# THE EMERGENCE OF POLITICAL ACCOUNTABILITY[*]

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**Abstract**

When and how do democratic institutions deliver accountable government? In addressing this broad question, we focus on the role played by *political norms* – specifically, the extent to which leaders abuse office for personal gain, and the extent to which citizens punish such transgressions. We show how qualitatively distinct political norms can coexist because of a dynamic complementarity, in which citizens' willingness to punish transgressions is raised when they expect such punishments to be used in the future. We seek to understand the emergence of accountability by analysing transitions between norms. To do so, we extend the analysis to include the possibility that, at certain times, a segment of voters are (behaviourally) intolerant of transgressions. Our mechanism highlights the role of leaders, offering an account of how their actions can instigate enduring change, within a fixed set of formal institutions, by disrupting prevailing political norms. We show how such changes do not depend on 'sun spots' to trigger coordination, and are asymmetric in effect – a series of good leaders can (and eventually will) improve norms, whereas bad leaders cannot damage them.

**Keywords**: political norms, institutional change, accountability, voting.
**JEL Codes**: D72, P16, C73

# 1 Introduction

Effective governance is not ensured by the simple presence of formal rules, such as a widely held right to vote in regular, free, and fair elections. Indeed, there exists great variation in the quality of governance across democracies. Within long established formal democracies, high levels of corruption are reported in countries such as India, Brazil, and Italy, relative to countries such as Sweden, the United States, and New Zealand. The experience of relatively new democracies in Latin America, Eastern Europe, and Africa also highlights the gap between the rules and the practice of democracy. For instance, despite post-independence African experience of elections dating back to the 1960s, it was not until 1991 in Benin that an African president peacefully stepped down following an election defeat.

In this paper we treat such differences as arising from differences in political norms. Norms are the modes of behaviour characterizing a political culture. They are the specific way in which political actors are incentivized to engage the 'grey areas' left by formal rules, such as the extent to which office can be exploited for self-enrichment, for career advancement, for the promotion of unworthy cadres, to stand above judicial review, for favoring family, as well as for manipulating the constitution or loosely interpreting it. Our model offers a formalization of political norms, allowing us to address the questions of when and how qualitatively distinct norms are possible. We use the model to explain how norms change – specifically how norms reflecting political accountability emerge – and the critical role that political leaders play in that.

Many of the relevant issues surrounding transitions between political norms are well illustrated by the experience of Benin that we refer to above. In 1991 the end of the cold war prompted Benin's autocratic president, Matthieu Kerekou, to hold an open presidential election. After losing the popular vote, Kerekou surprised most observers by ceding power to the winner, Nicephore Soglo. Kerekou recontested and won the next scheduled election in 1996. Soglo then ceded power back to Kerekou, who won another five year term in 2001.[1] At the fourth scheduled election, in 2006, Kerekou hit a constitutionally imposed age (and term) limit prohibiting him from further office. His reticence to leave was publicly known, and he informally canvassed support for changing the constitution to allow the option of another term. But, somehow, his pursuit of that option was seen as constrained by the experience of the preceding fifteen years. For instance, *The Economist* described how "democracy has implanted itself strongly in the minds of Benin's citizens", quoting one citizen as stating "now we all care about democracy very deeply".[2] Similarly, Jourde (2008) argues that the experience of the preceding fifteen years "had established a new and important political standard" and "[i]t was therefore difficult for him to oppose or dismantle the gradual institutionalization of democracy."

Kerekou vacillated over a period of months, ending with nothing more than an informal promise to step-down.[3] The uncertainty lead to domestic and international un-

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[1] Though in a markedly less clean contest.

[2] From the article "Small country, big example", The Economist, March 16th 2006.

[3] The promise was made on July 12, 2005, see http://www.irinnews.org/Report/55408/BENIN-Kerekou-says-will-retire-next-year-will-not-change-constitution-to-stay-in-power.

ease; for some reason the course of action he was to choose came to be seen as pivotal to Benin's fledgling democracy. As *The Economist* article goes on to argue: "Benin's democracy-loving people should make him stick to his word: it could be the former general's greatest legacy." Kerekou went on to make a widely lauded choice – standing down and playing no part in selection of his successor. This choice was seen to have firmed Benin's democracy, with the press declaring that "This action has planted Benin firmly in the club of democracies and also opened the voice of political rejuvenation and perhaps even the style of governance",[4] and Seely (2007) describing the outcome as "an historic turning point for Benin" in that "the democratic institutions have outlived the political generation that created them."

Episodes like this raise a number of questions. In what sense do the democratic actions of leaders accumulate, and how does this accumulation serve to solidify citizens' adherence to democratic ideals? What changes 'in the minds' of citizens that makes them 'care about democracy very deeply'? How do changes in citizens' adherence to democratic ideals gain purchase in constraining the actions of leaders - i.e. why does it become difficult for leaders 'to oppose or dismantle the gradual institutionalization of democracy'? How do the actions of leaders induce *enduring* changes in the political culture - i.e. how is it that some actions represent 'an historic turning point' and constitute a leader's 'greatest legacy'?

The theory we develop here can explain how a consolidation of democratic accountability can occur. As in the case of Benin, the theory ascribes a key, possibly momentous, role to the decisions of political leaders. The theory precisely traces a process of institutional transformation. Starting with an unaccountable or 'weak' democracy, we outline the means by which the actions of leaders impacts the beliefs of voters, eventually leading to changes in 'political norms', and the transition to accountable democracy. The theory precisely defines 'political norms', describes how they are shifted, and the role these shifts play in the consolidation of democratic accountability. We apply the theory to further examples of democratic consolidation.

Formally, we model a dynamic political game between leaders and citizens. Leaders choose whether to be accountable in office – specifically, whether or not to engage in privately profitable but socially costly transgression. Having observed this choice, citizens vote on whether to retain the leader or to replace them with a new leader. New leaders have less experience in office relative to the incumbent, and therefore are initially less effective. All else equal, this acts as a cost associated with adopting a new leader. Multiple stationary equilibria are supported in this basic set up because of a dynamic complementarity: there is a greater willingness to vote out today's transgressing leader with a higher expectation that citizens will vote out future transgressors. The reason is that future leaders will rationally refrain from transgression in response to the non-permissive attitude of citizens. This produces a relatively high continuation value associated with removing the current leader, and therefore citizens today become more willing to incur the cost of leadership change. Thus, two (stationary, pure strategy) equilibria arise - one without accountability in which citizens are permissive of transgressions and transgres-

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[4]See http://www.africatoday.com/cgi-bin/public.cgi?sub=news&action=one&cat=65&id=599

sions are common, and one with accountability in which citizens are non-permissive of transgressions and transgressions are rare. In this basic version, 'political norms' correspond to the equilibrium play of the game. We dub them *permissive norms* and *non-permissive norms* respectively.[5]

The model explains how political norms change and the role played by leaders in this process. The novel ingredient, relative to existing political agency models, is our introduction of a type of behavioral voter – agents who we describe as 'gripped'. These agents coexist with rational voters. They are people viscerally opposed to transgressing leaders, who demand transgressors be removed from office, even if removing them would lead to no improvement in political norms nor in the performance of elected leaders. For the most part, these agents are a small part of the voting population. But on rare occasions citizen disgruntlement with unaccountable leaders boils over and a large enough part of the population is seized by this (perhaps irrational) desire to throw transgressors out. We make two key assumptions regarding these gripped voters. The first is persistence - if citizens today are gripped, then it is relatively likely that citizens will remain gripped tomorrow. Despite this, the gripped state can arise very infrequently because we allow there to be an arbitrarily small probability of citizens becoming gripped tomorrow if they are not gripped today. Second, we assume that leaders are better informed about the proportion of citizens that are gripped relative to (non-gripped) citizens.

In order to see how the actions of leaders can induce a change in political norms in this setting, suppose that prevailing political norms are initially permissive. Under such norms, unaccountable leaders are not perceived to be inherently rotten, but are simply seen as opportunists getting away with what the system allows. A leader that departs from the status quo and acts accountably can only be doing so for one of two reasons. Firstly, she may be inherently idealistic, and so acts well irrespective of norms. Alternatively, she may be self-interested but she has observed a change in the public's mood – i.e., a leader who sees the rare event of a decisive majority of the population becoming 'gripped'. Observing accountable leadership, when self-interest dictates otherwise, rational voters cannot be sure which motivation is at play. They put some weight on each, so that beliefs about the population being majority 'gripped' are thus strengthened when a leader acts accountably. Each successive leader that acts accountably strengthens this conviction further still *regardless of whether the population is gripped or not*. As voters become increasingly certain that a majority will simply not tolerate unaccountable leaders, they become increasingly certain that a new replacement politician will act accountably. This optimism raises intolerance of transgressors, since deposing them for an alternative becomes relatively attractive. Necessarily, there comes a point at which each rational voter becomes *unilaterally* intolerant of unaccountable leaders, i.e., he would prefer to vote out unaccountable leaders even if he thinks no other rational voter agrees. At this point accountability has emerged and a democratic transition is achieved. Self-interested

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[5]There is considerable evidence that citizens put heavy weight on relevant norms when assessing elected officials' acts. With respect to corruption for example, if a deviant act is seen as part of the normal functioning of the political system then it is much less likely to be condemned – see survey by Bezes and Lascoumes (2005); p 779.

leaders find it in their interest to act accountably for fear of being deposed. This in turn makes voters even more optimistic about the behavior of future politicians, and their non-permissive stance is fortified.

This description of what we term a 'leadership driven' transition raises a number of questions that our formal model clarifies. We will demonstrate that though the actions of a single idealistic leader need not improve political norms alone, a long enough sequence of such leaders necessarily must – at least for a while. We show how the transitions we study occur independently of any coordination on voters' parts, and can even emerge if voters operate under heuristics that rule out any possibility of coordinated shifts in beliefs. Moreover, such a transition necessarily must occur after particular leadership sequences that we characterize fully in the paper. Though the existence of leadership driven transitions is unequivocal, their permanence need not be. Reversions back to unaccountability may happen in a sun-spot type fashion, but will not arise from the leadership driven mechanism that we identify. We show how poorly behaved leaders in an accountable democracy do not undermine democratic norms through their acts. They are removed from office, and accountability remains robust. We fully characterize a class of transition equilibria where the possibility of norm change is rationally anticipated by citizens. We return to the experience of Benin in section 3, where we offer the model's interpretation of events.

Our model fits in the standard rubric of political agency models where both moral hazard and selection operate.[6] The notion that political accountability can arise from electoral discipline appears in Barro (1973) and Ferejohn (1986), but we contrast with these and related papers in our focus on the possibility of multiple equilibria. The dynamic complementarity that lies at the heart of the model is similar to that modelled in Myerson (2006),[7] but is qualitatively distinct from the more familiar (static) complementarity arising from the coordination problem facing citizens when deciding whether to attack a regime (whereby the costly struggle is successful only if sufficiently many others participate) as stressed in Weingast (1997), Persson and Tabellini (2009), and Fearon (2011). Whilst this element is surely important, we shut it down to focus on the dynamic complementarity.

Our approach contrasts with the subset of the above contributions that seek to explain transitions between modes of equilibrium behavior in that we embed the process of change within the model, rather than relying on external factors to explain transitions. For instance, Myerson (2006) relies on a change to a federalist structure, Weingast (1997) relies on changes in a focal point, and Persson and Tabellini (2009) rely on exogenous changes in 'democratic capital'.[8] We do not wish to argue that external factors

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[6]See Fearon (1999) and Ashworth *et al.* (2010). Early contributions in the moral hazard strand of this literature were provided by Key (1966), Barro (1973), Fiorina (1981), Ferejohn (1986), Austen-Smith and Banks (1989). The citizen selection branch is most often associated with Banks and Sundaram (1993) and (1998), Alesina and Rosenthal (1995), Canes-Wrone *et al.* (2001), Ashworth (2005), Maskin and Tirole (2004) and Besley (2006).

[7]Dynamic complementarity plays a key role in Tirole (1996), which also highlights the coexistence of norms of 'good' and 'bad' behavior (but in quite a different set up), and in Chassang (2010), which addresses norms of cooperation.

[8]The empirical implementation of Persson and Tabellini (2009) use cumulative experience with democracy as

are unimportant, but rather, are interested in understanding the endogenous nature of transitions.

Our focus on endogenous political transitions shares in common with a large literature on 'democratization' an interest in factors leading to institutional improvement. In contrast, the focus there is usually on changes in formal institutions, which we keep fixed.[9] The papers closest to ours in that literature are thus those interested in democracy's 'consolidation', as these have emphasized soft features of the political system (norms, attitudes, beliefs) needing to follow upon the formal changes (elections, a constitution) for democracy to consolidate. We return to that literature after our main results.

Much is made of 'leadership' in general, and of the role of leaders in the development process in particular. The World Bank's Commission on Growth and Development identifies leadership as an important factor behind modern growth experience (Brady and Spence (2010)), and studies of political elites and democratization (e.g. Di Palma (1990), O'Donnell *et al.* (1986), Przeworski (1991) and Rustow (1970)) emphasize getting the right type of leader to usher in change, especially early in a new system. The notion that 'leaders matter' is bolstered by recent empirical evidence (identified from random leadership changes) from Jones and Olken (2009), which seems to confirm long standing views that leaders matter for the development of functional institutions. Yet, our understanding of the reasons *why* leaders matter is highly limited. In aiming to fill this void, our work is close in motivation to Acemoglu and Jackson (2011). They are similarly interested in understanding how recurrent patterns of behavior in social and political contexts like social norms can be changed by the actions of leaders. To them, leaders are agents endowed with visibility of acts, and they are part of a sequence of players through time. This visibility allows leaders to play a coordinating role that can induce a sequence of good play from immediate followers. The context of our analysis is markedly different. Leaders through time are only indirectly linked through their effects on the public's beliefs. The game is instead played between leaders and the public, more akin to a standard political agency framework. The important function of leaders early in democratic transitions in changing voter expectations is the focus of Svolik (2010). According to his theory, a sequence of bad leaders early on can precipitate a slide back to autocratic rule by leading voters to believe that generally self-serving types will come to lead in democracies.

The remainder of the paper is organized as follows. Section 2 lays out the model and results, beginning with a baseline version in which citizens are never gripped by ideals of accountability, then extending this to include such a feature. Various aspects of the model and results are discussed in Section 3, including a description of how our results illuminates informal notions of political change identified in the literature, and an illustration of our main mechanism through recent political examples. Conclusions are drawn in Section 4. All proofs are in the appendix.

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the proxy for 'democratic capital', and in this light, our mechanism provides a microfoundation for the concept since we show how democracy consolidates when an economy has sufficient experience with accountable leaders.

[9]For instance, see Acemoglu and Robinson (2000), (2001), and (2006), Persson and Tabellini (2009), Boix (2003), Fearon (2011), Przeworski *et al.* (1999), and Brender and Drazen (2009).

## 2 Model

### 2.1 Fundamentals

We consider an economy unfolding in discrete time and populated by two classes of agent: politicians and citizens. There is a large pool of politicians and a continuum of infinitely-lived citizens. Politicians are one of three privately known types: autocratic, democratic, or rational. It is common knowledge that the proportion of autocratic types is $\sigma_A > 0$, of democratic types is $\sigma_D > 0$, and of rational types is $1 - \sigma_A - \sigma_D > 0$. All agents discount the future with a discount factor of $\beta$.

One politician is in power at any given date $t \in \{0, 1, 2, ...\}$. Once a politician enters office, they decide whether to transgress ($T$) or to not transgress ($\tilde{T}$). A strategy for a politician is therefore $a \in \{T, \tilde{T}\}$.[10] Observing the action chosen by the politician, citizens decide whether or not to support the politician. A politician not receiving sufficient support from citizens is removed from office (and never returns). Otherwise, the politician returns to office the following period with probability $\delta \in (0, 1)$. Specifically, politicians need the support of at least proportion $z \in (0, 1)$ of citizens.[11]

Autocratic types always transgress and democratic types never transgress. Rational types weigh up the costs and benefits. Specifically, politicians get a payoff normalized to zero when not in power and, while in power, action $a \in \{T, \tilde{T}\}$ produces a per-period payoff of $u(a)$ where $u(T) > u(\tilde{T}) > 0$. To rule out the uninteresting case where politicians always transgress regardless of whether they are supported, we make the following assumption.

**Assumption 1.** *The benefits from transgressing are not too great relative to the effective discount factor:* $u(T)/u(\tilde{T}) < 1/(1 - \beta\delta)$.

While in office, a leader generates benefits for citizens. Naturally, such benefits are lower under transgressing leaders - specifically, we assume that the per-period benefit is reduced by $c > 0$ when the leader transgresses. We add a second dimension to this by supposing that a leader's competence is enhanced with experience in office. We model this in the simplest possible way by assuming that a leader produces an added benefit of $\alpha > 0$ once they have spent a single period in office. The fact that leader competence increases only once is purely for tractability - the substance of the assumption is that citizens do not find it worthwhile to replace a given leader if they were certain that the replacement would act in an identical fashion. In this light, $\alpha$ could also be interpreted as a fixed cost of leader turnover as in Myerson (2006).[12] This feature generates a benefit of incumbency and will prove important because it provides an incentive for voters to retain badly behaving politicians when the possible replacements are not too much better

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[10]Although we do not allow politicians to change their action during their incumbency, it will become clear that this is for simplicity and is not restrictive in the sense that politicians would never want to switch their chosen action.

[11]Since we focus on symmetric strategies, the value of $z$ will not really matter: either all citizens support or none do. The value of $z$ will matter when describing gripped citizens below.

[12]Myerson (2006) offers a number of possibilities for the underlying source of such fixed costs, such as the possibility of drawing an incompetent replacement.

in expectation. To summarize, citizens get a per-period payoff of $1 + D_I \cdot \alpha - D_T \cdot c$, where $D_I \in \{0,1\}$ is an indicator function that takes a value of 1 if and only if the politician is an incumbent (i.e. was in power in the previous period) and $D_T \in \{0,1\}$ is an indicator function that takes a value of 1 if and only if the politician transgresses.

## 2.2 Political Norms and Stationary Equilibria

It is well-known that a wide range of behavior is typically supportable as equilibria in repeated games. We focus on behavior that accords with our notion of a (political) 'norm': behavior that displays a degree of stability over time. In this section we begin with the most natural description of norm-like behavior - stationary strategies. That is, behavior in which the probability that rational politicians choose to transgress and the probability that citizens support politicians conditional on each of their two actions, is the same across time. We also focus on symmetric pure strategies. Specifically, let $p(a)$ be the probability with which citizens support a politician that takes action $a \in \{T, \tilde{T}\}$, and let $q$ be the probability with which rational politicians transgress.

For citizens, the value of retaining a transgressor, $V(T)$, satisfies

$$V(T) = 1 + \alpha - c + \beta[\delta \cdot p(T) \cdot V(T) + (1 - \delta \cdot p(T)) \cdot \bar{V}], \tag{1}$$

where $\bar{V}$ is the expected value associated with an entrant politician. That is, the flow payoff includes the benefit of incumbency (since they are an incumbent in the future) net of the transgression burden, and the continuation payoff reflects that the politician is returned to power the following period with probability $\delta \cdot p(T)$, otherwise a new politician comes to power. Similarly, the value to retaining a non-transgressor, $V(\tilde{T})$, satisfies

$$V(\tilde{T}) = 1 + \alpha + \beta[\delta \cdot p(\tilde{T}) \cdot V(\tilde{T}) + (1 - \delta \cdot p(\tilde{T})) \cdot \bar{V}]. \tag{2}$$

Letting $\rho \equiv \sigma_A + (1 - \sigma_D - \sigma_A) \cdot q$ be the probability that a randomly drawn politician will transgress, we have that the value associated with an entrant politician satisfies

$$\bar{V} = \rho \cdot V(T) + (1 - \rho) \cdot V(\tilde{T}) - \alpha. \tag{3}$$

The "$-\alpha$" term reflects the fact that the entrant will not generate the benefit of incumbency. Solving (1), (2) and (3) yields the three value functions, $\{V(T), V(\tilde{T}), \bar{V}\}$, the values of which will naturally depend on $(p(a), q)$; see section B.1 for details. A continuum of voters implies that no individual voter is ever pivotal, and that strategic considerations do not apply. Voters choices in our model are hence sincere and informed by their valuations: a citizen supports a politician that takes action $a$ if $V(a) > \bar{V}$, does not support them if $V(a) < \bar{V}$ and is indifferent otherwise. Citizens will clearly always support a non-transgressor,[13] and therefore all equilibria must have $p(\tilde{T}) = 1$. Given this, let $p \equiv p(T)$ from here on in order to simplify notation.

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[13]Subtracting $\bar{V}$ from both sides of (2) and re-arranging gives $V(\tilde{T}) - \bar{V} = (1 + \alpha - (1 - \beta) \cdot \bar{V})/(1 - \beta\delta p(\tilde{T}))$. The sign of this only depends on the numerator, and therefore on the sign of $(1 + \alpha)/(1 - \beta) - \bar{V}$. But this is positive since $(1 + \alpha)/(1 - \beta)$ is the value associated with getting a non-transgressing incumbent in every future period.

There are two possible (pure-strategy) stationary equilibria. The first displays *permissive norms*; rational politicians always transgress, and voters always support transgressors (i.e. $p = 1$ and $q = 1$). Permissive behavior on the part of voters is self-reenforcing because it encourages politicians to engage in transgressions, lowering the expected value of drawing a new politician and in turn raising the willingness of voters to support transgressors. The second possible equilibrium displays *non-permissive norms*; rational politicians never transgress, and voters never support transgressors (i.e. $p = 0$ and $q = 0$). Non-permissive behavior on the part of voters is self-reenforcing because it dissuades politicians from transgressing, raising the expected value of drawing a new politician and in turn lowering the willingness of voters to support transgressors.

**Proposition 1.** *There exists a stationary equilibrium with non-permissive norms if and only if $\frac{\alpha}{c} \cdot (1 - \beta \cdot \delta) \leq 1 - \sigma_A$. There exists a stationary equilibrium with permissive norms if and only if $\frac{\alpha}{c} \cdot (1 - \beta \cdot \delta) \geq \sigma_D$.*

The existence of an equilibrium with permissive norms requires that the equilibrium expected value of drawing a new politician be relatively low.[14] The benefit of incumbency can not be too small relative to the frequency of democratic types. If it were, voters would be willing to 'fish' in the pool of untried politicians on the hope of drawing an inherent non-transgressor. An equilibrium with non-permissive norms requires the expected value of drawing a new politician to be relatively high – the benefit of incumbency is not too large and autocratic types are not too common. If voters strongly fear going to the pool of untried politicians, electoral discipline can never constrain incumbent behavior.

Existence of a stationary equilibrium is a direct consequence of proposition 1,[15] but, more interestingly, we see that multiple stationary equilibria may exist. Since our interest lies in understanding how political norms change, we need to make some minimal assumption regarding the existence of these:

**Assumption 2.**

$$\sigma_D < \frac{\alpha}{c} \cdot (1 - \beta \cdot \delta) < 1 - \sigma_A. \tag{4}$$

Essentially, we are assuming that behavioral politicians of either type are not too frequent, so that voter/leader interaction can allow norms exhibiting both tight and loose restrictions to possibly emerge. We now modify the model by adding richer types of voters, while maintaining our focus on norm-like strategies.

## 2.3 Introducing Gripped Agents

Having established the possibility of multiple political norms, we now enrich the model in order to analyze transitions between norms. Specifically, we now suppose that some

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[14]Specifically, it must be that $V(T) \geq \bar{V}$ when $p = q = 1$. The fact that this requires that $\bar{V}$ be relatively low can be seen by deriving an expression for $V(T) - \bar{V}$ from (1) by subtracting $\bar{V}$ from both sides and re-arranging.

[15]By contradiction, non-existence would require $1 - \sigma_A < \frac{\alpha}{c} \cdot (1 - \beta \cdot \delta) < \sigma_D$, but this implies $\sigma_D + \sigma_A > 1$ which is impossible. There is also an equilibrium in stationary mixed strategies, but we ignore this because it is not stable (e.g. a slight increase in the probability of supporting a transgressor raises the payoff to supporting a transgressor) and therefore uninteresting given our focus on transitions between norms.

proportion of citizens are behavioral voters, not guided by continuation values, but instead following behavioral rules of thumb in assessing leaders. At any time, these voters follow one of two possible behavioral rules. They are either apathetic, in which case they do not care about political leaders and do not vote, or they are seized by a perhaps irrational desire to register their opposition against transgressing leaders by voting against them. If the measure of behavioral voters who are seized by a desire to vote against transgressors, $z'$, exceeds $z$, the decisive measure of voters required to depose a leader, then we shall say that the state is 'gripped'. In this state, behavioral voters are decisive, and a transgressing incumbent will always be deposed. Conversely if $z' \leq z$ we shall say that the state is 'non-gripped'. If all rational voters would prefer to retain the incumbent, he will be retained. For simplicity, we assume that the state is constant throughout a politician's incumbency; we show how this does not have a qualitative effect on our results in section 2.9. State changes follow a Markov process, whereby the state stays the same for the next politician with probability $s$. This parameter acts as our measure of *persistence* and will play an important role in what follows. With the remaining probability, $1 - s$, a new state is drawn. In this event, the gripped state is drawn with probability $\lambda$. This parameter captures how common the gripped state is.[16]

We assume that the politician in power is better informed about the state than are voters.[17] Specifically, politicians directly observe whether the state is gripped or non-gripped, whereas citizens do not. Citizens make inferences about the state based on observed outcomes.

In general, a voter's relative payoff to supporting a transgressor depends on their beliefs about the state. To describe how these beliefs are updated, consider a new politician that comes to power and let $\pi_0$ denote a voter's prior belief that the state is gripped. Once the action taken by the politician is observed, beliefs are updated to $\pi_1$. Voters use this belief to inform their vote. The result of the election is observed, and beliefs are then once again updated to $\pi_2$. Beliefs will not change again until the politician leaves power.

We begin by searching for stationary equilibria. As above, let $p$ be the probability that rational voters vote to keep a transgressor, and $q$ be the probability that a rational politician will transgress (in the non-gripped state).[18] Let $V(T \mid \pi_1)$ be the expected value to keeping a transgressor and $\bar{V}(\pi_1)$ be the expected value of drawing a new politician at beliefs $\pi_1$. These are given by

$$V(T \mid \pi_1) \equiv \pi_1 \cdot G(T) + (1 - \pi_1) \cdot \tilde{G}(T) \tag{5}$$

$$\bar{V}(\pi_1) \equiv \pi_1 \cdot E + (1 - \pi_1) \cdot \tilde{E}, \tag{6}$$

where $G(T)$ is the value of a transgressing incumbent in the gripped state, $\tilde{G}(T)$ is the

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[16]In fact, $\lambda$ is the long-run probability that a politician will operate in the gripped state. To see this, let $\pi_i$ be the probability that politician $i$ is in the gripped state. Then, $\pi_{i+1} = \pi_i \cdot s + (1 - s) \cdot \lambda$. Since the transition matrix is regular, in the long run we have $\pi_{i+1} = \pi_i = \pi^*$ so that $\pi^* = \pi^* \cdot s + (1 - s) \cdot \lambda$ or $\pi^* = \lambda$.

[17]This seems the most reasonable information assumption given the immense resource advantage and interest that politicians have in knowing the state – e.g. from focus groups, polling and party machinery. It is important for our results only that citizens are at an informational disadvantage with regards to the state vis a vis politicians, not that they are completely ignorant, nor that politicians are perfectly informed.

[18]Assumption 1 ensures that rational politicians will never transgress in the gripped state.

value of a transgressing incumbent in the non-gripped state, $E$ is the value of drawing a new politician if the current state is gripped, and $\tilde{E}$ is the value of drawing a new politician if the current state is non-gripped. As before, a voter supports a transgressor if $V(T \mid \pi_1) \geq \bar{V}(\pi_1)$.

The term $G(T)$ comprises a flow payoff incorporating the benefit of incumbency, the cost of transgression, and a continuation payoff of $E$, since a transgressor is always removed in the gripped state. Therefore:

$$G(T) = 1 + \alpha - c + \beta \cdot E. \tag{7}$$

In contrast, $\tilde{G}(T)$ directly depends on norms. The leader is supported with probability $p$, and therefore returns to power with probability $p \cdot \delta$. Thus:

$$\tilde{G}(T) = 1 + \alpha - c + \beta \cdot [p \cdot \delta \cdot \tilde{G}(T) + (1 - p \cdot \delta) \cdot \tilde{E}]. \tag{8}$$

Drawing a new politician in the gripped state, $E$, satisfies

$$E = \overline{\pi}_0 \cdot [\sigma_A \cdot G(T) + (1 - \sigma_A) \cdot G(\tilde{T})] + (1 - \overline{\pi}_0) \cdot [\rho \cdot \tilde{G}(T) + (1 - \rho) \cdot \tilde{G}(\tilde{T})] - \alpha, \tag{9}$$

where $\overline{\pi}_0 \equiv s + (1 - s) \cdot \lambda$, $\rho = \sigma_A + (1 - \sigma_A - \sigma_D) \cdot q$, $G(\tilde{T})$ is the value associated with a non-transgressing incumbent in the gripped state, and $\tilde{G}(\tilde{T})$ is the value associated with a non-transgressing incumbent in the non-gripped state; both derived explicitly below. The entrant will be in the gripped state with probability $\overline{\pi}_0$ and, in that event, only transgress if they are autocratic. With complementary probability they will be in the non-gripped state, and then transgress with probability $\rho$.

The value to having a new politician in the non-gripped state, $\tilde{E}$, is almost the same except that the entrant will be in the gripped state with a lower probability $\underline{\pi}_0 \equiv (1-s) \cdot \lambda$. So $\tilde{E}$ satisfies:

$$\tilde{E} = \underline{\pi}_0 \cdot [\sigma_A \cdot G(T) + (1 - \sigma_A) \cdot G(\tilde{T})] + (1 - \underline{\pi}_0) \cdot [\rho \cdot \tilde{G}(T) + (1 - \rho) \cdot \tilde{G}(\tilde{T})] - \alpha. \tag{10}$$

Finally, the values of $G(\tilde{T})$ and $\tilde{G}(\tilde{T})$, for analogous reasons, satisfy:

$$G(\tilde{T}) = 1 + \alpha + \beta \cdot [\delta \cdot G(\tilde{T}) + (1 - \delta) \cdot E] \tag{11}$$

$$\tilde{G}(\tilde{T}) = 1 + \alpha + \beta \cdot [\delta \cdot \tilde{G}(\tilde{T}) + (1 - \delta) \cdot \tilde{E}]. \tag{12}$$

Equations (7) to (12) form a linear system that can be solved for $\{G(T), \tilde{G}(T), G(\tilde{T}), \tilde{G}(\tilde{T}), \tilde{E}, E\}$, which will of course depend on $(p, q)$. See section B.2 for details.

## 2.4 Non-Permissive Norms

We begin by exploring how the introduction of a gripped state affects the stationary equilibrium with non-permissive norms from the basic model. Recall that under these norms, political constraints are tight: voters never support a transgressor, and rational politicians never transgress.

**Proposition 2.** *For any $\lambda > 0$, a stationary equilibrium with non-permissive norms exists.*

The existence of a permanently non-permissive norm equilibrium is unaffected by the addition of gripped actors to the basic model. This norm entails the belief that political transgressors will be punished in equilibrium, and this belief ensures voters optimally withdraw support from transgressors as part of their equilibrium strategies. The addition of gripped actors who would act the same (though in their case for purely behavioral reasons) does nothing to affect the optimality of this equilibrium behavior for the rational remainder. Rational citizens may come to be intolerant of political transgressors if they believe the populace is gripped, but it is not necessary that it continues to be gripped for them to continue to demand accountability from their leaders. This is a point to which we return in our discussion of accountability transitions later.

## 2.5 Permissive Norms

We now consider the stationary equilibrium with permissive norms. Under these norms, rational voters support transgressors and rational politicians transgress (as long as voters are not gripped). To explore the existence of this equilibrium, consider the value associated with drawing a new politician, conditional on knowing that voters are currently gripped. This value is relatively high since the gripped population disciplines politicians. The value becomes higher as persistence increases because such discipline is expected to last longer. If high enough, voters will prefer to draw a new politician over a transgressing incumbent. In general, *if there is sufficient persistence*, *then a stationary equilibrium with permissive norms requires that beliefs do not become too high on the equilibrium path*. We must therefore explore the evolution of beliefs.

### 2.5.1 Beliefs after a non-transgression

Start with permissive norms, fix some prior, $\pi_0 \in (0,1)$, and consider how beliefs are updated following a non-transgression. Voters realize that a non-transgression occurs for one of two reasons: either the state is gripped and the politician is not an autocratic type, or the state is non-gripped and the politician is a democratic type. Bayes' rule thus yields:

$$\pi_1(\tilde{T}, \pi_0) \equiv \frac{\pi_0 \cdot (1 - \sigma_A)}{\pi_0 \cdot (1 - \sigma_A) + (1 - \pi_0) \cdot \sigma_D}. \tag{13}$$

A non-transgression necessarily involves a raising of beliefs: $\pi_1(\tilde{T}, \pi_0) > \pi_0$. No further information is revealed by the leader being re-elected as this would occur under either state, so $\pi_2 = \pi_1(\tilde{T}, \pi_0)$. The prior applied to the next leader when the current one leaves, $\pi_0'$, is given by

$$f(\pi_0) \equiv s \cdot \pi_1(\tilde{T}, \pi_0) + (1 - s) \cdot \lambda. \tag{14}$$

Since $f$ is a strictly increasing and concave function with $f(0) = \underline{\pi}_0 > 0$ and $f(1) = \overline{\pi}_0 < 1$, we have that $f$ has a unique positive fixed point, $\pi_0^* \in (0,1)$ (Kennan (2001)). This fixed point is interpreted as follows. Take the lowest possible prior, $\underline{\pi}_0$,[19] and suppose that

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[19]The interpretation of the fixed point will work for an arbitrary prior, but it will prove convenient for notational reasons to fix the prior at the lowest possible level.

the following $n$ politicians in office do not transgress. Then, the prior for the $(n+1)^{\text{th}}$ politician is

$$\pi_0(n) \equiv f^n(\underline{\pi}_0), \tag{15}$$

where $f^0(\underline{\pi}_0) = \underline{\pi}_0$ and $f^n(\underline{\pi}_0) = f\left(f^{n-1}(\underline{\pi}_0)\right)$. The fixed point is the limit of this sequence: $\pi_0^* = \lim_{n\to\infty} \pi_0(n)$. Since we started with an initial belief below the fixed point, observing consecutive non-transgressors will raise beliefs to $\pi_0^*$.[20]

### 2.5.2 Beliefs after a transgression

Voters expect transgressions under permissive norms. A transgression is either due to the state being gripped and the politician being an autocratic type, or to the state being non-gripped and the politician not being a democratic type. Via Bayes' rule this implies:

$$\pi_1(T, \pi_0) \equiv \frac{\pi_0 \cdot \sigma_A}{\pi_0 \cdot \sigma_A + (1 - \pi_0) \cdot (1 - \sigma_D)}. \tag{16}$$

A transgression necessarily lowers beliefs: $\pi_1(T, \pi_0) < \pi_0$. The leader that enters after $n$ consecutive non-transgressors starts with a prior of $\pi_0(n)$ as given by (15). If they transgress, then beliefs are lowered to

$$\pi_1(n) \equiv \pi_1(T, \pi_0(n)). \tag{17}$$

It then follows that the limit of these updated beliefs, as the number of consecutive non-transgressors increases, is $\pi_1^* \equiv \pi_1(T, \pi_0^*)$.

After a transgression, electoral outcomes are fully informative. If re-elected, the state must be non-gripped so $\pi_2 = 0$ and $\pi_0' = \underline{\pi}_0$. If deposed the state must be gripped so $\pi_2 = 1$ and $\pi_0' = \bar{\pi}_0$. This prior comes from updating the highest possible posterior belief regarding the gripped state, and is therefore the highest possible prior observed in equilibrium. If a politician under this prior transgresses, updated beliefs fall to $\bar{\pi}_1 \equiv \pi_1(T, \bar{\pi}_0)$. These are the highest that beliefs can be following a transgression.

### 2.5.3 Beliefs in Equilibrium

To summarize, beliefs may become relatively high for two reasons. A transgression in the gripped state reveals the current state to be gripped, so voters' prior beliefs for the following politician jump up to $\bar{\pi}_0$, updated to $\bar{\pi}_1$ after a transgression. More interestingly, beliefs rise when successive politicians do not transgress, irrespective of the state. In this case, updated beliefs can rise to the point $\pi_1^*$. The function $f$, $\pi_1(T, \pi_0)$, the fixed point $\pi_0^*$ and the limiting beliefs $\pi_1^*$ and $\bar{\pi}_1$ are illustrated in Figure 1a.

As we have already seen, for an equilibrium with permissive norms to exist the limiting beliefs can not become too high. These limiting beliefs rise as the degree of state persistence rises. Intuitively, non-transgression raises beliefs about the current state, but the extent to which this information 'accumulates' across successive non-transgressors

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[20]Since we are interested in determining how high beliefs can become in equilibrium, it is natural to consider relatively low initial beliefs. If the initial belief were instead chose to be above $\pi_0^*$, then the Markov process dominates and beliefs fall even when observing a sequence of consecutive non-transgressors.

depends on the extent to which the states persist over time. In fact, the limiting beliefs become arbitrarily close to one as the degree of persistence increases. The effect of state persistence on $\pi_1^*$ is illustrated in Figure 1b where $s < s' < s''$.
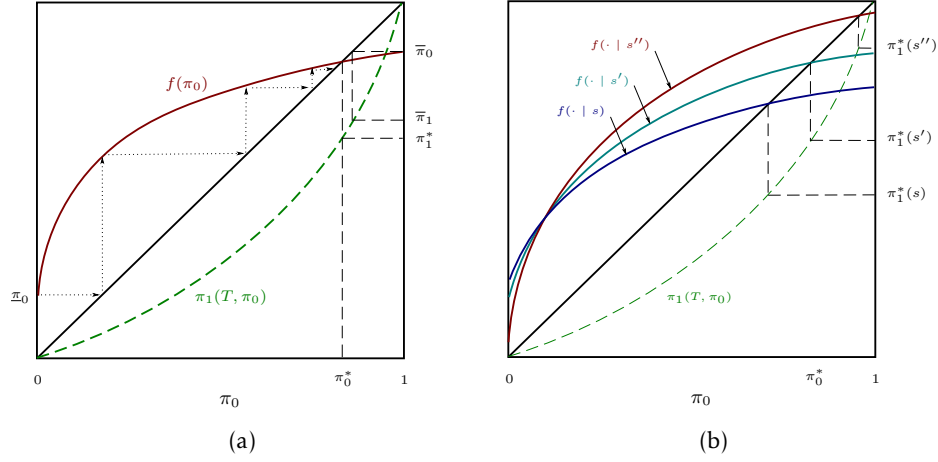


Figure 1: Belief Updating

Since permissive norms require that beliefs about the gripped state not become too high, and beliefs become arbitrarily high with sufficient state persistence we have:

**Proposition 3.** *For any $\lambda > 0$, a stationary equilibrium with permissive norms does not exist if s is sufficiently large.*

The non-existence of permissive norms arises because the actions of non-transgressing politicians raise the belief held by rational voters that other voters are gripped. With sufficient persistence, this will lead rational voters to believe that their fellow voters will remained gripped in the near future. This leads the rational voters to optimally cease supporting transgressors, because now these voters are sufficiently optimistic that a replacement politician will not transgress because of the electoral discipline imposed by a gripped population.

Note that proposition 3 holds even if the 'gripped' state is extremely unlikely, i.e., for $\lambda \to 0$. As $\lambda$ falls, the required degree of persistence must rise, but it does not go to one. Persistence is important to ensure that the temporary electoral discipline imposed by gripped agents will tend to extend relatively far into the future, and as such, rational voters find it sufficiently attractive to replace a transgressor with an entrant who is likely to be subject to this discipline.

The proposition has shown that for even an extremely unlikely-to-arise gripped state there exists a level of persistence under which Bayesian belief updating will lead beliefs to a level where permissive norms become inconsistent. The most interesting sequence of belief updating that leads to this is the one that corresponds to what we term "leadership driven", as described in section 2.5.1. An implication of the proposition is that for any level of $\lambda$ there exists a finite sequence of good leaders after which permissive norms become inconsistent. This is essentially a negative (non-existence) result and we have not yet established the (positive) converse; namely that such a sequence can also lead to

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a fully anticipated, rational, (i.e. equilibrium) transition to non-permissive norms. This is the task of section 2.7, but before doing this we establish results for an informative intermediate case.

## 2.6 Positive Implications

A stationary equilibrium captures our notion of a political norm because it describes behavior that is *persistent* whenever it is *consistent*. That is, *persistent* in the sense that it is unchanged across time, and *consistent* in the sense that all agents find it optimal to adopt the behavior, under the conjecture that others will adopt the behavior today and into the future.

To this concept of a norm, the notion of *equilibrium* adds the further requirement that behavior is always consistent during the course of play - i.e. agents never find that they want to unilaterally deviate from the behavior. It is the violation of this additional requirement that underlies Proposition 3. While that result is negative, it does shed positive light on political transitions when voters adopt 'norm-like' behavior. To begin describing such behavior, note that a voter's willingness to tolerate a transgression today depends on their belief about the likely behavior of a replacement politician, and this in turn depends on their belief about the willingness of voters to tolerate transgressions in the future. This dynamic complementarity opens up the possibility of behavioral change that is driven purely by the belief that others will change. For instance, such 'self-propelled' change include changes triggered by the observance of rare 'sun-spot' events and changes driven by the arrival of a particular calendar date or politician index. In this section, we draw out some implications of propositions 2 and 3 by examining political transitions in an environment that explicitly rules out the possibility of such 'self-propelled' transitions.

We consider a setting in which citizens vote according to a heuristic in which they impose an extreme form of inter-temporal stability on the part of other voters. Specifically, at date $t$, each voter calculates their value functions under the conjecture that rational voters will support a transgressor with a constant probability, $p_t$, for all future periods, and that rational politicians will best-respond to this. Naturally, $p_t = 0$ corresponds to non-permissive behavior, and $p_t = 1$ corresponds to permissive behavior.

The conjecture $p_t$ is *consistent* if it is not contradicted: i.e. if either the date $t$ politician does not transgress, or if the date $t$ politician transgresses and is supported by a proportion $p'_t = p_t$ of rational voters. Conversely, the conjecture $p_t$ is *inconsistent* if the date $t$ politician transgresses and is supported by a proportion $p'_t \neq p_t$ of rational voters.

It is important to stress that consistent behavior can become inconsistent because of changes in beliefs about the state during the course of play, but, by construction, *not* because of changes in beliefs about how future voters will behave.

**Corollary 1.** *Non-permissive behavior will never become inconsistent. If persistence is sufficiently high, permissive behavior will necessarily become inconsistent.*

The first statement is an implication of proposition 2: beliefs about the state play no role under non-permissive norms, so changing beliefs will never be able to undermine

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the consistency of non-permissive play. The second statement is an implication of proposition 3: the arrival of sufficiently many non-transgressors raises beliefs to the point that permissive behavior is no longer optimal *even if all other voters were to remain permissive*.

The fact that non-permissive behavior never becomes inconsistent in this setting implies that any transition away from non-permissive behavior relies on changes in the beliefs about how other voters will behave. As a result, transitions away from non-permissive behavior cannot be driven by the types of leadership-induced changes in beliefs that we focus on; they must be self-propelled. This is not true of transitions away from permissive behavior, and, for this reason, our equilibrium analysis in the next section will focus on transitions away from permissive behavior.

Up to this point we have not imposed any structure on what happens to voter conjectures in the event that they prove to be inconsistent. A natural approach here is to impose an adaptive change: an inconsistent conjecture is replaced with one based on the observed actions that rendered the conjecture inconsistent. That is, if the conjecture at date $t$, $p_t$, proves to be inconsistent because the date $t$ politician transgresses and a proportion $p'_t \neq p_t$ of rational voters support them, then the conjecture held in the following period is $p_{t+1} = p'_t$. If the date $t$ conjecture remains consistent, then it persists to the following period: $p_{t+1} = p_t$. Call this the *adaptive dynamic*. This structure allows one to examine whether the inconsistency of permissive behavior will lead to temporary changes in behavior that eventually revert back to permissive, or whether such behavior tends to be permanently replaced by some other.

**Corollary 2.** *Permissive behavior will necessarily be permanently replaced by non-permissive behavior under the adaptive dynamic.*

This arises because of the way in which permissive behavior becomes inconsistent: voters become willing to vote against a transgressor. Thus, the 'permissive' conjecture is replaced by the 'non-permissive' conjecture. But from corollary 1, this change in behavior is robust in the sense that it remains the optimal behavior when voters adopt the new conjecture. Thus, the change will be permanent.[21]

The corollaries in this section point to transitions from permissive to non-permissive norms, triggered by events that cause beliefs to become high. However, any transition identified in this section is unanticipated by voters - it is precisely this feature that allows us to rule out 'self-propelled' transitions. Nevertheless, it is important to verify that transitions of this nature can be supported as an equilibrium - i.e. remain robust to voters holding rational expectations about a transition occurring. The following section explores this.

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[21] It is worth stressing that we do not seek to claim that the adaptive dynamic is the only reasonable approach, nor that all political transitions must occur in the manner described by corollary 2. Rather, the analysis of this section is aimed at identifying the types of political transitions (among the many possible) that arise because of the transformative role of leaders we identify.

## 2.7 Equilibrium Transitions

Motivated by the above analysis, we search for equilibria in which norms are initially permissive but transition to non-permissive when beliefs about being in the gripped state are sufficiently high. We conjecture that such transitions could potentially occur when citizens observe $N$ consecutive non-transgressors, as we have already seen that this raises beliefs about the gripped state. Once norms are non-permissive, they remain that way permanently. We call such leadership driven changes *N-transition equilibria*.

Analyzing this requires us to calculate a richer set of value functions. Specifically, the value associated with retaining a non-transgressor will now depend on how many previous consecutive transgressors there were. We let $G_n(\tilde{T})$ and $\tilde{G}_n(\tilde{T})$ be the value associated with retaining a non-transgressor when that non-transgressor entered office after $n$ consecutive non-transgressors, given that the current state is gripped and non-gripped respectively. The value of drawing a new politician will also depend on the number of consecutive non-transgressors observed immediately before. Let $E_n$ (respectively $\tilde{E}_n$) be the value of drawing a new leader given the previous $n$ politicians did not transgress and given that the current state is gripped (respectively non-gripped). Thus $E_0$ (respectively $\tilde{E}_0$) are the values of drawing a new politician given that the current politician transgresses, in the gripped and (respectively non-gripped) state. After a transgression, expected future play is independent of how many previous non-transgressors there were - permanent non-permissiveness is triggered if the state is gripped, and the count of non-transgressing politicians restarts at zero if the state is not gripped. Let $G(T)$ and $\tilde{G}(T)$ be the value associated with retaining a transgressing incumbent in the gripped and non-gripped state respectively.

Consider first the value of a transgressor in the non-gripped state, $\tilde{G}(T)$. If the transgressor is retained, voters enjoy the benefit of incumbency but incur the transgression cost. The continuation payoff reflects the fact the politician will return to office with probability $\delta$ and a new politician will come to power with probability $1 - \delta$:

$$\tilde{G}(T) = 1 + \alpha - c + \beta \cdot [\delta \cdot \tilde{G}(T) + (1 - \delta) \cdot \tilde{E}_0]. \tag{18}$$

The value of retaining a transgressor in the gripped state incorporates the same flow payoff, but the continuation payoff captures the leader necessarily being replaced in the next period. That is, $\tilde{G}(T)$ satisfies

$$G(T) = 1 + \alpha - c + \beta \cdot E_0. \tag{19}$$

In contrast, retaining a non-transgressor imposes no costs, generates a benefit of incumbency, and a continuation payoff reflecting a return to office with probability $\delta$ and replacement with probability $1 - \delta$. So for $n \in \{0, 1, 2, ..., N - 1\}$, the values of $G_n(\tilde{T})$ and $\tilde{G}_n(\tilde{T})$ satisfy

$$G_n(\tilde{T}) = 1 + \alpha + \beta \cdot [\delta \cdot G_n(\tilde{T}) + (1 - \delta) \cdot E_{n+1}] \tag{20}$$

$$\tilde{G}_n(\tilde{T}) = 1 + \alpha + \beta \cdot [\delta \cdot \tilde{G}_n(\tilde{T}) + (1 - \delta) \cdot \tilde{E}_{n+1}]. \tag{21}$$

The legacy of non-transgressors is illustrated in the $E_{n+1}$ and $\tilde{E}_{n+1}$ terms: voters draw a new politician having experienced one additional consecutive non-transgressor, and are therefore one step closer to a transition.

For $n \in \{1, 2, ..., N-1\}$, the value of drawing a new politician having experienced $n$ consecutive non-transgressors conditional on currently being in the gripped state satisfies:

$$E_n = \overline{\pi}_0 \cdot \left[\sigma_A \cdot G(T) + (1 - \sigma_A) \cdot G_n(\tilde{T})\right] + (1 - \overline{\pi}_0) \cdot \left[(1 - \sigma_D) \cdot \tilde{G}(T) + \sigma_D \cdot \tilde{G}_n(\tilde{T})\right] - \alpha. \quad (22)$$

For $n \in \{0, 1, 2, ..., N-1\}$, the analogous value conditional on currently being in the non-gripped state satisfies:

$$\tilde{E}_n = \underline{\pi}_0 \cdot \left[\sigma_A \cdot G(T) + (1 - \sigma_A) \cdot G_n(\tilde{T})\right] + (1 - \underline{\pi}_0) \cdot \left[(1 - \sigma_D) \cdot \tilde{G}(T) + \sigma_D \cdot \tilde{G}_n(\tilde{T})\right] - \alpha, \quad (23)$$

with the difference between (22) and (23) simply being the higher prior in the gripped state.

Since a transition is triggered when a transgression in the gripped state occurs or once $N$ non-transgressors are observed, we have that $E_0$, $E_N$ and $\tilde{E}_N$ are all equal to the value of drawing a new politician under permanent non-permissive norms. Once a transition occurs, all other value functions described above correspond to those under permanent non-permissive norms.

Beliefs continue to affect optimal choices. If a politician enters after $n$ consecutive non-transgressors and transgresses, then voters believe the state to be gripped with probability $\pi_1(n)$ as defined in (17). The value of supporting this transgressing politician is:

$$V(T \mid n) \equiv \pi_1(n) \cdot G(T) + (1 - \pi_1(n)) \cdot \tilde{G}(T), \quad (24)$$

and the value of not supporting is

$$\bar{V}(n) \equiv \pi_1(n) \cdot E_0 + (1 - \pi_1(n)) \cdot \tilde{E}_0. \quad (25)$$

For voter actions to be optimal in the initial permissive phase, we need to ensure that $V(T \mid n) \geq \bar{V}(n)$ for all $n \in \{0, 1, ..., N-1\}$.

For what values of $N$ does an $N$-transition equilibrium exist, if any? First, from corollary 1 we know that permissive norms become inconsistent after sufficiently many consecutive non-transgressors. If we denote the required number of non-transgressors as $\bar{N}$ (formally defined in appendix equation (36)), then we can be sure that an $N$-transition equilibrium does not exist for any $N$ greater than $\bar{N}$. Intuitively, it is always more attractive to draw a new politician in $N$-transition equilibria than under permanent permissive norms since there is a chance that the next politician will start a sequence of events that will induce a transition to the (voter preferred) non-permissive norms. It follows then that if voters weakly prefer to draw a new politician under permanent permissive norms after $\bar{N}$ non-transgressors, they will strictly prefer to draw a new politician after $\bar{N}$ non-transgressors in an $N$-transition equilibrium. Therefore, if an $N$-transition equilibrium exists, we can be sure that $N$ is bounded above by $\bar{N}$.

Providing an upper bound on $N$ is only relevant if we can be sure that an $N$-transition equilibrium exists for *some* $N$. The threat to existence comes from the possibility that voters will not find it optimal to support a transgressor in the initial permissive phase. This is because they have an incentive to draw a new politician in the hope of commencing the sequence of $N$ non-transgressors required to trigger the transition. This incentive

will be the most heightened in an equilibrium with the shortest sequence to a transition, i.e., when $N = 1$, so consider this case. In order to ensure that voters optimally support the first transgressor, we need sufficient persistence in the state. Without sufficient persistence, voters may wish to depose transgressors in the hope that the state switches to gripped, yielding a high likelihood of non-transgression and therefore transition to non-permissive norms. Even with sufficient persistence, there still is an incentive to reject transgressors in the hope of obtaining a democratic type politician (since their non-transgression will also trigger the transition). Therefore, in order for a 1-transition equilibrium to exist even with sufficient persistence, we also require that $\sigma_D$ be sufficiently small.[22] Lemma 4 in the appendix establishes that a 1-transition equilibrium exists for sufficiently large $s$ if

$$\sigma_D < \frac{\alpha(1-\beta)(1-\beta\delta\sigma_A)}{c(1-\beta\sigma_A) - \alpha\beta(1-\delta)}. \tag{26}$$

This gives the conditions under which an $N$-transition equilibrium exists for $N = 1$, but in keeping with our focus on norms (specifically, the persistence of behavior), it seems natural to focus on a "maximal" $N$-transition equilibrium: the equilibrium with the largest $N$. Such a largest value is sure to exist since we know that $N$ is bounded above by $\bar{N}$. Using the fact that $\bar{N}$ is finite only when $s$ is sufficiently large (that proposition 3 holds), this leads to the following implication.

**Proposition 4.** *If $s$ is sufficiently large and (26) holds, then a maximal N-transition equilibrium exists. That is, there exists an $N^*$ where $1 \le N^* \le \bar{N} < \infty$, such that an N-transition equilibrium exists for $N = N^*$ but not for any $N > N^*$.*

Although behavior can not remain permissive in the face of sufficiently many non-transgressors (Proposition 3), not much can be said *in general* about how long norms subsequently remain non-permissive without additional structure. This is because of the possibility of self-propelled changes that we have not ruled out. But for self-propelled changes back to permissive norms to occur, beliefs about the gripped state must fall low enough, so these will not generally be immediately possible. In contrast, permanent non-permissiveness can never be ruled out (Proposition 2), and in fact is the basis of the $N$-transition equilibria. If beliefs about the gripped state fall low enough, there always exists the possibility of transitioning from non-permissive norms back to permissive ones, in the spirit of a sun-spot transition.

We reiterate that self-propelled change requires coordination that arises from a source external to the model, and as such the model tells us little about it.[23] In contrast, the $N$-transition equilibrium is a leadership driven change in norms that occurs along the equilibrium path of play. Along this sequence, beliefs about being in the gripped state are

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[22]The fact that the critical value of $\sigma_D$ depends on the proportion of autocratic types is simply due to the fact that it depends on the value associated with permanent non-permissive norms (experienced in the post-transition phase), which in turn depends on the proportion of autocratic types.

[23]This need not make such changes any less compelling as explanations for observed outcomes – as for example Weingast (1997) illustrates with his dissection of the English Glorious Revolution. It only means that the mechanics of such models does not illuminate them.

continually rising due to the continued non-transgression of leaders, until a transition occurs. This is the main norm changing effect of good leaders that we seek to stress.

## 2.8   Reverse Transitions

The previous section has shown how the existence of a set of voters that never support transgressors (and who could potentially be decisive) introduces a transformative role for leaders, even if those voters are never actually decisive – i.e., even if the gripped state does not occur. Leaders that act counter to prevailing norms - i.e. refrain from transgressions when they are expected - induce a beneficial shift in political norms. The purpose of the model was to highlight the mechanism behind this transformation, rather than to act as a predictive tool suggesting permanent functional democracy is inevitable. Permanence of any norm, as we have seen, can never be guaranteed when the possibility of self-propelled changes in beliefs exists. But our focus on a particular class of transition equilibria naturally leads to the question of whether transitions of a markedly different character might also occur. Here we examine the possibility of 'reverse' transitions. That is, transitions from non-permissive to permissive norms driven by politicians that act counter to prevailing norms by transgressing when they are not expected to.

Section 2.6 has already established a key sense in which reverse transitions are fundamentally not leader-driven in our model. Non-permissive norms never become inconsistent when voters expect such norms to persist into the indefinite future, even if an arbitrarily long sequence of transgressing leaders arises. Intuitively, voters always believe that any leader transgressing under non-permissive norms – who will then be removed from office for sure – is bound to be the autocratic type. This provides them with no information about the underlying state, and cannot contribute to an erosion of the norm. Therefore transitions away from non-permissive norms must be self-propelled in that they necessarily rely on changes in beliefs about how future voters will behave.

But it may be conjectured that the impossibility of a leader driven reverse transition in the model stems directly from an asymmetric treatment of permissive and non-permissive behavior on our part. Specifically, we have posited the existence of behavioral types who are, in the gripped state, behaviorally unwilling to support transgressors. Even though the actual occurence of the gripped state plays no part in leader driven transitions, the existence of such a state plays a key role in allowing these transitions to occur. We now consider whether the implications of our model can be reversed by 'reversing' this key assumption. More precisely, can continued transgressions undermine functional democracy if there exist voters that behaviorally support transgressors (i.e. regardless of the material consequences)? This amounts to the converse of the behavioral assumption we have assumed in the main model.

In this setting, the consistency of non-permissive norms now requires that beliefs about being in the gripped state do not become too high. A leadership driven transition to permissiveness can occur if, similarly to the main model, voters raise their beliefs about the gripped state after a transgressor, and when beliefs become high enough non-permissive norms become inconsistent. Let us say that the initial norms are *undermined* by a politician when the belief about the gripped state held by voters upon their exit from

office, $\pi_2$, is higher than the belief held by voters upon their entry into office, $\pi_0$. In the main model, politicians that act in a counter-norm manner undermine existing norms *regardless of the actual underlying state*. It is the actions of leaders, combined with the *possibility* of a gripped state, that ensures a transition from permissive to non-permissive norms. This key aspect does not arise with reverse transitions.

**Proposition 5.** *Suppose that "gripped" means the behavioral support of a transgressor. Transgressions cannot undermine non-permissive norms in the absence of the gripped state.*

Unlike the main model, here a counter-norm action (or arbitrarily long sequence of such actions) will never be sufficient to undermine prevailing norms and therefore will never be sufficient to render prevailing norms inconsistent. The reason for this asymmetry is that the attitude of voters towards transgressions is *tested* by a transgressor but not by a non-transgressor. The counter-norm action in this setting is a transgression, and therefore a politician's legacy in terms of beliefs will ultimately be determined by the outcome of this test (the election result), and thus the actual state. This is not true in the main model, where the counter-norm action is a non-transgression. Voters never vote against a non-transgressor so no further information is revealed by the vote outcome, and as such, a politician's legacy is ultimately determined by their action.

Another key difference to the main model is reflected in the extreme consequences of a single incident in which norms are undermined. Specifically, proposition 5 implies that the only way that non-permissive norms can be undermined is to have a transgression in the gripped state. The outcome of the vote reveals the state (since the gripped voters support the transgressor), and therefore beliefs jump to the highest possible level.

**Proposition 6.** *Suppose that "gripped" means the behavioral support of a transgressor. Non-permissive norms become inconsistent as soon as they are undermined (if at all).*

This indicates that the nature of reverse transitions is fundamentally different from that of the transitions we stress in the main model. Here, no more than a single counter-norm politician is ever required to render prevailing norms inconsistent; and this must occur simultaneously with the gripped state. In the main model, a sequence of non-transgressions cumulatively raises beliefs over time and thereby provides a foundation for future politicians. Any particular non-transgressor will have no effect on political norms unless they came to power at a particularly ripe time - i.e. following sufficiently many other non-transgressors. Moreover these transitions are not affected by the underlying state, and certainly do not depend on the gripped state occurring.

In summary, these results indicate that a modification that reverses the behavioral asymmetry and assumes gripped voters always support transgressors may produce political transitions driven by changes in beliefs, but unlike in the main model, changes in beliefs are driven by changes in the state. From this section we conclude that though reverse transitions can occur in a self-propelled way, it is true that both in the main model, and when modifying the key asymmetry in favor of permissiveness, such reversals have nothing to do with leaders.

## 2.9 Addressing Specific Modeling Choices

Two key simplifying assumptions that we make are (i) that politicians are unable to change their transgression decision during their time in office, and (ii) that state changes do not occur during a politician's time in office. To demonstrate that our results are robust to relaxing these assumptions, first consider allowing politicians to change their actions. If norms are in a permissive phase, then there is clearly no incentive for a rational politician to cease transgressing.[24] If norms are non-permissive, then changing actions would mean the commencement of transgression mid-incumbency. This will reveal to citizens that the politician is a rational type and that the state is non-gripped. Nevertheless, voters rationally anticipate that the politician will continue to transgress (at least in the non-gripped periods), but this will imply that rational voters will optimally not support this politician by definition of being in a phase of non-permissive norms. That is, under non-permissive norms the politician that switches to transgressing is qualitatively the same as one that starts out transgressing and is therefore not supported. The fact that support will cease will dissuade the rational politician from switching to transgressing. In short, allowing politicians to change their actions may potentially further enrich the set of equilibria, but leaves our analysis unaffected since politicians have no incentive to change their actions within an incumbency.

Now suppose that states can change within a politician's time in office (and that politicians can change their actions). This has no impact under non-permissive norms: we have shown in section 2.4 that states are irrelevant under these norms. So consider the case when norms are in a permissive phase. If the state changes from gripped to non-gripped, then rational politicians will commence transgressing. This reveals to citizens that the state is now non-gripped. This lowers their beliefs to the lowest possible level, thereby strengthening voter incentives to support transgressors. By occasionally forcing beliefs back to their lowest level, this effect tends to reduce, but does not eliminate, the instances in which 'leader-driven' transitions to non-permissive norms occur.[25] On the other hand, if the state changes from non-gripped to gripped then rational politicians cease transgressing. This change in behavior reveals to citizens that the state is now gripped. This raises beliefs to the highest possible level and thereby tends to increase the instances in which 'voter-driven' transitions to non-permissive norms occur.[26] In short, relaxing both assumptions would require a more complicated analysis but would not change the qualitative insights of the model.

A third simplifying assumption we make is that the transgression decision is binary, but again, nothing hinges on this. Consider, for instance, the opposite extreme where transgression intensity, $\tau$, can be chosen from an interval, $[0, \bar{\tau}]$. Interpret $\tau$ as the cost borne by voters and let politicians obtain a private benefit of $u(\tau)$, where $u$ is increas-

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[24]If the state were gripped, then the politician would not have transgressed in the first place.

[25]In fact, the interesting transitions are those that occur despite the state never having been gripped - i.e when there are sufficiently many democratic types that come to power. These transitions are clearly unaffected by allowing the state to change each period since democratic types do not transgress in any state.

[26]If it is an autocratic type that experiences the change from non-gripped to gripped, then this too will be revealed - not by the action of the politician, but by the outcome of the vote.

ing. Democratic politicians always choose $\tau = 0$ and autocratic politicians always choose $\tau = \bar{\tau}$. Gripped voters are willing to support a politician if and only if $\tau = 0$. In a stationary equilibrium, rational politicians transgress a constant amount, $\tau_r$, and rational voters adopt a cut-off rule that indicates that a transgression is supported if and only if $\tau \leq \tau_v$. The existence of multiple stationary equilibria in our model stem from dynamic complementarities, and these also arise in this setting: the willingness of a voter to support a given transgression (and therefore their cut-off) is relatively high when other voters set a relatively high cut-off.[27] A fuller analysis of equilibria in this setting is provided in appendix B.4, but the key aspects are as follows. In any stationary equilibrium we must have rational politicians transgressing as much as they can get away with: $\tau_r = \tau_v$. Let this common value be denoted $\tau^*$. Under very similar parameter restrictions as assumption 2, multiple equilibria exist. Specifically, a 'permissive' equilibrium exists in which voters support all degrees of transgression: $\tau^* = \bar{\tau}$, as does a continuum of 'non-permissive' equilibria where $\tau^*$ takes on any value in the interval $[0, \hat{\tau}]$ where $\hat{\tau} < \bar{\tau}$. Thus, a continuous transgression decision adds to the multiplicity of equilibria due to the multiplicity of non-permissive equilibria it introduces. Nevertheless, the analysis goes through unchanged if we select one of these non-permissive equilibria and analyze transitions from permissive norms to non-permissive norms (this is particularly clear if we select the 'most' non-permissive case; $\tau^* = 0$).

# 3 Applications

## 3.1 Critical Junctures and Democratic Consolidation

Some have argued that great leaders were helped in activating momentous institutional change by being fortunate enough to arrive at a 'critical juncture' – a special confluence of events at which they were both free to act and, by their acts, able to constrain the leaders that follow. For Capoccia and Kelemen (2007),

> "...critical junctures are characterized by a situation in which the structural (that is, economic, cultural, ideological, organizational) influences on political action are significantly relaxed for a relatively short period, with two main consequences: the range of plausible choices open to powerful political actors expands substantially and the consequences of their decisions for the outcome of interest are potentially much more momentous ..."

But a problem with critical junctures explanations is their 'just so' nature. It seems to simply beg the question about when these instances occur. Play along the $N$ transition path provides a non-'just-so' explanation. Analysis of this play reveals when the acts of enlightened leaders are able to consolidate a democratic transition, and when they are not enough. A sequence of non-transgressing leaders, of length $N - 1$, yields a critical juncture. At such a point, a leader is also free to transgress without restriction but

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[27]To be sure, this is because the relative permissiveness of others means that transgressions of future politicians will tend to be large and therefore drawing a new politician is relatively unattractive.

democracy will be consolidated if he does not. If he does not, norms transition to non-permissive. Necessarily, his successor will then face self-interested incentives to also not transgress or be deposed. If he transgresses, in contrast, his successor will be similarly free from institutional constraint, and permissive political norms persist. This leader's decision at the critical juncture is momentous.

The historical institutionalist literature, which most often discusses critical junctures, would be more likely to refer to the first leader on one of our $N$ transitions as the one at the critical juncture. But such leaders also typically altered the formal constraints – like the electoral process – and not just the informal ones that are our focus. Our model more accurately applies to the subsequent period after formal democratic structures are implemented – the democratic consolidation phase. Inception is about processes – free and fair elections, civil and press freedoms etc. Consolidation seems to have more to do with the psychology of voters; Gibson *et al.* (1992) summarizes that "[v]irtually every scholar who has thought about processes of democratization has ascribed an important role to political culture", offering the early understanding of Almond and Verba (1963) that "the development of a stable and effective democratic government depends upon the orientations that people have to the political process - upon the political culture". Our model provides a rational underpinning for the relationship between democratic consolidation and rather looser notions related to voter psychology and political culture.

One of the most prominent recent episodes of democratic consolidation is that of South Korea. The formal inception of democracy in South Korea came with free presidential elections in 1987 – forced on the previous military dictatorship after a series of massive popular uprisings. These saw the election of the military's favoured candidate Roh Tae-woo, due to a split between the two main opposition leaders. One of these opposition leaders, Kim Young-sam, won the next presidential election in 1992. Kim Young-sam succeeded in passing important legislation – such as that requiring real names on bank accounts – that helped curtail corrupt practices in government. He was followed by Kim Dae-jung, elected president in 1997. Kim Dae-jung had enhanced executive power, via both the economic crisis of 1997 and his control of parliament, which he wielded freely but with the overall effect of further increasing political accountability. Among his main achievements were revisions to election laws allowing trade unions to form parties and make political donations, appointing an independent chief justice, and a system of independent counsel to investigate charges against ministers and the active encouragement of media scrutiny of government and the participation of NGOs; see Errington (2004). The extent of democratic consolidation, in the eyes of the citizenry, was evidenced soon after his departure in the public's reaction to the impeachment of his successor, Roh Moo-Hyun, in 2004. A minor election law violation prompted the impeachment process. According to *The Economist*, Roh's "only clear transgression was to state the obvious – that he wanted the Uri party to do well in the legislative elections – in response to a reporter's question. Although the election authorities declared this to be a violation, mainstream voters were appalled by parliament's decision to impeach him over it".[28] The public reaction to the impeachment is all the more remarkable

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[28] From the article, "Off the hook", The Economist, May 14 2004.

when it is noted that Roh was a highly unpopular president at the time. The incident induced a substantial rise in Roh's approval rating, and the authenticity of the reaction was confirmed in the legislative election when his Uri party achieved a remarkable victory. Shortly thereafter, the impeachment gets overturned by the Constitutional Court and Roh resumes as president. Chaibong (2008) summarizes nicely: "The people clearly understood that the democratic process itself was at stake, and they acted to preserve it, even though they did not always agree with the president on policy matters."

Our model's interpretation of South Korea's consolidation highlights the importance of the reforms enacted under the two Kims – two leaders whose political stocks declined dramatically in office, but who were widely seen as committed to accountability – as key steps on an $N$-transition. By the time of Roh's impeachment, voters had come to believe that non-accountable acts would no longer be tolerated by the electorate as a whole. This meant that democracy had come to be valued in and of itself, since it had become, by the raising of these beliefs, a system that would now keep leaders accountable to voters. The impeachment of 2004 is a public and explicit test of this. In our model's interpretation, impeachment is a 'transgression' occurring after the $N$-transition. The dramatic electoral response made clear the extent to which this was seen as a transgression, and our model provides a way to understand why this outcome – in affirming the public's non-permissive stance – is seen to be so important for the country's democratic consolidation. *The Economist* again: "the impeachment, and Mr Roh's victory in having it overturned, will profoundly change the course of South Korean democracy" describing the willingness of Koreans to insist on the reinstatement as "a big step for a country that shook off authoritarianism in the late 1980s".[29]

## 3.2 Reformist Leaders

While the model illuminates general features of democratic consolidation, it also speaks to the specific role of leaders in the process. We have already provided a timeline of Benin's post 1991 electoral based leadership transitions, culminating in the 2006 step-down of Matthieu Kerekou. The key role of leaders' acts in the relatively robust state of Benin's democracy today – another fair election was held in 2011 – is well accepted.

> "After 1991, however, the particular choices of leaders on several separate issues are key to understanding why minimal democracy was consolidated in Benin....both Soglo and Kerekou have voluntarily accepted losses in elections and then largely given the other the space to govern....In 2006, despite fears that both Kerekou and Soglo might try to circumvent the rules and contest the presidency again, neither did." Gisselquist (2008), p.808

Our model provides an explanation for many of the features that emerged along this time line. The democratic actions of leaders via the peaceful ceding of power to the opposition have a cummulative effect. This effect is implicit in the quotes from *The Economist* and others we included in the introduction. But how precisely does this work? Our model shows that rational voters react to each one of these accountability acts by updating

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[29]From the article, "Off the hook", The Economist, May 14 2004.

their beliefs. And this is cumulative in its effect. Which beliefs? The beliefs of rational voters that the population is not willing to put up with transgressing leaders. Every time a leader does not transgress, rational voters put more weight on the possibility that this happened because the leader thought the public would punish transgression. And because of the dynamic complementarity amongst voters in punishing transgressions, this eventually constrains politicians to act accountably.

How do the actions of leaders induce *enduring* changes in the political culture - i.e. how is it that some actions represent 'an historic turning point' and constitute a leader's 'greatest legacy'? This happens when a leader's act tips beliefs above the critical threshold beyond which rational voters will punish transgressors. The leader's legacy is then the future non-permissive norms, and since these are the key to democratic consolidation – the successful functioning of the country's democratic institutions will often be linked to the actions (forbearance) of a single leader in its past. It makes sense of references to Kim Dae-jung as the "Nelson Mandela of Asia"[30] and to Kerekou as "le pere de la democratie Beninoise"[31]. When these left, it was no longer possible for future leaders 'to oppose or dismantle the gradual institutionalization of democracy'. The public believed in a widespread acceptance of democratic ideals, and believed that future leaders would hence-forth have self-interested motivations to respect them as well.

This is where the assumption in the model that 'states' are persistent, and do not end when a leader steps down from office, can be seen to be playing a key role. If voter's attitudes to transgression only applied to the current leader, then Kerekou's behavior would be immaterial to a voter's assessment of what to expect about the future.

Another, more recent, example of a possible leadership driven accountability transition is that of events in the Indian state of Bihar; previously seen as the most corrupt and dysfunctional state in India. Though formally democratic, like all states in India, governance appears to have undergone a dramatic change since the election in 2005 of a reforming leader – Nitish Kumar. In our model, accountable leaders are able to make rational citizens believe that a significant part of the public are gripped, and hence motivated to bring down leaders who transgress, no matter what. That is, a widespread belief that the public has raised their expectations of leaders takes hold.

Such an explanation makes sense of appeals to public dissatisfaction uttered by Kumar in recent times. In reference to the Hazare corruption protests in India he said:

> "Going by the response of the people in support of Sri Hazare's crusade against corruption, *it is clear that people are not going to take it anymore*." Nitish Kumar, *Patna Daily*, April 11 2011, our emphasis.

In the mechanism we study, enlightened leaders succeed by raising public expectations of accountability standards. They will no longer tolerate 'business as usual' by unaccountable politicians, and leaders (even the merely self-interested that may follow) have no choice but to then govern well. Has Kumar played such a role in raising such expectations? According to the views expressed in Indian dailies:

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[30]See the New York Times obituary http://www.nytimes.com/2009/08/19/world/asia/19kim.html?pagewanted=all
[31]See http://www.togoone.com/news_actuet_kerekoudubenin.html

"Nitish Kumar swept the recent Bihar election on a campaign, and a track record, that emphasized development. Shaibal Gupta of Patna's Asian Institute of Development Studies says it was a sign that "the relationship between the voters and parties has changed. Now, the people see political parties as service providers and politicians see people as clients. If you deliver, you win election. If you don't deliver results, all freebies and all slogans of caste and religion are not going to work"."[32]

"...the enhanced consciousness of the Biharis has ushered in irreversible changes. Who can afford to disappoint them?"[33]

" Nitish Kumar's re-election in Bihar and his focus on governance has had a major impact on political expectations across north India. It is not enough for politicians to mobilise castes and communities. They need to provide more than voice. People expect governance and development."[34]

How do reformist leaders raise expectations? One way is by educating the public and changing their preferences, i.e., by inducing the gripped state. But this is cheap talk, if leaders could change preferences by their entreaties to the public, then democratic consolidation would be relatively easy. It is hard to find an example of an elected leader not pronouncing the importance of accountability. Moreover, even strong out-pourings of public disgruntlement with governance standards – for instance the large public demonstrations against corruption in India organized around Anna Hazare in 2011 – have petered out, without significant effect on political accountability.

In contrast, the mechanism that we highlight is not cheap talk. Leaders must demonstrate accountability through their acts. By increasing their own regime's accountability, enlightened leaders serve to raise the public's beliefs about the standards of accountability that will be expected in future. If these beliefs reach the point where citizens are widely viewed as demanding accountability then a transition to non-permissive norms necessarily occurs. Kumar's role in acting to improve governance, and not merely entreating for it, explains his influence on peoples' hopes – as exemplified by the comments of ordinary citizens:

"Nitish has raised the voter's expectations, he has *shown* the people of Bihar and of India that they can *expect* better."[35], our emphasis

But our model suggests it unlikely that Kumar will be able to move beliefs sufficiently by acting on his own. This distinguishes our interpretation of these events from an alternative interpretation based on voter ignorance. This alternative would argue that Kumar's influence stems from his demonstration that good governance is possible in the

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[32]From the Times of India, http://articles.timesofindia.indiatimes.com/2011-03-27/special-report/29194228_1_national-elections-indian-voter-parties

[33]From the Calcutta Daily, December 2010 Telegraph http://www.telegraphindia.com/1101201/jsp/opinion/story_13235215.jsp

[34]From the Economic Times (India), May 2012, http://articles.economictimes.indiatimes.com/2012-05-03/news/31558886_1_growth-rate-governance-services-nitish-kumar

[35]http://indianhomemaker.wordpress.com/2010/11/25/why-i-like-nitish-kumar/

state of Bihar. Previously, voters did not know that, as all leaders had been unaccountable, but after Kumar, the experience of accountable government teaches voters that this is something within the power of political leaders to deliver. Further, according to this explanation, once that information is revealed by Kumar's government, it becomes the standard by which future governments will necessarily be judged. This implies that the next leader to follow Kumar is constrained to act accountably by the credible threat of being removed. Bihar's politics cannot slide back to unaccountability.

In contrast, the present model's explanation for the recent changes in Bihar stresses the fragility of the process along the consolidation path. According to the model, a sequence of good leaders is typically needed to ensure a transition to accountability. A single benevolent leader, followed in office by a return to the unaccountable leadership characteristic of the past, will generally convince voters that political expectations have not changed, and that Kumar was merely an aberration. In contrast to an information based explanation, the cumulative acts of a succession of leaders are a key part of the transitions we study. This provides a foundation for notions like Huntington's 2-turnover rule, and the emphasis of Persson and Tabellini (2009) on the slow accumulation of 'democratic captial' necessary for the consolidation of democracy.

## 4  Conclusions

We have developed a dynamic political agency model to investigate the dynamics of political norms. Specifically, we study the endogenous transition from permissive to non-permissive norms, whereby citizens punish transgressors and leaders act accountably. Perhaps the main insight obtained from the model is an explanation for the vital role that leaders can play in engineering long-lived institutional change. Well functioning democratic systems depend on voters who will hold leaders to high standards of accountability. Reformist leaders achieve change by modifying citizens' beliefs about the standards of accountability that their compatriots have. A sequence of good leaders raises beliefs amongst voters that these standards have risen, and thereby leads voters to expect accountable leaders in future. With future leaders expected to be accountable, voters are willing to throw out poorly acting leaders today. When this happens, non-permissive norms of accountability have emerged. Interestingly, though the impetus for the change in voter expectations derives from the leaders' (and sequence of leaders) actions, such expectations are fulfilled once the transition has occurred. In our model, great leaders help voters to realize high standards of accountability that they always had the potential to demand, but had simply not been able to do so.

The leadership driven transitions we have characterized here provide an explanation for improvements in the 'soft' elements inherent in democratic consolidation, i.e., the establishment of high expectations of accountability from democratic leaders and corresponding responsiveness on leaders' parts. This explanation thus complements an already large literature more specifically focused on changes in the 'hard' elements of the polity, for example, features like holding free elections, or the transition from autocratic to representative governance structures. The model formalizes the notion of

critical junctures, and provides an explanation for the success of reformist leaders, that we illustrate through some recent examples.

A marked departure from previous work exploiting the inherent multiplicity of equilibria in political agency models to explain changes in norms, is that the leadership driven changes here occur inevitably after a long enough sequence of good leaders. These changes do not depend on agent coordination, and unlike self-propelled or 'sun-spot' type changes in norms, they cannot occur haphazardly; at any time or in any direction. There is an inherent asymmetry in the capacity of leaders to change the 'soft' elements of a political system for the good: good leaders eventually improve political accountability. The converse is not true. Bad leaders coming to power in a system with tight political norms are removed from office and cannot, no matter how frequent, undermine the expectations of probity that citizens expect from their rulers.

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# Appendix

## A   Proofs and Supporting Results

### A.1   Proofs

**Proof of Proposition 1**

*Proof.*  To calculate the net benefit from supporting a transgressor, subtract $\bar{V}$ from both sides of (1) and re-arrange to get

$$V(T) - \bar{V} = \frac{1 + \alpha - c - (1 - \beta) \cdot \bar{V}}{1 - \beta\delta \cdot p}. \tag{27}$$

The sign of this depends only on the numerator. The value of $\bar{V}$ depends on $(p,q)$: let $\bar{V}^+$ be this value when $p = q = 0$ (non-permissive norms) and $\bar{V}^-$ be this value when $p = q = 1$ (permissive norms). It is straightforward to verify (see section B.1 for method) that these are given by:

$$\bar{V}^+ \equiv \frac{1 + \alpha\beta\delta - (c + \beta\delta \cdot (1 + \alpha - c)) \cdot \sigma_A}{(1 - \beta)(1 - \beta\delta\sigma_A)} \tag{28}$$

$$\bar{V}^- \equiv \frac{1 + \alpha\beta\delta - (1 - \sigma_D) \cdot c}{1 - \beta}. \tag{29}$$

There is an equilibrium with non-permissive norms if and only if the net benefit to supporting a transgressor when $p = q = 0$ is non-positive: $(1 - \beta) \cdot \bar{V}^+ \geq 1 + \alpha - c$. Using $\bar{V}^+$ from (28) and simple algebra delivers the stated condition. Similarly, permissive norms are supported if and only if the net benefit to supporting a transgressor when $p = q = 1$ is non-negative: $(1 - \beta) \cdot \bar{V}^- \leq 1 + \alpha - c$. Using $\bar{V}^-$ from (29) and simple algebra delivers the stated condition. □

**Proof of Proposition 2**

*Proof.* From (5) and (6), the net benefit to supporting a transgressor is

$$V(T \mid \pi_1) - \tilde{V}(\pi_1) = \pi_1 \cdot [G(T) - E] + (1 - \pi_1) \cdot [\tilde{G}(T) - \tilde{E}]. \tag{30}$$

Subtracting $E$ and $\tilde{E}$ from (7) and (8) respectively and re-arranging allows us to express this net benefit as a function of $E$ and $\tilde{E}$ only:

$$\pi_1 \cdot [1 + \alpha - c - (1 - \beta) \cdot E] + (1 - \pi_1) \cdot \left[ \frac{1 + \alpha - c - (1 - \beta) \cdot \tilde{E}}{1 - \beta \cdot p \cdot \delta} \right]. \tag{31}$$

A stationary equilibrium with non-permissive norms exists if and only if this expression is non-positive. Section B.2 describes how $E$ and $\tilde{E}$ are calculated, and it is straightforward to verify that $E = \tilde{E} = \bar{V}^+$ when $p = q = 0$ (where $\bar{V}^+$ is defined in (28)). As such, the net benefit to supporting a transgressor is $1 + \alpha - c - (1 - \beta) \cdot \bar{V}^+$, which is non-positive if and only if a stationary equilibrium with non-permissive norms exists (see proof to proposition 1). This is ensured by assumption 2. □

**Proof of Proposition 3**

*Proof.* When norms are permissive we have the net benefit to supporting a transgressor is

$$\gamma(\pi_1) \equiv \pi_1 \cdot [1 + \alpha - c - (1 - \beta) \cdot E] + (1 - \pi_1) \cdot \left[ \frac{1 + \alpha - c - (1 - \beta) \cdot \tilde{E}}{1 - \beta \delta} \right], \tag{32}$$

where $E$ and $\tilde{E}$ are calculated using $p = q = 1$. To demonstrate the non-existence of a stationary equilibrium with permissive norms, we show that when $s$ is sufficiently high that there exists beliefs that arise on the equilibrium path such that $\gamma(\pi_1) < 0$. We begin exploring the properties of $\gamma$ when there is relatively high persistence.

**Lemma 1.** *If $p = q = 1$, then $\lim_{s \to 1} E = \bar{V}^+$ and $\lim_{s \to 1} \tilde{E} = \bar{V}^-$, where $\bar{V}^+$ and $\bar{V}^-$ are given by (28) and (29).*

**Proof of Lemma 1**

*Proof.* Section B.2 describes how to calculate $E$ and $\tilde{E}$ as the solution to a linear system. The solutions are continuous in $s$, and therefore the limits of $E$ and $\tilde{E}$ as $s \to 1$ equal the values of $E$ and $\tilde{E}$ at $s = 1$, which are easily confirmed to be the stated values. □

This result then implies that

$$\lim_{s \to 1} \gamma(\pi_1) = \pi_1 \cdot \left[ 1 + \alpha - c - (1 - \beta) \cdot \bar{V}^+ \right] + (1 - \pi_1) \cdot \left[ \frac{1 + \alpha - c - (1 - \beta) \cdot \bar{V}^-}{1 - \beta \delta} \right]. \tag{33}$$

We now turn to how high beliefs can become on the equilibrium path for high persistence.

**Lemma 2.** $\lim_{s \to 1} \pi_0^* = \lim_{s \to 1} \pi_1^* = \lim_{s \to 1} \overline{\pi}_1 = 1.$

**Proof of Lemma 2**

*Proof.* Being a fixed point, the value of $\pi_0^*$ satisfies

$$\pi_0^* = s \cdot \frac{\pi_0^* \cdot (1 - \sigma_A)}{\pi_0^* \cdot (1 - \sigma_A) + (1 - \pi_0^*) \cdot \sigma_D} + (1 - s) \cdot \lambda. \tag{34}$$

This gives a quadratic function of $\pi_0^*$ with one root that lies in $(0,1)$ and one that is negative for all $s < 1$. The fixed point lies in $[0,1]$ and therefore is the former root. This root is increasing in $s$ (both roots are, in fact), approaching 1 as $s \to 1$. The value of $\pi_1^*$, by definition, equals $\frac{\pi_0^* \cdot \sigma_A}{\pi_0^* \cdot \sigma_A + (1 - \pi_0^*) \cdot (1 - \sigma_D)}$ which goes to 1 since $\pi_0^* \to 1$ as $s \to 1$. Since $\overline{\pi}_1 \in [\pi_1^*, 1]$, the fact that $\pi_1^* \to 1$ implies $\overline{\pi}_1 \to 1$ also. $\qquad\square$

Combining lemma 1 and 2 gives us the following

$$\lim_{s \to 1} \gamma(\pi_1^* - \varepsilon) = (1 - \varepsilon) \cdot \left[ 1 + \alpha - c - (1 - \beta) \cdot \bar{V}^+ \right] + \varepsilon \cdot \left[ \frac{1 + \alpha - c - (1 - \beta) \cdot \bar{V}^-}{1 - \beta\delta} \right]. \tag{35}$$

Since the first bracketed term is negative and the second bracketed term is positive (by assumption 2), we can be sure that this is strictly negative for small $\varepsilon > 0$. But for any $\varepsilon > 0$ we can find beliefs on the equilibrium path such that $\pi_1 \geq \pi_1^* - \varepsilon$ (i.e. when more than some finite number of consecutive non-transgressors are observed). Therefore, when $s$ is high enough we can be sure that there exists beliefs that arise on the equilibrium path such that the net benefit to supporting a transgressor is negative. This can not happen in an equilibrium with permanently permissive norms, and therefore no such equilibrium exists.

From another perspective, lemma 1 implies that for sufficiently high $s$, there exists beliefs $\tilde{\pi}_1 \in (0,1)$ such that $\gamma(\pi_1) > 0$ for $\pi_1 < \tilde{\pi}_1$, $\gamma(\pi_1) = 0$ for $\pi_1 = \tilde{\pi}_1$, and $\gamma(\pi_1) < 0$ for $\pi_1 > \tilde{\pi}_1$. Lemma 2 implies that, for sufficiently high $s$, $\lim_{n \to \infty} \pi_1(n) > \tilde{\pi}_1$. Therefore, together the lemmata imply, for $s$ sufficiently large, that

$$\bar{N} \equiv \min\{n \in \mathbb{N} \mid \gamma(\pi_1(n)) < 0\} \tag{36}$$

is well-defined. A stationary equilibrium with permissive norms does not exist because voters have a unilateral incentive to not support a transgressor that arrives after $\bar{N}$ consecutive non-transgressors. $\qquad\square$

**Proof of Corollary 1.**

*Proof.* If $p_t = 0$ at some date $t$ (non-permissive behavior) then, since politicians are best responding, rational politicians transgress with probability zero. As such, the value functions will be the same as those computed in the proof of proposition 2, and therefore voters will find it optimal to not support a transgressor for any beliefs. As such, $p_\tau' = 0$ for all $\tau \geq t$ and thus the conjecture remains consistent.

If $p_t = 1$ at some date $t$ (permissive behavior) then, since politicians are best responding, rational politicians transgress with probability one. As such, the value functions will be the same as those computed in the proof of proposition 3. As such, for $s$ sufficiently high, voters will not find it optimal to support a transgressor once $\bar{N}$ consecutive non-transgressors are observed (or when a transgression occurs in the gripped state) where $\bar{N}$ is given by (36). Such a sequence is observed on the equilibrium path with positive probability, and therefore permissive behavior will eventually become inconsistent. $\qquad\square$

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**Proof of Corollary** 2.

*Proof.* From the proof of proposition 3, we have that voters find it optimal to not support a transgressor once $\bar{N}$ consecutive non-transgressors are observed. But this means (from the adaptive dynamic) that at some date $t$, the conjecture $p_t = 1$ will be replaced by $p_{t+1} = 0$. But from corollary 1, this conjecture never becomes inconsistent and therefore persists indefinitely. □

## A.2 Results relating to $N$-transition equilibria

Let $g(n)$ be the net value associated with supporting a transgressor that arrives after a history of $n$ consecutive non-transgressors in an $N$-transition equilibrium; $g(n) \equiv V(T \mid n) - \bar{V}(n)$. From (24) and (25), this is

$$g(n) = \pi_1(n) \cdot [G(T) - E_0] + (1 - \pi_1(n)) \cdot [\tilde{G}(T) - \tilde{E}_0] \tag{37}$$

$$= \pi_1(n) \cdot [(1 + \alpha - c) - (1 - \beta) \cdot E_0] + (1 - \pi_1(n)) \cdot \left[ \frac{(1 + \alpha - c) - (1 - \beta) \cdot \tilde{E}_0}{1 - \beta \delta} \right], \tag{38}$$

where $\pi_1(n)$ is as defined in section 2.6, and the last equality is derived by using (19) and (18) to solve for $G(T)$ and $\tilde{G}(T)$, then subtracting $E_0$ and $\tilde{E}_0$ respectively. We see that $g(n)$ can be expressed as a function of $E_0$ and $\tilde{E}_0$. Since the transition is triggered by transgression in the gripped state, we know that $E_0 = \bar{V}^+$ (as defined in (28)). The procedure for calculating $\tilde{E}_0$ for an arbitrary $N$ is provided in section B.3.

The behavior prescribed by an $N$-transition equilibrium is an equilibrium if and only if $g(n) \geq 0$ for all $n \in \{0, 1, ..., N-1\}$.[36] Checking this condition is made considerably simpler by the following Lemma.

**Lemma 3.** $g(n) \geq 0$ for all $n \in \{0, 1, ..., N-1\}$ if and only if $g(N-1) \geq 0$.

**Proof of Lemma** 3.

*Proof.* The 'only if' part is obvious. For the 'if' part, suppose that $g(N-1) \geq 0$. Since the first bracketed term in $g$ is negative (by assumption 2), it must be that the second bracketed term is positive. But then $g$ is decreasing in $n$ since $\pi_1(n)$ is increasing in $n$. But then it follows that $g(n) \geq 0$ for all $n \in \{0, 1, ..., N-1\}$. □

In other words, an $N$-transition equilibrium exists if and only if $g(N-1) \geq 0$. Notice that $g(N-1)$ need not be monotonic in $N$.[37]

**Lemma 4.** A 1-transition equilibrium exists for sufficiently large s if:

$$\sigma_D < \frac{\alpha(1-\beta)(1-\beta\delta\sigma_A)}{c(1-\beta\sigma_A) - \alpha\beta(1-\delta)} \tag{39}$$

---

[36]That is, we just need to check that voters find it optimal to support transgressors during the initial permissive phase. Behavior in the non-permissive phase is an equilibrium by proposition 2.

[37]There are counteracting effects. Higher $N$ means that beliefs regarding the possibility of being in the gripped state reach a higher level, thereby acting to reduce the net benefit to supporting a transgressor. However, higher $N$ also means that it is more difficult for a transition to occur, thus making it more beneficial to support a transgressor.

**Proof of Lemma 4.**

*Proof.* From lemma 3, we need to check that $g(0) \geq 0$. As $s \to 1$ we have that $\pi_1(0) \to 0$. Therefore $g(0) \geq 0$ requires that $\tilde{E}_0$ (when $N = 1$) is sufficiently small. Specifically, we must have $(1 + \alpha - c) - (1 - \beta) \cdot \tilde{E}_0 > 0$. Details on how $\tilde{E}_0$ is calculated are provided in section B.3, but the stated condition is that required to ensure this when $s = 1$. □

**Proof of Proposition 4.**

*Proof.* This follows once we show that an upper bound on $N$ exists for sufficiently large $s$. Specifically, $\bar{N}$ (as defined in 36) is finite when $s$ is sufficiently large and therefore we show that $g(n) < 0$ for $n \geq \bar{N}$. By definition, $\gamma(\pi_1(\bar{N})) \leq 0$ and since $\gamma$ is decreasing in $\pi_1$ and $\pi_1$ is increasing in $n$, we have that $\gamma(\pi_1(n)) \leq 0$ for all $n \geq \bar{N}$. Since $E_0 > E$ and $\tilde{E}_0 > \tilde{E}$ (since there is some possibility of transition to non-permissive norms in an $N$-transition equilibrium but not under permanent permissive norms), from (32) and (38) we have $g(n) < \gamma(n)$. Therefore $g(n) < 0$ for all $n \geq \bar{N}$ and therefore $\bar{N}$ acts as an upper bound on $N$. □

## A.3 Results Relating to Reverse Transitions

**Proof of Proposition 5.**

*Proof.* Consider a transgression under non-permissive norms. By non-permissive norms, rational voters vote against the transgressor. If the state is not gripped, then all voters will vote against the transgressor. If the state is gripped, then a proportion $z'$ of voters will vote for the politician. The outcome of the vote therefore reveals the state. If the state is not gripped, then the transgressor leaves the belief $\pi_2 = 0$, which must be strictly lower than $\pi_0$ since $0 < \underline{\pi}_0 \leq \pi_0$. □

**Proof of Proposition 6.**

*Proof.* If norms are non-permissive, then a non-transgressor will lower beliefs about the state being gripped and the outcome of the vote will not reveal anything further. This, along with proposition 5, implies that non-permissive norms are undermined only if politician transgresses in the gripped state. As argued in the proof of proposition 5, the outcome of the vote will that the state is gripped. As such, the undermining politician raises beliefs to $\pi_2 = 1$. This is the highest possible belief, and therefore if non-permissive norms ever become inconsistent, they must become inconsistent at this point. □

# B Supporting Details

## B.1 Stationary Equilibria without Gripped Citizens

Equations (1) to (3) can be written as $\mathbf{Y_1 v = Y_2}$, where

$$\mathbf{Y_1} = \begin{pmatrix} 1 - \beta\delta \cdot p & 0 & -\beta(1 - \delta \cdot p) \\ 0 & 1 - \beta\delta & -\beta \cdot (1 - \delta) \\ -\rho & -(1 - \rho) & 1 \end{pmatrix}, \quad \mathbf{v} = \begin{pmatrix} V(T) \\ V(\tilde{T}) \\ \bar{V} \end{pmatrix}, \quad (40)$$

and

$$\mathbf{Y_2} = \begin{pmatrix} 1 + \alpha - c \\ 1 + \alpha \\ -\alpha \end{pmatrix}. \tag{41}$$

The value functions are then simply $\mathbf{v} = \mathbf{Y_1}^{-1}\mathbf{Y_2}$.

## B.2 Stationary Equilibria with Gripped Citizens

Equations (7) to (12) can be written in matrix form, $\mathbf{Y_3 y} = \mathbf{Y_4}$, where

$$\mathbf{Y_3} = \begin{pmatrix} 1 - \beta \cdot \delta & 0 & 0 & 0 & -\beta(1-\delta) & 0 \\ 0 & 1 & 0 & 0 & -\beta & 0 \\ 0 & 0 & 1 - \beta\delta & 0 & 0 & -\beta(1-\delta) \\ 0 & 0 & 0 & 1 - \beta\delta \cdot p & 0 & -\beta(1 - p \cdot \delta) \\ -\overline{\pi}_0(1 - \sigma_A) & -\overline{\pi}_0\sigma_A & -(1 - \overline{\pi}_0)(1 - \rho) & -(1 - \overline{\pi}_0)\rho & 1 & 0 \\ -\underline{\pi}_0(1 - \sigma_A) & -\underline{\pi}_0\sigma_A & -(1 - \underline{\pi}_0)(1 - \rho) & -(1 - \underline{\pi}_0)\rho & 0 & 1 \end{pmatrix}, \tag{42}$$

and

$$\mathbf{y} = \begin{pmatrix} G(\tilde{T}) \\ G(T) \\ \tilde{G}(\tilde{T}) \\ \tilde{G}(T) \\ E \\ \tilde{E} \end{pmatrix}, \quad \mathbf{Y_4} = \begin{pmatrix} 1 + \alpha \\ 1 + \alpha - c \\ 1 + \alpha \\ 1 + \alpha - c \\ -\alpha \\ -\alpha \end{pmatrix}. \tag{43}$$

The value functions are then simply $\mathbf{y} = \mathbf{Y_3}^{-1}\mathbf{Y_4}$.

## B.3 $N$-transition Equilibria

The system of equations (18)-(23) describe a linear system of $4(N + 1)$ equations. That is, there are $N$ equations for each of $G_n(\tilde{T})$ and $G_n(\tilde{T})$, there is one equation for each of $G(T)$ and $\tilde{G}(T)$, and $N + 1$ equations for each of $E_n$ and $\tilde{E}_n$. The net benefit to supporting a transgressor, as seen in (38), can written as a function of $\tilde{E}_0$ (as well as $E_0$, but this equals $\bar{V}^+$). Therefore, we are often only interested in calculating $\tilde{E}_0$ from this large system. The linear system will involve matrices whose dimensions depend on $N$, making it cumbersome to quickly calculate the value of $\tilde{E}_0$ for different values of $N$. The following derives a formula for $\tilde{E}_0$ as a function of $N$.

To begin, note that from (18)-(21), we have

$$G_n(\tilde{T}) = \frac{1 + \alpha}{1 - \beta\delta} + \frac{\beta \cdot (1 - \delta)}{1 - \beta\delta} \cdot E_{n+1} \tag{44}$$

$$G(T) = 1 + \alpha - c + \beta \cdot E_0 \tag{45}$$

$$\tilde{G}_n(\tilde{T}) = \frac{1 + \alpha}{1 - \beta\delta} + \frac{\beta \cdot (1 - \delta)}{1 - \beta\delta} \cdot \tilde{E}_{n+1} \tag{46}$$

$$\tilde{G}(T) = \frac{1 + \alpha - c}{1 - \beta\delta} + \frac{\beta \cdot (1 - \delta)}{1 - \beta\delta} \cdot \tilde{E}_0. \tag{47}$$

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In matrix form, this is

$$
\begin{pmatrix} G_n(\tilde{T}) \\ G(T) \\ \tilde{G}_n(\tilde{T}) \\ \tilde{G}(T) \end{pmatrix} = \begin{pmatrix} \frac{1+\alpha}{1-\beta\delta} \\ 1+\alpha-c \\ \frac{1+\alpha}{1-\beta\delta} \\ \frac{1+\alpha-c}{1-\beta\delta} \end{pmatrix} + \begin{pmatrix} 0 & 0 \\ \beta & 0 \\ 0 & 0 \\ 0 & \frac{\beta(1-\delta)}{1-\beta\delta} \end{pmatrix} \begin{pmatrix} E_0 \\ \tilde{E}_0 \end{pmatrix} + \begin{pmatrix} \frac{\beta(1-\delta)}{1-\beta\delta} & 0 \\ 0 & 0 \\ 0 & \frac{\beta(1-\delta)}{1-\beta\delta} \\ 0 & 0 \end{pmatrix} \begin{pmatrix} E_{n+1} \\ \tilde{E}_{n+1} \end{pmatrix}. \tag{48}
$$

By making the obvious definitions, write this as

$$
\mathbf{X_n} = \mathbf{L_0} + \mathbf{L_1 Q_0} + \mathbf{L_2 Q_{n+1}}. \tag{49}
$$

We can express (22) and (23) in matrix form as

$$
\begin{pmatrix} E_n \\ \tilde{E}_n \end{pmatrix} = \begin{pmatrix} -\alpha \\ -\alpha \end{pmatrix} + \begin{pmatrix} \overline{\pi}_0(1-\sigma_A) & \overline{\pi}_0\sigma_A & (1-\overline{\pi}_0)\sigma_D & (1-\overline{\pi}_0)(1-\sigma_D) \\ \underline{\pi}_0(1-\sigma_A) & \underline{\pi}_0\sigma_A & (1-\underline{\pi}_0)\sigma_D & (1-\underline{\pi}_0)(1-\sigma_D) \end{pmatrix} \begin{pmatrix} G_n(\tilde{T}) \\ G(T) \\ \tilde{G}_n(\tilde{T}) \\ \tilde{G}(T) \end{pmatrix}. \tag{50}
$$

Again using the obvious definitions, write this as:

$$
\mathbf{Q_n} = \mathbf{R_0} + \mathbf{R_1 X_n}. \tag{51}
$$

Using (49) in (51) therefore gives

$$
\mathbf{Q_n} = [\mathbf{R_0} + \mathbf{R_1 L_0}] + [\mathbf{R_1 L_1}]\mathbf{Q_0} + [\mathbf{R_1 L_2}]\mathbf{Q_{n+1}} \tag{52}
$$

$$
= \mathbf{A_0} + \mathbf{A_1 Q_0} + \mathbf{B Q_{n+1}}, \tag{53}
$$

where the final equality makes use of the obvious definitions. By successive substitution, we get

$$
\mathbf{Q_0} = \mathbf{Z} \cdot [\mathbf{A_0} + \mathbf{A_1 Q_0}] + \mathbf{B}^N \cdot \mathbf{Q_N}, \tag{54}
$$

where $\mathbf{Q}_N = [\bar{V}^+ \ \ \bar{V}^+]^T$, and assuming that the absolute value of the eigenvalues of $\mathbf{B}$ are less than unity,

$$
\mathbf{Z} \equiv \mathbf{I} + \mathbf{B} + \mathbf{B}^2 + \cdots + \mathbf{B}^{N-1} = [\mathbf{I} - \mathbf{B}]^{-1}\left[\mathbf{I} - \mathbf{B}^N\right]. \tag{55}
$$

Re-arranging (54) gives

$$
\mathbf{Q_0} = [\mathbf{I} - \mathbf{ZA_1}]^{-1}[\mathbf{Z} \cdot \mathbf{A_0} + \mathbf{B}^N \cdot \mathbf{Q}_N]. \tag{56}
$$

The second element of $\mathbf{Q}_0$ gives us $\tilde{E}_0$ (recalling that we already know $E_0$ equals $\bar{V}^+$, and not the first element of $\mathbf{Q}_0$).

## B.4 Continuous Transgression Decisions

As described in the text, suppose that politicians can transgress an amount $\tau \in [0, \bar{\tau}]$. A stationary equilibrium will have rational voters supporting if any only if $\tau \leq \tau_v$ and rational politicians will transgress $\tau_r$ each period. It is clearly optimal for rational politicians to transgress as much as they can subject to be being supported, so $\tau_r = \tau_v$ in equilibrium.

Let the common value of $\tau$ be $\tau^*$, let $V(\tau)$ be the value associated with supporting a politician that transgresses $\tau$, and let $\bar{V}$ be the value associated with drawing a new politician. At most three different transgression levels are observed in equilibrium: $\tau \in \{0, \tau^*, \bar{\tau}\}$. By letting voters believe that any other transgression level is made by an autocratic type that will return to maximal transgression in the following period, we need only calculate four value functions: $\{V(0), V(\tau^*), V(\bar{\tau}), \bar{V}\}$.[38] If $p$ is the probability that rational voters support a politician that transgresses $\bar{\tau}$, then these value functions are defined by the following system.

$$V(0) = 1 + \alpha + \beta \cdot \left[\delta \cdot V(0) + (1 - \delta) \cdot \bar{V}\right] \tag{57}$$

$$V(\tau^*) = 1 + \alpha - \tau^* + \beta \cdot \left[\delta \cdot V(\tau^*) + (1 - \delta) \cdot \bar{V}\right] \tag{58}$$

$$V(\bar{\tau}) = 1 + \alpha - \bar{\tau} + \beta \cdot \left[p \cdot \delta \cdot V(\bar{\tau}) + (1 - p \cdot \delta) \cdot \bar{V}\right] \tag{59}$$

$$\bar{V} = -\alpha + \sigma_D \cdot V(0) + \sigma_A \cdot V(\bar{\tau}) + (1 - \sigma_A - \sigma_D) \cdot V(\tau^*). \tag{60}$$

Consider first a permissive equilibrium - voters support any level of transgression and rational politicians maximally transgress. That is, $\tau^* = \bar{\tau}$. This is an equilibrium if $V(\bar{\tau}) \geq \bar{V}$ when $p = 1$. By solving this system we see that this holds if

$$\sigma_D \leq \frac{\alpha}{\bar{\tau}} \cdot (1 - \beta\delta). \tag{61}$$

Now consider a non-permissive equilibrium - voters support some level of transgression, but not maximal transgression. That is, $\tau^* < \bar{\tau}$. This is an equilibrium if, when $p = 0$, (i) voters prefer to support rational politicians: $\bar{V} \leq V(\tau^*)$, and (ii) voters prefer to not support autocratic types: $\bar{V} \leq V(\bar{\tau})$. The former requires that $\sigma_D \leq (1 - \beta\delta) \cdot (\alpha + (\bar{\tau} - \tau) \cdot \sigma_A)/\tau$, and is therefore ensured by (61). The latter requires that

$$\tau \leq \hat{\tau} \equiv \left[\frac{1 - \sigma_A - \frac{\alpha}{\bar{\tau}} \cdot (1 - \beta\delta)}{1 - \sigma_A - \sigma_D}\right] \cdot \bar{\tau}. \tag{62}$$

The bracketed term is always less than one whenever (61) holds, and is positive when

$$\frac{\alpha}{\bar{\tau}} \cdot (1 - \beta\delta) \leq 1 - \sigma_A. \tag{63}$$

Therefore, if (61) and (63) hold then there exist multiple equilibria. Specifically, there exists a permissive equilibrium with $\tau^* = \bar{\tau}$ and a continuum of non-permissive equilibria with $\tau^* \in [0, \hat{\tau}]$, where $\hat{\tau}$ is defined in (62).

---

[38]That is, the value of a politician that is observed to transgress any $\tau \in [0, \bar{\tau}]/\{0, \tau^*, \bar{\tau}\}$ is $V(\bar{\tau})$. The need/ability to assign off-equilibrium beliefs can be eliminated if we add extra structure. For instance, suppose that the feasible upper bound on transgressions was a random variable, independently drawn each period, that equalled $\bar{\tau}$ with probability $1 - \varepsilon$ and was continuously distributed on $[0, \bar{\tau}]$ with probability $\varepsilon$. Observing any $\tau > \tau_r$ would *require* voters to believe that such a transgression was from a periodically constrained autocratic type. The consequences of observing any $0 < \tau < \tau_r$ is less of an issue (since no politician would optimally deviate to such a level). For completeness, this observation would require voters believe that such a transgression was from a periodically constrained politician that is rational with probability $(1 - \sigma_D - \sigma_A)/(1 - \sigma_D)$ and an autocratic type with probability $\sigma_A/(1 - \sigma_D)$.

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