To Democratize or not to Democratize? The Sufficient Condition for Democratization

Apolte, Thomas

University of Münster, Center for Interdisciplinary Economics

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The Sufficient Condition for Democratization

Thomas Apolte*
University of Münster
Center for Interdisciplinary Economics
Scharnhorststrasse 100
48151 Münster
Germany
Apolte@uni-muenster.de

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Abstract According to a number of democratization hypotheses, the (old) elite of a so far non-democratic regime can have incentives to democratize voluntarily. We add to this literature the hypothesis that an old elite refrains from democratizing unless it can rely on the newly established democratic constitution to be self-enforcing. We develop a model that identifies a number of politico-institutional traits which are decisive for a future democracy to be self-enforcing and which, in turn, represent the preconditions for an old elite to democratize. Given considerable path dependencies in the evolution of politico-institutional structures, some of the new democracies' politico-institutional traits are inevitably inherited from their respective pre-democratic history. If, in this light, the shift of an inherited politico-institutional structure to a self-enforcing democracy is too large, the old elite refrains from democratizing in the first place. This explains why many countries' old elites voluntarily democratized while others did not.

Keywords Democratization; Political Elite; Self-enforcing Democracy.

JEL Classification D72; D74; O1; P48

1 Introduction

What are the conditions under which democracies evolve and flourish? Why didn't we see much of democracy around the globe since the end of the ancient Greek democracies and up until the end of the 18th century, but have been witnessing waves of democratization since then? Why did modern democracy flourish mainly in the Western world? Why do so many political and economic elites still fiercely resist democratization? The recent literature around these and many related questions is vast.

Numerous hypotheses try to explain why modern democracy evolved and prospered in the Western industrialized countries (Tilly 2000; Ziblatt 2006; Kiser and Barzel 1991). Surprisingly, perhaps, many if not most cases of democratization did not follow revolutions, let alone mass revolutions. Moreover, most democratization processes evolved in sequences in which the franchise was gradually extended until it finally encompassed the entire adult population (Huntington 1993). Even where the old political and economic elites were pressed by powerful groups to go further in extending the franchise, it could, at least in principle, almost always choose among the options to either strike down the public quests violently or to concede more democratic rules to the public (Apolte 2022b).

In the Western world, many of the old elites followed the latter path while in many other cases around the world, it followed the former. As of the Western world, Iversen and Soskice (2019) distinguish—mostly anglo-saxonian—liberal economies from—mainly continental European—corporatist economies and argue that the elites in the former had incentives to pursue democrati-

zation on their own while they were forced into democratization by powerful unions and other groups in the latter. In any case, they either introduced democratic rule on their own, or they abstained from striking down quests for democratization violently and, instead, conceded reforms to the public. In both cases, this calls for an explanation.

In the approaches by Acemoglu and Robinson (2000, 2006) and Boix (2003) and Boix and Stokes (2003), the elite promises wealth redistribution in light of potential public unrest and revolutions and uses the introduction of democratic institutions as a device for committing themselves to their redistribution promise (see also Aidt and Franck 2015; Ellis and Fender 2009, 2010; Cervellati, Fortunato, and Sunde 2014).

In another group of democratization hypotheses, democratic institutions enhance the credibility of an array of policy measures (Tullock 1987, chap. 4; North and Weingast 1989, 1998; Rogowski 1998; Coll 2008; Congleton 2010; Fleck and Hanssen 2006; Ober 2008, 2015; Bourguignon and Verdier 2000). For example, they improve the credibility of promises to repay sovereign debt, to abstain from confiscatory taxes, to respect private property rights as well as human rights, and the like. The rise in credibility in these and other different respects enhances the governments' capability to raise funds, finance public expenditure, assist the poor, and advance the public infrastructure. This, in turn, vastly raises productivity and, hence, improves not only the wealth of the lower-income classes but that of the old political and economic elite as well. According to this groups of hypotheses, this is a powerful motivator for the elites to pursue or, at least, to accept democratization.

Both groups of hypotheses have an important overarching aspect in common, namely that the old elites aim to exploit the democratic politico-institutional structures' capability to solve potential time-inconsistency issues of public policy (*credibility aspect*). At the same time, both hypotheses do not address the aspect that the old elite may finally loose its wealth or, at least, its wealth position following democratization, either by way of majority voting (Meltzer and Richard 1981; Borge and Rattsø 2004; Bredemeier 2014), or in the course of an autocratic relapse (*confiscation aspect*; Przeworski 1991; Fearon 2011; Weingast 1997; Apolte 2022b).

While the credibility aspect can be a powerful motivator for pursuing, or at least conceding, democratization, the confiscation aspect is an important motivator to resist it. Hence, in this paper, we maintain that, for democracy to be accepted by the old elite, its politico-institutional structure needs to function as a two-way commitment device: First, following the credibility effect, it needs to commit the old elite to its promises. In our framework, this constitutes the necessary condition for the political and economic elite to pursue or to concede democratization. Second, following the confiscation aspect, it needs to commit any new political elite to abstain from confiscating the wealth as well as the rights and the life of the members of the old elite following democratization. In our framework, this constitutes the sufficient condition for the political and economic elite to pursue or to concede democratization.

Hence, our central hypothesis can be summarized as follows: The ruling elite of an autocracy will abstain from actively pursuing democratization,

and it will forcefully resist any quests for it, unless it expects the future politico-institutional structure to be self-enforcing in the sense that it credibly commits its political elite to the democratic rules of the game. However, the complex politico-institutional structure of a self-enforcing democracy can hardly be created out of thin air. What is more, whether or not this is achievable at all critically depends on the respective country's history. This explains why some some countries democratized while others did not.

Since almost all Western countries had developed rather decentralized power-sharing structures within their respective old elites well before they democratized, this promised self-enforcing rules of a future democratic constitution, which facilitated democratizing social contracts between the old elite, the new political elites and the general public that were capable of committing them all to their respective promises. This is why the old elites in the Western world dared to give way to democratization in light of the potential confiscation threat, while others chose to suppress any requests for democratization.

Our paper is closely related to the vast literature around explanations of democratization (Rogowski 1998; Bourguignon and Verdier 2000; Lizzeri and Persico 2004; Tilly 2000; Ziblatt 2006; Teorell 2010; Geddes 2011; Ellis and Fender 2009, 2010; Stasavage 2003), and that around the role of democracy and power-sharing structures as commitment devices of the old elite (North and Weingast 1989; Root 1989; Congleton 2010; Coll 2008; Stasavage 2016, 2020; Acemoglu and Robinson 2001; Acemoglu et al. 2008; Aidt and Franck 2015; Cervellati, Fortunato, and Sunde 2014). Also, it is closely related to

the literature on self-enforcing democracy (Przeworski 1991, 2006; Weingast 1997, 2005; Mittal and Weingast 2011; Fearon 2011; Traversa 2015; Apolte 2022a).

The remainder of the paper is organized as follows. In section 2, we present a limited version of our model, which illustrates that inherited decentralized internal power structures raise the probability of a future democratic constitution to be self-enforcing which, in turn, enhances, the old elite's willingness to accept democratization. In section 3, we generalize our model so as to carve out potentially path-dependent politico-institutional traits which tend to make a democratic constitution resilient against autocratic relapses. On this basis, we discuss, in section 4, the issue of path-dependent pre-democratic politico-institutional traits, how they affect the probability of a future democratic constitution to be self-enforcing, and how this feeds back to the willingness of an old elite to accept democratization. In section 5, we conclude.

2 A Basic Model

Consider a country that consists of an "old elite" E plus a general population of size L, where L and E are disjunct. One can conceive of the history of the old elite as some symbiotic co-evolution of political power and the accumulation of economic wealth. To fix ideas, we define a capital stock of size unity which is the source of all wealth and income above subsistence level. In the initial autocratic state of our model, the old elite holds both the entire capital stock and all important political positions. Within the realm

of our framework, all members of the old elite have perfectly aligned interests and do not face any collective-action problems whatsoever. Hence, we can treat the old elite like a single actor.

We normalize the yield rate ρ_0 of the capital stock to unity, so that the capital income of the old elite under the initial autocratic rule is also unity. For one of the reasons discussed above, pursuing or conceding democratization raises the credibility of domestic politics, which feeds back into the present value of the capital stock. In particular, credibility of domestic politics may allow for more efficient market allocation, a better public infrastructure, and higher innovation rates (North and Weingast 1989; Stasavage 2020), but also to political stability, secure property rights, and peaceful mechanism of conflict resolution (Acemoglu and Robinson 2001, 2006). We capture the associated rise in the present value of the capital stock by a rise in its yield rate to $\rho \in [1, \infty)$.

Hence, on the one hand, democratization is capable of tentatively raising the old elite's wealth. On the other hand, though, democratization forces the old elite to surrender some share $s \in [0, 1)$ of the capital stock to the general population on a per-capita basis, where s is, by assumption, not under the control of the old elite.

Upon democratization, a new political elite G (henceforth: government) is drawn from the general population by way of an initial election.[1] In the basic model, the government consists of representatives G_i with $i \in \{0, 1, 2\}$. In

1. We restrict the set from which the G is drawn to the general population for mere technical reasons and without loss in generality.

particular, G_0 is the government leader and G_1 and G_2 are representatives of further government branches, e.g. the winning coalition of the parliament on the one hand and representatives of high-ranking courts on the other. For the moment, we assume the two representatives G_1 and G_2 of the government to be decisive for the respective group they represent. Hence, we can treat the branches like individuals. We will relax this simplifying assumption in our generalized model further below.

Democratization comes as a social contract between the old elite and the general public, comprising the following mutual obligations: (1) The old elite irrevocably surrenders political power in favor of a new government to be appointed; it also surrenders a share s of its productive assets to the general population. (2) The general population, including the future government, respects the democratic rules as well as the property rights on the remaining share $1 - s$ of the old elite's assets.

The initial election unavoidably endows the new government with coercive power which its representatives might be able to abuse. Two collective results of the individual choices are possible: Either the government representatives coordinate on adhering to the obligations from the social contract; or they coordinate on abusing the newly obtained political power and on disrespecting the rules of democracy. In the latter case, there will be a full-fledged relapse into autocracy under the rule of the new government, which seizes the entire capital stock from the old elite as well as from the rest of the general population.

In our basic model, coordination on a relapse into autocracy requires all

representatives G_i of the new elite to opt for breaking the democratic rules. In all other cases, democracy sustains. The structure of the game and all payoffs are common knowledge. The time line is as follows:

1. The old elite E decides to democratize ($s_E = dem$) or not ($s_E = aut$). If $s_E = aut$, the initial elitist autocracy prevails, all players receive the payoff of the initial state, and the game ends.

2. Following a choice of $s_E = dem$ to democratize, the new government leader G_0 decides to either acknowledge ($s_0 = a_0$) or to break ($s_0 = d_0$) the democratic rules.

3. The representatives $G_{1,2}$ of the two other government branches decide to either acknowledge ($s_{1,2} = a_{1,2}$) or to break ($s_{1,2} = d_{1,2}$) the democratic rules. In two cases to be introduced below, they will do so either simultaneously with, or subsequently to, the government leader.

4. The game ends either in a sustained democracy or in an autocratic relapse, and the respective payoffs are realized.

In the initial state, and in the case that this state prevails, the old elite has payoff unity which reflects capital income. All other members of the population have payoff zero, which reflects a life on the subsistence level. In the case of sustained democracy, the old elite has payoff $(1 - s)\rho$, and each member of the general public, including each representative G_i of the government, has $\frac{s\rho}{L}$. For those representatives that violate the democratic rules in an environment of sustained democracy, the payoff is $\pi\frac{s\rho}{L}$, with $\pi \in [0, 1)$ in the generalized model and $\pi = 0$ in the basic model of this section.

Hence, π reflects some rate of "punishment discount" for extra-constitutional activity in an environment of sustained democratic rule.[2] By contrast, in the case of an autocratic relapse, the payoff of the old elite is zero because of the loss of all its assets. Moreover, the additional credibility of politics due to democratic rule will be gone, so that the yield rate of the capital stock returns to $\rho_0 = 1$, and the total capital income returns to its initial unity value. Regarding its individual representatives G_i, the capital income will be $x \in [\frac{1}{3}, \frac{1}{2}]$ for $G_{1,2}$ and $1 - 2x$ for the government leader G_0.

Given the unity payoff for the old elite in the case of sustained autocratic rule and the payoff $(1 - s)\rho$ under sustained democracy, a necessary condition for the old elite to pursue or at least to concede democratization is:

$$\rho \geq \frac{1}{1 - s}. \tag{1}$$

However, this condition to hold is necessary but not sufficient for a choice $s_E = dem$ of the old elite, as long as there is a non-zero probability of autocratic relapse. This is the point where we consider path dependency. In particular, whether or not the representatives of the government coordinate on breaking the democratic rule depends, *inter alia*, on historically grown institutional traits of the initial autocracy, part of which we assume to carry over to the formal or informal politico-institutional structure under democracy. For that matter, we distinguish two cases, namely *equal ranking* and *subordination*.

2. To the extent that $\pi < 1$, the punishment discount "destroys" the payoff $\frac{s\rho}{L}$, so that the lost payoff $(1 - \pi)\frac{s\rho}{L}$ is not available for being distributed to any other individuals.

2.1 Equal Ranking

In the equal-ranking case, all representatives G_i of the three government branches choose simultaneously among $s_i \in \{a_i, d_i\}$ upon having observed $s_E = dem$. Also, in the case of an autocratic relapse, capital income will be equally shared, so that $x = \frac{1}{3}$. There will be an autocratic relapse if and only if all three representatives G_i choose d_i. Short of that, democracy prevails. Table 1 gives the payoffs of all players.

Table 1: Payoffs in Equal-Ranking Case

regime	Elite	$U_i(s_i = a_i)$	$U_i(s_i = d_i)$
initial state	1	–	–
sustained democracy	$(1-s)\rho$	$\frac{s\rho}{L}$	$\pi\frac{s\rho}{L} = 0$
autocratic relapse	0	–	$\frac{1}{3}$

We first look at the subgame among the government representatives G_i following a choice $s_E = dem$ by the old elite. For all $\frac{s\rho}{L} \geq \frac{1}{3}$, there is a unique Nash equilibrium $s_i = a_i \ \forall i$ in this subgame. By contrast, any $\frac{s\rho}{L} < \frac{1}{3}$ is associated with two equilibria $a_i \ \forall i$ and $d_i \ \forall i$, where the latter is payoff dominant. On the one hand, having implemented democratic rule implies that $a_i \ \forall i$ is the initially established equilibrium. On the other hand, there will at least be some communication among the government officials, which might enable them to mutually signal some tentative willingness to switch to non-constitutional action. Hence, we feel safe to follow Harsanyi and Selten (1988) in using risk dominance as our criterion for equilibrium selection, since this captures the described ambiguity to a sufficient extent.

In any case, each G_i has choice $s_i \in \{a_i, d_i\}$, upon his or her prediction of

the respective other government officials' choices. The expected payoffs $U(\cdot)$ are given by $U(a_i) = \frac{s\rho}{L}$ and $U(d_i) = Pr(d_{j\neq i)})\frac{1}{3}$. Hence, each G_i prefers d_i over a_i, if $\frac{1}{3} > \frac{s\rho}{Pr(d_{j\neq i})L}$. Since the game is symmetric, a minimum of the deviation losses requires that, for all $\frac{1}{3} > \frac{s\rho}{L}$, each representative G_i expects each other representative $G_{j\neq i}$ to choose either a_j or d_j with probability 0.5. Given the three-person game, then, the probability that both respective other representatives choose d_j is 0.5^2. As a result, the condition for each G_i to prefer d_i over a_i is $\frac{1}{3} > \frac{s\rho}{0.25L}$, or $\rho < \frac{L}{12s}$. If this condition holds, the government officials coordinate on a relapse into autocracy, following initial democratization by the old elite. By the same token, the government representatives coordinate on honoring the democratic rules, if:

$$\rho \geq \frac{L}{12s}. \tag{2}$$

Condition 2 to hold is a precondition for the newly established democracy to be self-enforcing (Apolte 2022a; Fearon 2011; Weingast 1997). At the same time, the old elite will never democratize unless this condition holds, since otherwise democratization ends in autocratic relapse and a loss of the old elite's (property) rights. Hence, condition 1 is only a necessary condition for the old elite to democratize. It becomes sufficient only in combination with condition 2. This is summarized in proposition 1.

Proposition 1. *The old elite's best choice is* $s_E^* = dem$*, if and only if* $\rho \geq \rho^* := max\{\frac{1}{1-s}, \frac{L}{12s}\}$.

Proof: see above ■

2.2 Subordination

In this case, the government representatives $G_{1,2}$ first observe the choice $s_E \in \{dem, aut\}$ of the old elite and then the government leader's choice $s_0 \in \{a_0, d_0\}$. Also, upon choosing d_0, the government leader offers a share $x \in [\frac{1}{3}, \frac{1}{2}]$ to each further government representative for the case of an autocratic relapse, and keeps the residual $1 - 2x$.

Based on their observations of s_E, s_0, and x, government representatives $G_{1,2}$ coordinate on either $s_{1,2} = a_{1,2}$ or on $s_{1,2} = d_{1,2}$. Since all variables are common knowledge, the government leader can predict the choices $s_{1,2}$ by G_1 and G_2. By the same token, the old elite can predict whether the new government as a whole coordinates on respecting or breaching the democratic rule, and then determine its optimal choice via backward induction. The payoffs are presented in Table 2.

Table 2: Payoffs in Subordination Case

regime	Elite	$U_0(a_0)$	$U_0(d_0)$	$U_{i\neq 0}(a_{i\neq 0})$	$U_{i\neq 0}(d_{i\neq 0})$
IS	1	–	–	–	–
SD	$(1-s)\rho$	$\frac{s\rho}{L}$	$\pi\frac{s\rho}{L} = 0$	$\frac{s\rho}{L}$	$\pi\frac{s\rho}{L} = 0$
AR	0	–	$1 - 2x$	–	x

IS: initial state; SD: sustained democracy; AR: autocratic relapse.

We first look at the subgame of the government officials $G_{1,2}$ for the case $s_E = dem$ and then for the two possible subsequent choices $s_0 = a_0$ and $s_0 = d_0$.

Lemma 1. *Having observed a sequence $s_E = dem$ and $s_0 = a_0$, each $G_{1,2}$ has a best response $s^*_{1,2}(dem, a_0) = a_{1,2}$. By contrast, having observed $s_E = dem$*

and $s_0 = d_0$*, each* $G_{1,2}$ *has a best response* $s^*_{1,2}(dem, d_0) = a_{1,2}$ *if and only if* $\rho \geq \frac{xL}{2s}$*, where* $i, j \in \{1, 2\}$*.*

Proof: see Appendix A ■

Lemma 1 implies the following corollary:

Corollary 1. *If* $\rho < \frac{(1-2x)L}{s}$*,* G_0 *combines a signal* $s_0 = d_0$ *with as "bribe"* $x = \frac{2}{5} > \frac{1}{3}$*.*

Proof: see Appendix B ■

Since the government leader moves first, she signals her intentions to the further government representatives $G_{1,2}$ by choosing d_0. Under conditions presented below, she combines a choice d_0 with bribing $G_{1,2}$ by way of a share of total capital income under autocracy of $x = \frac{2}{5} > \frac{1}{3}$ each, leaving only $\frac{1}{5}$ to herself.[3] Indeed, this is precisely what Russia's president Putin did when he built the second generation of oligarchs in Russia, following the first generation under Yeltsin. Most of the second-generation oligarchs stem from Putin's KGB networks which he developed in Soviet times (Belton 2020).

By backward induction, we finally have that the old elite chooses $s_E = dem$, if the necessary condition 1 holds *and* if the condition in Lemma 1 holds, that is, if the old elite expects at least one government official G_i to choose a_i, and $s_E = aut$ otherwise. This leads to proposition 2.

Proposition 2. *The old elite's best choice is* $s^*_E = dem$*, if and only if* $\rho \geq \rho := max\left\{\frac{1}{1-s}, \frac{(1-2x)L}{s}\right\}$*.*

3. For an extensive analysis of the associated credibility problems of such a bribe, see Apolte (2022a).

Proof: see Appendix B ■

Table 3 compares the sufficient conditions in propositions 1 and 2. For illustrative reasons, we impose a restriction $x = \frac{1}{3}$ in the subordination case in the upper row. In the lower row, we allow the government leader to bribe the other government representatives in line with Corollary 1 in the subordination case, which implies a rise in their capital income to $x = \frac{2}{5} > \frac{1}{3}$. Note that a higher critical yield rate ρ^* implies a lower probability of democratization.

Table 3: Sufficient Condition

	Equal Ranking	Subordination
$x = \frac{1}{3}$	$\rho^* = \frac{L}{12s}$	$\rho^* = \frac{L}{3s}$
$x = \frac{2}{5}$	$\rho^* = \frac{L}{12s}$	$\rho^* = \frac{4L}{5s}$

Look at the upper row first. Here, the difference between the cases "equal ranking" and "subordination" is only that, in the subordination case, the government leader signals her intentions to the other government representatives by her choice $s_0 \in \{a_0, d_0\}$. Compared to the equal-ranking case, this facilitates coordination among the government representatives $G_{1,2}$. As a result, the critical yield rate ρ^* is higher in the subordination case. This alone makes democratization less likely.

In the lower row, the second aspect of the subordination case is also considered, namely the scope of the government leader to bribe the other government representatives. She does so by offering them capital income $x = \frac{2}{5}$ rather than the lower $x = \frac{1}{3}$. This raises the critical yield rate further, which

makes democratization still less likely.

In any case, if the yield rate on capital ρ is below its critical value ρ^*, the sufficient condition for the old elite to democratize will be violated, even if the necessary condition (1) holds. The reason is that, whenever the sufficient condition is violated, the old elite expects a future democratic constitution to fail to commit the new government to its rules. The safe option for an old elite, then, is to continue autocratic rule right away. Our basic model demonstrates that the sufficient condition to be violated is more likely in an historically inherited case of subordination. This describes an environment where inherited government structures are highly centralized.

To be sure, in reality, there is a whole range of degrees of centralization. Also, the number of decisive government bodies may differ substantially, and these bodies face potential collective-action problems. Finally, the share of government agents that needs to coordinate on extra-constitutional action in order for an autocratic relapse to happen may differ. As a result, the old elite's expectations on the new government's commitment to democratic rule depends on a broader range of parameters. In order to account for these parameters, we generalize our model in the following section.

3 The Generalized Model

Since the equal-ranking case is a limiting case, we focus on the subordination case and generalize this case in three directions: First, we allow for any number $N \in \mathbb{N}^+$ of government representatives, and we allow for a range of

weights assigned to the government leader's decisions. Second, we allow for any critical number $N^* \in (m, N]$[4] of defecting government representatives which must be exceeded in order for the polity to relapse into autocracy. Third, we allow for a broad range of plausible payoffs.

3.1 Model Structure and Equilibria

Suppose a post-democratization government consisting of $i \in \{1, 2, ..., N\}$ representatives, as it is expected by the old elite E. As in our illustrative example, G_0 is the government leader, while $G_{i\neq 0}$ are further government representatives from the different branches of the government.

In the generalized model, the further government representatives $G_{i\neq 0}$ always observe the government leader's choice first and only then choose among their options. However, we introduce a broad range of weights of the government leader's choice in the collective choice of all government representatives, taken together, where each weight represents one particular degree of centralization.

For that matter, let $\frac{m}{N}$ be the government leader's weight in the government's collective choice, and $\frac{n}{N}$ all further government representatives' weight, taken together, with $\frac{n+m}{N} = 1$ and $n, m \in \mathbb{N}$. Then, n and m are the weighted numbers of the government representatives $G_{i\neq 0}$ on the one hand, and G_0 on the other. In the case of $m = 1$, we have $n = N - 1$. In this case, there is an equal distribution of weights over all individual government representatives,

4. We impose the restriction of a lower bound $N^* > m$ only in order to rule out the trivial case that G_0 rules alone.

including the government leader G_0, and we say that the power within the government is fully decentralized. By contrast, in the case of $m = N$, we have $n = 0$. In this case, there is the most unequal distribution of weights in favor of the government leader, and we say that the power within the government is fully centralized. We can directly capture the degree of centralization within the government by $r := \frac{m}{N} \in [\frac{1}{N}, 1]$, as it is expected for the post-democratization period, where rising values of r indicate higher expected degrees of centralization.

Let n' and m' with $N' := n' + m'$ be the weighted number of government representatives that choose d_i, that is to violate the rules of the democratic constitution. The condition for the political regime to relapse into autocracy is $N' > N^*$, where N^* is the "critical number" of government representatives.

In order to nest path dependency into our model, we describe the initial politico-institutional structure by a tuple $\{r_0, N_0\}$, which represents the pre-democratization degree of centralization along with the pre-democratization number of government representatives. The old elite expects this structure to change, when a new democratic constitution is implemented. However, due to path dependency, this change is limited to a certain level, which we indicate by a unique "transition parameter" $\lambda \in [1, \infty)$,[5] such that:

$$\lambda = \frac{r_0}{r} = \frac{N}{N_0}. \tag{3}$$

5. In particular, we may define $N = \lambda N_0 + \epsilon$ and $r = \frac{r_0}{\lambda} + \mu$, where ϵ and μ are error terms with expected values $E(\epsilon) = E(\mu) = 0$ as well as variance υ_N and υ_r.

As a result, the old elite's observation of the pre-democratization politico-institutional structure $\{r_0, N_0\}$, along with the expected transition parameter λ, determines the old elite's expectation regarding the post-democratization politico-institutional structure $\{r, N\}$. We assume risk neutrality of the old elite. The time line of the game is as follows:

1. The old elite E decides to democratize ($s_E = dem$) or not ($s_E = aut$). If $s_E = aut$, all players receive the payoff of the initial state, and the game ends.

2. Following a choice $s_E = dem$ by the old elite to democratize, the new government leader G_0 decides to either acknowledge ($s_0 = a_0$) or to break ($s_0 = d_0$) the democratic rules.

3. Having observed $s_E = dem$ and $s_0 \in \{a_0, d_0\}$, the further government representatives $G_{i\neq 0}$ decide to either acknowledge ($s_{i\neq 0} = a_{i\neq 0}$) or to break ($s_{i\neq 0} = d_{i\neq 0}$) the democratic rules. If $N' \leq N^*$, the game ends in a sustained democracy. By contrast, if $N' > N^*$, the game ends in an autocratic relapse. The respective payoffs are realized.

All payoffs are given in Table 4.

Table 4: Payoffs in the Generalized Model

reg.	elite	$U_0(a_0)$	$U_0(d_0)$	$U_{i\neq 0}(a_{i\neq 0})$	$U_{i\neq 0}(d_{i\neq 0})$
IS	1	–	–	–	–
SD	$(1-s)\rho$	$\frac{s\rho}{L}$	$\pi\frac{s\rho}{L}$	$\frac{s\rho}{L}$	$\pi\frac{s\rho}{L}$
AR	0	$\delta[1-(N-1)x]$	$1-(N-1)x$	δx	x

IS: initial state; SD: sustained democracy; AR: autocratic relapse.

In the case of sustained democracy, all payoffs are the same as in the basic

model, with the exception that π is not restricted to a value of zero. In the case of autocratic relapse, the payoffs are the same as in the basic model with two exceptions: The first is that $U_0(d_0) = 1 - (N-1)x$ rather than $1 - 2x$, simply because we allow for any $N \geq 3$ in the generalized model. The second is a "penalty discount" $\delta \in [0, 1)$ similar to π. It applies to government representatives $G_{i\neq 0}$ that remain loyal to the democratic rules in an environment of autocratic relapse. Both δ and π are indications of the loss a government representative would incur from having ended up on the "wrong" side, that is, from having supported democracy, when finally there was an autocratic relapse, or from having supported an autocratic relapse, when democracy turned out to be sustainable. Technically, in the subgame among the further government representatives $G_{i\neq 0}$, $(1-\delta)x$ is the deviation loss associated with an equilibrium d_i $\forall i$, and $(1-\pi)\frac{s\rho}{L}$ is the deviation loss associated with an equilibrium a_i $\forall$ $i \neq 0$.

Let $n^* = N^* - m'$ be the critical weighted number of further government representatives $G_{i\neq 0}$ that must be exceeded for an autocratic relapse for any given m'. Since $m' \in \{0, m\}$, and $m = rN$ by definition, we have:

$$n^* = \begin{cases} N^* & for \;\; s_0 = a_0; \\ N^* - rN & for \;\; s_0 = d_0. \end{cases} \tag{4}$$

Like in the illustrative example, all variables as well as the structure of the game are common knowledge. Also, we once again solve by backward induction. In the final move of the game, the further government officials $G_{i\neq 0}$

choose among $a_{i\neq 0}$ and $d_{i\neq 0}$. Anticipating this choice, the government leader G_0 chooses among a_0 and d_0. Finally, the old elite E anticipates the choices by all government representatives and chooses among $s_E \in \{dem, aut\}$.

In the final subgame among the further government representatives $G_{i\neq 0}$, we have a unique equilibrium $a_i \ \forall i \neq 0$ in the case $x \leq \delta\frac{s\rho}{L}$, but two equilibria $a_i \ \forall i \neq 0$ and $d_i \ \forall i \neq 0$ in the case $x > \delta\frac{s\rho}{L}$. In the latter case, the subgame equilibrium $d_i \ \forall i \neq 0$ is payoff dominant. Finally, for the same reasons as in the illustrative example, we assume that the government officials coordinate on the risk-dominant equilibrium. This leads to proposition 3.

Proposition 3. *The old elite's best choice is $s_E^* = dem$, if and only if* $\rho \geq \rho^* := max\left\{\frac{1}{1-s}, \frac{Pr(n'>N^*-r_0N_0)}{1-Pr(n'>N^*-r_0N_0)}\frac{(1-\delta)L}{(\lambda N_0-1)(1-\pi)s}\right\}$.

Proof: see Appendix C ■

Again, the first term in parenthesis represents the necessary, and the second term the sufficient condition for a choice $s_E = dem$ by the old elite. The probability $Pr(n' > N^* - r_0N_0)$ can be determined by the following cumulative binomial distribution:

$$Pr(n' > N^* - r_0N_0) = \sum_{n'=N^*-r_0N_0}^{\lambda N_0-1} \frac{(\lambda N_0 - 1)!\ 0.5^{\lambda N_0-1-n'}}{(\lambda N_0 - 1 - n')!\ n'!}. \tag{5}$$

Since the accumulation of all probabilities $Pr(n')$ proceeds over a range from $N^* - r_0N_0$ to $N_0 - 1$, higher values of r_0 and, thus, lower values of $N^* - r_0N_0$ broaden the range over which $Pr(n' > N^* - r_0N_0)$ is accumulated. Hence, rising values of r_0 raise the cumulated probability $Pr(n' > N^* - r_0N_0)$. By defining $P(r_0) = Pr(n' > N^* - r_0N_0)$, we can write the sufficient condition

in proposition 3 as:

$$\rho \geq \frac{P(r_0)}{1-P(r_0)} \frac{(1-\delta)L}{(\lambda N_0 - 1)(1-\pi)s}, \;\; with: P'(r_0) > 0. \tag{6}$$

4 Discussion

The question for the old elite of an ancient autocratic regime that wants to democratize in principle is this: Against the background of the historically inherited politico-institutional structures, could democratic rule be introduced in a way as to make it sustainable? Technically, the latter implies the condition $\rho \geq \rho^*$ in proposition 3 to hold, following democratization. If it does, the old elite dares to democratize, conditional on its willingness to do so in principle.

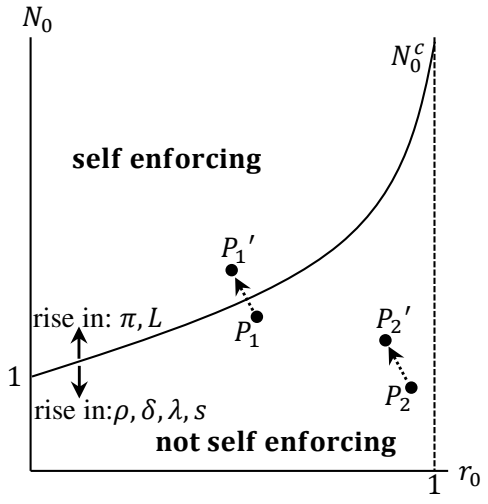
Define a "critical size" N_0^c of the government as the number N_0 that equalizes the right-hand side and the left-hand side of condition 6. The critical size N_0^c represents a "threshold condition" above (below) which democracy will (not) be self-enforcing. For reasons of illustrative simplicity, we define $P(r_0) = r_0$. Then, solving for N_0^c yields:

$$N_0^c = \frac{r_0(1-\delta)L}{(\lambda - r_0)(1-\pi)\rho s} + 1. \tag{7}$$

Line N_0^c in Figure 1 depicts the threshold condition 7 in a $N_0 - r_0$-space. Consider now the points P_1 and P_2. Each point represents one particular pre-democratization politico-institutional structure, as described by the tuples

$\{r_0^1, N_0^1\}$ and $\{r_0^2, N_0^2\}$. Given the "transition parameter" λ from definition 3, the old elite expects these structures to change to $\{r^1, N^1\}$ and $\{r^2, N^2\}$ in the course of democratization, as represented by the points P_1' and P_2' in Figure 1, respectively.

Figure 1: To Democratize or not to Democratize?



Since point P_1' lies in the region of self-enforcing democracy, while point P_2' does not, it can immediately be seen that the old elite expects a future democracy to sustain, if democratization starts in P_1, but not so, if it starts in P_2. As a result, irrespective of whether condition 1 for democratization holds or not, an old elite will resist democratization if it is situated in a pre-democratization politico-institutional structure as described by the tuple $\{r_0^2, N_0^2\}$, along with point P_2 in Figure 1. By contrast, given the necessary condition holds, the old elite will either actively pursue democratization or passively concede democratization, if it is situated in a pre-democratization politico-institutional structure as described by the tuple $\{r_0^1, N_0^1\}$, along with

point P_1 in Figure 1.

There is more to be learned from our model in terms of empirical observations that are supportive or not to democratization. From the threshold condition 7, we can isolate shift parameters of the threshold line $N_0^c(\rho, \pi, \delta, \lambda, L, s)$ where $N_0^{c'}(\pi, L) > 0$ and $N_0^{c'}(\rho, \delta, \lambda, s) < 0$. Hence, rises in π and L shift the threshold line N_0^c upwards, while rises in ρ, δ, λ, and s shift it downwards. This is also indicated in Figure 1.

It is straightforward that the "punishment discount" π for government representatives that violate democratic rules in an environment of sustainable democracy shifts the threshold line upwards. High levels of π indicate a lax punishment for extra-constitutional behavior. This enlarges the region below the threshold line which, in turn, makes a politico-institutional structure $\{N, r\}$ less likely to lie in the region of self-enforcing democracy for any initially given structure $\{r_0, N_0\}$. In a likewise manner, high levels of δ indicate a lax punishment for those that resist anti-democratic behavior in an environment of autocratic relapse. This enlarges the region above the threshold line which, in turn, makes any given point in the $N_0 - r_0$-space more likely to lie in the region of self-enforcing democracy.

In a polity described by low levels of corruption, we should expect π to be low and δ to be high, which would strongly support compliance with constitutional rules. Hence, our model suggests an empirical picture in which democratic rules tend to be self enforcing in an environment of low levels of corruption.

The roles of the size L of the general population and the share s of wealth to be distributed away from the old elite is not that straightforward. If L is large, then the capital income $\frac{s\rho}{L}$ of each member of the government under sustained democracy will be relatively low. Redistributing wealth will hence tend to dilute its per-capita value, which makes it relatively attractive to seize all the wealth by way of an autocratic relapse. However, this result should be taken cautiously, since the role of L reacts quite sensitive to even minor variations in the model structure. For our purposes, it is not very important anyway. This applies to the share s of redistributed wealth as well. Formally, a rise in s leaves a higher wealth for each government representative under sustained democracy, which makes an autocratic relapse less attractive. However, lower shares s tend to violate the necessary condition 1 of democratization, since it leaves less wealth to the old elite. But as long as the necessary condition 1 still holds, rises in s make democracy more likely to be self-enforcing and, hence, more likely to be introduced.

Higher values of the transition parameter λ shift the N_0^c-line downward, which makes a post-democratization politico-institutional structure $\{r, N\}$ more likely to lie in the region of self-enforcing democracy for any initial structure $\{r_0, N_0\}$. Hence, rising transition-parameter values λ make the sufficient condition for democratization more likely to hold. This effect is straightforward, since λ indicates the scope for politico-institutional reform associated with an introduction of democracy. If this scope is low in an initially highly centralized politico-institutional structure, then democratization is likely to fail which, in turn, makes the old elite reluctant to democratize

in the first place. Since it is not the aim of this paper to explain the scope of politico-institutional reform associated with democratization, we simply take this scope as given.

Finally, rising levels of the yield rate ρ enlarge the region of self-enforcing democracy as well. This has an important implication for our analysis, and it is quite robust to variations in the model structure. Moreover, a rise in ρ makes both, the necessary condition 1 and the sufficient condition 6 more likely to hold. A precondition for a modern technology-based economy to prosper is that it is embedded in a set of political, economic, and social institutions which guarantee property rights as well as other rights and which credibly bind economic agents to their respective mutual obligations. By contrast, this is not so important for economies with less complex structures and high shares of resource rents in their value added. Hence, the old elites of industry-based or even technology-based economies can expect a more pronounced rise in the yield rate ρ than those of resource-based economies.

This might explain that democracy in a polity which is embedded in a technology-based economy tends to be more sustainable, and it is indeed highly compatible with empirical observations. After all, the high-income industrial countries are virtually all established democracies. Przeworski (2005) even claims that per-capita income is the central predictor of democratic sustainability, although his theoretical explanation for this empirical regularity is different from ours and disputed (Traversa 2015). For our purposes, it also implies that old elites of countries that are more industry or technology based are more likely to either pursue democratization on their

own or at least to concede democratization.

Summing up, the main empirical implications of our model are that an old elite is more likely to either pursue or concede democratization, if:

- the pre-democratization politico-institutional structure is characterized by a large number of decisive government actors N_0;
- the degree r_0 of centralization among the government actors is low;
- the economy of the respective country is industry based or even technology based;
- the level of corruption in the polity is low.

By contrast, old elites of countries with resource-based economies and narrow governments comprising a low number of decisive government actors among which there is a hierarchical structure will tend to resist democratization and even violently strike down public quests for it.

This seems to fit into the historical picture of democratization. In virtually all sustaining democracies, democratization was preceded by a long history of government diversification and decentralization. In particular, fine-grained power-sharing structures evolved within the political and economic elites of these countries, which decentralized and diversified their governmental structures (North, Wallis, and Weingast 2009; Congleton 2010). Kiser and Barzel (1991) described the highly decentralized and diversified pre-democratic politico-institutional settings as "protodemocratic" structures. Still, the majority of the population remained excluded from political decision making until the franchise was successively broadened so as to finally

cover all adult citizens. The latter happened in most western European countries as well as in some of the English speaking former colonies, starting by the end of the 18th century (Huntington 1993).

The arguably most prominent case of protodemocratic politico-institutional decentralization is that of England. Its evolution into protodemocratic structures traces back to the time of the *Magna Carta Libertatum* (1215) and then accelerated with the *Glorious Revolution* of 1688, in the course of which many rights of the English Parliament were institutionalized. This bound the King's decision-making rights to rules which, among others, grossly improved the crown's creditworthiness by raising the time consistency of its loan-repayment promises (North and Weingast 1989; Root 1989; Stasavage 2003, 2016).

By contrast to the Western democracies, Russia and China are examples of extremely centralized politico-institutional structures during much of their respective history. Hence, from the perspective of our approach, it does not come as a surprise that China has not seen any serious attempt of democratization to date and that Russia failed both in 1917 and then again following the collapse of the Soviet Union (Stasavage 2020).

As a result, whether self-enforcing politico-institutional structures can be implemented critically depends on a country's history. If, at a certain point in time, the respective history of a country allows for self-enforcing democratic structures, the elite can gain by introducing democracy on its own, or by conceding democracy to the public. The reason in its broadest sense is that this raises the credibility of its policy. But if, at least for the time being,

a country's history did not reach at a politico-institutional structure that allows for the implementation of self-enforcing democratic rules, introducing democracy as commitment device is pointless, and the result will most probably be devastating to the old elite.

This, according to our theory, is why, in some cases, we have seen old elites introducing democratic rule or conceding it in light of public pressure while, in other cases, we have seen the old elite suppressing any public quests for democratization, and violently so, if necessary.

5 Conclusions

We have developed a model of democratization by an old political and economic elite which focuses on the elite's perception of the sustainability of future democratic rule. For that matter, we have adopted an overarching assumption in the recent democratization literature about the old elite's motivation to either democratize or, at least, to concede democratization to a public that asks for political reforms toward democracy. The assumption is that the old elite aims at using a democratic politico-institutional structure as a commitment device which enhances the time consistency of their respective policy announcements. Among these, there are promises to redistribute wealth or income to the poor in order to obviate social unrest or revolution, debt repayment promises, and various further public policy measures the credibility of which improves both the old elite's survival probability in its advanced position and the tax base.

While we acknowledge this overarching assumption, we maintain that the aim of making public policy more credible by embedding it into a democratic politico-institutional structure presupposes this structure to be sustainable and self-enforcing, which implies that all government actors face incentives to adhere to the implied rules of the democratic game.

From our model, we can derive a number of institutional traits that each affect the likelihood of a future democratic structure to be self-enforcing. The most important are the level of centralization of internal government structures, the number of independently acting government actors, the structure of the economy, and the level of corruption.

If an historically inherited politico-institutional structure is described by a high level of internal centralization, a low number of independently acting government actors, an economy based on natural resource rents, and a high level of corruption, this will at least partly carry over to some newly implemented democratic politico-institutional structure. In light of this path dependency, even far reaching revisions of the formal political constitution may not be sufficient for protecting the newly introduced democracy from an autocratic relapse. As a result, the old elite refrains from democratizing right away. What is more, it will strike down any public request for democratization, and it will arrest or even kill leading figures of democratization movements.

By contrast, if an historically inherited politico-institutional structure is described by a low level of centralization, a high number of independently acting government actors, an industry-based economy, and low levels of corruption,

these traits will again carry over to a newly established democratic politico-institutional structure, at least to some extent. On such a path, a newly introduced democracy is more likely to be self-enforcing and, thus, better protected against an autocratic relapse. As a result, the old elite dares to democratize, given that it has an incentive to do so in principle.

Against the historical background of most Western democracies, which had evolved into highly decentralized "proto-democratic" government structures well before they extended the franchise to the entire adult population, our model explains why it was these countries where modern democracy first flourished. Either, their elites dared to democratize on their own or, at least, they opted for conceding democratic reforms to the public rather than striking down those that pressed for them. They did so since they trusted in the sustainability of the newly introduced democratic systems which, after all, would guarantee the old elite's wealth and rights as well.

In this light, democratization pursued or conceded by an old elite presupposes the future democratic politico-institutional structure to provide for a two-way commitment device: one for the promises of the old-elite members themselves, and one for the members of the future political elite. The latter enhances the credibility of the new elite's promise to leave most of the wealth position, and certainly the freedom and the life of the old elite untouched. Short of that, no old elite can seriously be expected to concede democratic reforms.

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A Appendix A: Proof of Lemma 1

Regarding the subgame among $G_{1,2}$, there are two cases $s_0 = a_0$ and $s_0 = d_0$:

In **case** $s_0 = a_0$, the payoffs of government official $G_{1,2}$ are:

$$U(a_{1,2}|a_0) = \frac{s\rho}{L}; \tag{A.1}$$

$$U(d_i|a_0) = 0. \tag{A.2}$$

In **case** $s_0 = d_0$, the payoffs of government officials $G_{1,2}$ are:

$$U(a_{1,2}|d_0) = \frac{s\rho}{L}; \tag{A.3}$$

$$U(d_{1,2}|d_0) = Pr(d_{j\neq i}|d_0)x. \tag{A.4}$$

Hence, each $G_{1,2}$ has a best response $s^*_{1,2}(a_0) = a_{1,2}$. By contrast, in the case $s_0 = d_0$, each $G_{1,2}$ prefers $s_{1,2} = a_{1,2}$ over $s_{1,2} = d_{1,2}$, if:

$$\frac{s\rho}{L} \geq Pr(d_{j\neq i}|d_0)x. \tag{A.5}$$

Since the subgame between G_1 and G_2 is again symmetric, each player $G_{i\neq j}$ expects each other player G_i to choose a_i with probability $Pr(d_{j\neq i}|d_0) = 0.5$. Inserting this into condition A.5 and solving for ρ yields Lemma 1:

$$\rho \geq \frac{xL}{2s} \quad \blacksquare \tag{A.6}$$

B Appendix B: Proof of Corollary 1 and Proposition 2

The government leader G_0 has payoffs

$$U(a_0|a_{1,2}) = \frac{s\rho}{L}; \tag{A.7}$$

$$U(d_0|a_{1,2}) = 0; \tag{A.8}$$

$$U(a_0|d_{1,2}) = \frac{s\rho}{L}; \tag{A.9}$$

$$U(d_0|d_{1,2}) = 1 - 2x. \tag{A.10}$$

Hence, her best response to $s_i = a_i \ \exists i$ is $s_0^*(a_i \ \exists i) = a_0$. For $s_0(d_{1,2}) = d_0$ to be the government leader's best response to $s_{1,2} = d_{1,2,}$, it must be that $1 - 2x > \frac{s\rho}{L}$ or that $\rho < \frac{(1-2x)L}{s}$. Since, according to Lemma 1, $\rho < \frac{xL}{2s}$ is required for $G_{1,2}$ to choose $s_{1,2} = d_{1,2}$, the condition for $s_i^* = d_i \ \forall i$ is that

$$\rho < min\left\{\frac{xL}{2s}, \frac{(1-2x)L}{s}\right\}. \tag{A.11}$$

For any $x > \frac{2}{5}$, we have that $\frac{(1-2x)L}{s} < \frac{xL}{2s}$. $\frac{2}{5} \in [\frac{1}{3}, \frac{1}{2}]$ directly implies corollary 1:

If $\rho < \frac{(1-2x)L}{s}$, G_0 combines a signal $s_0 = d_0$ with "bribe" $x = \frac{1}{5} > \frac{1}{3}$ ■

Finally, we have that condition A.11 is violated, whenever:

$$\rho \geq \frac{(1-2x)L}{s}. \tag{A.12}$$

Whenever condition A.12 holds, $s^* = a_i \ \forall i$. By backward induction, this implies: The old elite's best choice is $s_E = dem$, if the necessary condition 1 and the sufficient condition A.12 hold. This implies Proposition 2:

The old elite's choice is $s_E^* = dem$ if and only if $\rho \geq max\left\{\frac{1}{1-s}, \frac{(1-2x)L}{s}\right\}$ ■

C Appendix C: Proof of Proposition 3

We solve by backward induction. Hence, we look at the choice $s_{i\neq 0} \in \{a_{i\neq 0}, d_{i\neq 0}\}$ of the further government representatives first, then at the choice $s_0 \in \{a_0, d_0\}$ of the government leader, and finally at the choice $s_E \in \{dem, aut\}$.

As of the the choice of the further government representatives $G_{i\neq 0}$, each of them observes choices $s_E = dem$ by the old elite and $s_0 \in \{a_0, d_0\}$ by the government leader. Following a sequence $\{dem; a_0\}$, we have that $x = \frac{1}{N}$, since the government leader does not offer any $x > \frac{1}{N}$. Considering equation 4, then, each $G_{i\neq 0}$ makes a choice $s_{i\neq 0} = \{a_{i\neq 0}, d_{i\neq 0}\}$. The payoffs are:

$$U(a_{i\neq 0}|d_0) = Pr(n' > n^*)\delta x + \left[1 - Pr(n' > n^*)\frac{s\rho}{L}\right], \tag{A.13}$$

$$U(d_{i\neq 0}|d_0) = Pr(n' > n^*)x + \left[1 - Pr(n' > n^*)\pi\frac{s\rho}{L}\right], \tag{A.14}$$

respectively. Each $G_{i\neq 0}$ prefers $d_{i\neq 0}$ over $a_{i\neq 0}$, if $U(d_{i\neq 0}) > U(a_{i\neq 0})$, or if:

$$x > x^* := \frac{1 - Pr(n' > n^*)}{Pr(n' > n^*)}\frac{(1-\pi)s\rho}{(1-\delta)L}. \tag{A.15}$$

Depending on the government leader's choice $s_0 = \{a_0, d_0\}$, we need to distinguish two cases $s_0 = a_0$ (Case 1) and $s_0 = d_0$ (Case 2).

Case 1

In this case, G_0 does not offer any $x > \frac{1}{N}$, so that $x = \frac{1}{N}$. Applied to condition A.15, this implies that each $G_{i\neq 0}$ chooses $s_{\{}i \neq 0 = d_{i\neq 0}$, if

$$\frac{1}{N} > \frac{1 - Pr(n' > n^*)}{Pr(n' > n^*)}\frac{(1-\pi)s\rho}{(1-\delta)L}. \tag{A.16}$$

Condition A.16 says that each $G_{i\neq 0}$ chooses $s_{\{}i \neq 0 = d_{i\neq 0}$ if and only if the equal share $\frac{1}{N}$ in autocratic capital return is sufficiently large.

Case 2

In this case, G_0 offers some $x \in [\frac{1}{N}, \frac{1}{N-1}$. Hence, condition A.15 directly applies. It can easily be seen, that Case 1 cannot be an equilibrium. For that matter, assume that condition A.15 holds but not condition A.16. Then, a choice $s_0 = d_0$ by G_0 is needed in connection with an offer $x \in [\frac{1}{N}, \frac{1}{N-1}$ in order to induce a choice $s_{i\neq 0} = d_{i\neq 0}$. By contrast, whenever condition A.16 holds, then condition A.15 holds as well. Hence, there is no need for G_0 to

choose $s_0 = d_0$, and no need for an offer $s > \frac{1}{N}$. This is Case 1. But if condition A.15 holds for all $G_{i\neq 0}$, then it holds for G_0 as well. As a result, a combination $\{a_0; d_{i\neq 0}\}$ cannot be an equilibrium, so that we can rule out Case 1.

Applied to equation 4, we always have that:

$$n^* = N^* - rN \tag{A.17}$$

.

Next, we turn to the choice of the government leader G_0. She chooses among a_0 and d_0 upon her expectation of either a subgame equilibrium $\{a_{i\neq 0}\ \forall i \neq 0\}$ or a subgame equilibrium $\{d_{i\neq 0}\ \forall i \neq 0\}$. Depending on G_0's expectations, her payoffs are:

$$U(a_0|a_{i\neq 0}) = \frac{s\rho}{L}, \tag{A.18}$$

$$U(a_0|d_{i\neq 0}) = \delta\left[1 - (N-1)x\right], \tag{A.19}$$

$$U(d_0|a_{i\neq 0}) = \pi\frac{s\rho}{L}, \tag{A.20}$$

$$U(d_0|d_{i\neq 0}) = 1 - (N-1)x. \tag{A.21}$$

According to condition $A.15$, all $G_{i\neq 0}$ choose $d_{i\neq 0}$ whenever $x > x^*$. Hence, G_0 can expect a subgame equilibrium $\{d_{i\neq 0}\ \forall i \neq 0\}$ only upon conceding some $x > x^*$ to each of the $N-1$ further government representatives $G_{i\neq 0}$. G_0 would want to induce a choice $s_{i\neq 0} = d_{i\neq 0}$ by way of setting $x > x^*$, if

$U(d_0|d_{i\neq 0}) > U(a_0|a_{i\neq 0})$, or if $1-(N-1)x^* > \frac{s\rho}{L}$. Inserting x^* from condition A.15, and using equation A.17, yields:

$$\rho < \frac{Pr(n' > N^* - rN)}{1 - Pr(n' > N^* - rN)} \frac{(1-\delta)L}{(N-1)(1-\pi)s}. \tag{A.22}$$

By the same token, the government coordinates on an equilibrium a_i $\forall i$ if:

$$\rho \geq \frac{Pr(n' > N^* - rN)}{1 - Pr(n' > N^* - rN)} \frac{(1-\delta)L}{(N-1)(1-\pi)s}. \tag{A.23}$$

In light of condition A.23 and the expectations $r = \frac{r_0}{\lambda}$ and $N = \lambda N_0$, as given in equation 3, the old elite chooses among $s_E \in \{aut, dem\}$ in the first step. We still have that condition 1 is the necessary condition for the old elite to democratize. Using backward induction, we find condition A.23 to be the sufficient condition for the old elite to democratize. Taken together, and using equation 3 this leads to proposition 3:

The old elite's best choice is $s_E^* = dem$, if and only if
$\rho \geq max\{\frac{1}{1-s}, \frac{Pr(n'>N^*-r_0N_0)}{1-Pr(n'>N^*-r_0N_0)} \frac{(1-\delta)L}{(\lambda N_0-1)(1-\pi)s}\}$ ■