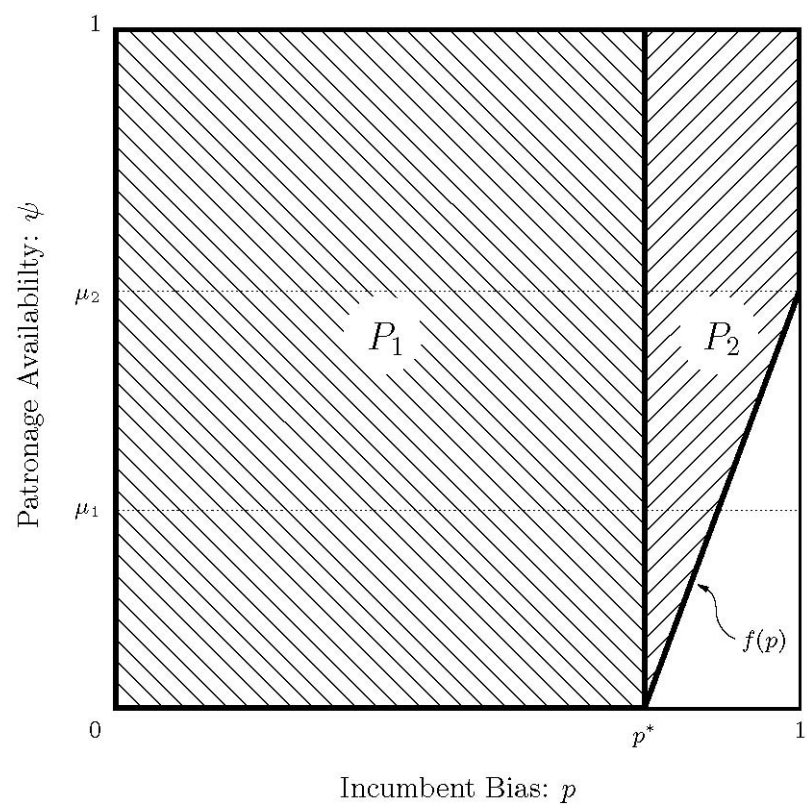
Figure 7: Peaceful Power Transfers.

Figure 8: Self-Enforcing Democracy.