

The Foundations of Limited Authoritarian Government: Institutions and Power-sharing in Dictatorships

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Abstract

Why do some dictatorships establish institutions typically associated with democracy, such as legislatures or political parties? We propose a new theoretical model of authoritarian power-sharing and institutions in dictatorships. We argue that political institutions in dictatorships enhance the stability of power-sharing, and therefore the survival of these regimes. However, authoritarian power-sharing through institutions is feasible only when it is backed by the crude but credible threat of a rebellion by the ruler's allies. Whereas the allies' political opportunities – rather than a contingent coordination of beliefs among them – determine the credibility of their rebellion, institutions resolve the commitment and monitoring problems caused by the secrecy in authoritarian governance. Our theory generates new predictions about the empirical relationship between political institutions, economic development, and leader tenure.

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1 Introduction

Tyranny or the unconstrained rule of a polity by one person, has long been treated as the standard, almost stereotypical type of dictatorship. The classical literature on dictatorships mainly investigated personal autocracies and the mechanisms employed by dictators to govern and secure the acquiescence of their subjects ([Xenophon/Strauss 1961](#); [Machiavelli 1513/1985](#)). Similarly, the postwar literature on dictatorships focused on the phenomenon of totalitarianism and on the means through which the totalitarian leader and his party exercised absolute control over society ([Arendt 1973](#); [Friedrich and Brzezinski 1965](#); [Linz 1975, 2000](#); [Neumann 1957](#)).¹ The formal literature that replaced that descriptive body of work did not abandon the basic point of departure of the traditional research on autocracies. Dictatorships continue to be modeled as political regimes in which a single tyrant governs alone through the use of credible threats (and sometimes the distribution of selective benefits), exploits the inability of his subjects to coordinate against him, and is not subject to any external constraint or influence ([Haber 2007](#); [Kuran 1991](#); [Tullock 1987](#); [Wintrobe 1998](#)).

Yet, for all their historical and theoretical importance, single-ruler dictatorships constitute a minority of the universe of authoritarian regimes: Since the end of World War II, less than a fourth of all dictatorships and only about a tenth of all currently existing countries have been governed by a single ruler. Furthermore, roughly three-fourths of all dictatorships in the last sixty years have had a legislature and about 60 percent have relied on a political party to organize their political support.² Even in regimes without these institutions, the leadership often maintains a smaller institutionalized body, such as a ruling council or a politburo, that sustains a regularized political interaction that may serve to restrain the

¹[Linz \(1975, 2000\)](#) is an exception in that he also examines non-totalitarian regimes.

²Our data on legislatures in dictatorships are from [Przeworski et al. \(2000\)](#) and [Keefer \(2002\)](#); our party data are based on [Geddes \(1999\)](#).

tyrannical tendencies of any single ruler.³

In this paper we construct a new theory about we may tentatively call “non-tyrannical autocracies” or all those authoritarian regimes in which the dictator governs in coalition or jointly with a ruling elite. In developing this theory we show that governing institutions (in the form of parties, committees of notables and/or even parliaments) are a key component of those dictatorships - that they underlie the power-sharing agreement that characterizes those regimes and that contribute decisively to their survival.

We start with the observation that most dictators, unable to control directly enough resources to govern alone, must seek the support of an elite or set of notables and therefore have to share power with them. Power-sharing in dictatorships, however, is affected by a credible commitment problem. The dictator and his allies cannot resort to an independent authority to guarantee that the spoils of joint rule will be divided as agreed since that would imply surrendering the very powers they both wish to monopolize. In other words, the power-sharing agreement constitutes the very foundation of political authority within this polity and the central dilemma of any non-tyrannical autocracy is to establish a mechanism that will allow a ruling coalition to govern in a sustained manner.

At the end of the day, power-sharing in authoritarian regimes is sustained by the ability of each side to punish the other party if it decides to deviate from that joint-governance arrangement and, in particular, by the credible threat of a rebellion by the ruler’s allies. With the help of a formal model of authoritarian politics, we show that the very crude nature of the only punishment available to the dictator’s allies in the ruling coalition - the threat to replace the incumbent leader with a challenger - creates strong (functional) incentives to establish political institutions (such as legislatures, committees and parties) that will alleviate moral

³See, for instance, [Suny \(1998\)](#) on the Soviet Union and [MacFarquhar \(1997\)](#) on China.

hazard problems in authoritarian governance. More precisely, we demonstrate that those institutions allow the dictator to maintain more stable ruling coalitions (and hence more stable political regimes) under less favorable circumstances than would be possible without institutions. Nonetheless, we show that authoritarian power-sharing through institutions is only conditionally possible: it always depends on the existence of a sufficiently credible threat of an allies' rebellion against the dictator. Thus we predict that, even in non-tyrannical dictatorships, dictators will abandon institutions when the threat of an allies' rebellion loses its credibility, for instance when the distribution of power within the ruling coalition shifts in favor of the dictator.

Although theoretical research on institutions in dictatorships has been scant, several scholars have recently examined the role of legislatures ([Gandhi and Przeworski 2007](#); [Wright 2008](#)), parties ([Brownlee 2007](#); [Magaloni 2006](#); [Smith 2005](#)), and elections ([Levitsky and Way 2003](#); [Lust-Okar 2006](#)) in authoritarian regimes. This body of work has made important contributions to the study of dictatorships. At the same time, however, this literature remains incomplete in two important ways. First, most of it focuses narrowly on the analysis of particular cases. More importantly, although it asserts that institutions in dictatorships facilitate authoritarian governance, the existing literature has been hardly clear about how they do so, why the same results could not be accomplished without them, and why they are adopted in some cases but not others. In this paper, we develop a theory of institutions in dictatorships that provides a comprehensive answer to this set of questions.

Notably, we depart from two predominant views about the role of political institutions in dictatorships. The first is that autocrats adopt seemingly democratic institutions in order to broaden the basis of their support and coopt opposition to the regime ([Gandhi and Przeworski 2006](#)). In contrast, we argue that political institutions in dictatorships facilitate

power-sharing among those already *in* power and thus lead to durable ruling coalitions. The second view argues that institutions facilitate the maintenance of norms of collective action among the dictator’s allies or opposition (North and Weingast 1989; Greif et al. 1994; Myerson 2008). Instead, we argue that the key determinants of successful collective action in dictatorships are political facts, such as the distribution of power or the benefits from supporting the dictator, rather than a contingent coordination of beliefs. Nonetheless, institutions facilitate power-sharing in dictatorships by reducing moral hazard problems in authoritarian governance.

Our paper thus also contributes to the literature on collective action. In our theory, the allies’ decision whether to support the dictator or rebel against him depends on a set of very intuitive political facts: the (relative) benefit from joining a challenger, the number of allies required for a successful rebellion, and the punishment to those who participate in a failed rebellion. Our model of an allies’ rebellion builds on the global games methodology (Carlsson and van Damme 1993; Morris and Shin 2003) and we obtain a unique equilibrium by assuming that allies do not have common knowledge of the benefit from joining a challenger. This is in contrast to classic models of collective action (e.g. multi-person Stag Hunt games) where the multiplicity of equilibria is reduced by an appeal to some focal coordination of beliefs. While we believe that such a fortuitous coordination of beliefs is possible in principle, it is unlikely to be the key determinant of whether a rebellion against a dictator succeeds.⁴

In fact, an important advantage of our approach to collective action is that it yields testable empirical predictions about the relationship between political institutions in dictatorships, economic development, and leader tenure. Although the difficulty of measuring whether ruling councils, parties, or legislatures indeed constrain the dictator is a serious

⁴Chwe (2001) and Medina (2007) develop alternative approaches to collective action with a motivation similar to ours.

impediment to any large-N research design, our model leads to several predictions consistent with existing large-N empirical findings. We predict that institutionalized ruling coalitions, and as a consequence their leaders, will be more durable and less susceptible to economic downturns than coalitions and leaders in dictatorships without such institutions. This claim is supported by [Gandhi and Przeworski \(2007\)](#), who find that dictators with single parties survive in office longer than those without such parties.

Our model also predicts that institutions will collapse when changes in the distribution of power favor the dictator at the expense of his allies, and that institutionalized power-sharing may in fact be impossible when too much power is concentrated in the hands of the dictator. Historical evidence from the Soviet Union ([Suny 1998](#)) and China ([MacFarquhar 1997](#)) on the collapse of “collective leadership” and the elimination of the Communist Parties as independent political forces during the periods of Stalin’s and Mao’s rule is consistent with this prediction. In some regimes, the discovery of natural resources or an increase in the price of those resources may lead to such power shifts. In fact, existing research indicates that those events result in the collapse of existing institutional constraints on dictators ([Friedman 2006](#); [Karl 1997](#)).

The paper is organized as follows. In Section 2, we present data on the variation in institutions in dictatorships over time. In Section 3, we develop our theoretical model of institutions and power-sharing in dictatorships. Section 4 concludes. (In work in progress not included in this paper, we empirically test our propositions about the relationship between leader tenure, economic crises, and institutions in dictatorships.)

2 Descriptive Data

In the data we examine, we employ the following definitions. A dictatorship is any regime where one of the two following conditions is not met: free and competitive legislative elections and an executive accountable to citizens (either directly via elections in presidential systems or indirectly via the legislature in parliamentary systems).⁵ A tyranny is a dictatorship without a legislature. And a non-tyrannical autocracy or, for the sake of brevity, an autocracy is any dictatorship that has a legislature (with the exception of advisory or legislative bodies appointed by the dictator, we consider dictatorships with these institutions to be tyrannies).

Figures 1 and 2 show the number and the proportion of tyrannies and autocracies in the world from 1951 to 1999. We employ two data sets to determine the distribution of these two types of dictatorships. We use the data collected by [Przeworski et al. \(2000\)](#) to track the evolution of dictatorships with and without legislatures from 1951 to 1990. We rely on Keefer’s “Database of Political Institutions” ([Keefer 2002](#)) to construct the same two series from 1975 to 1999. Because [Przeworski et al.](#)’s dataset does not report oil-exporting countries, [Keefer](#)’s dataset provides an alternative count of (primarily) tyrannies.

Figure 1 about here.

The total number of dictatorships grew steadily from about 40 in 1951 to a peak of 108 in 1978. The number of dictatorships then declined to about 90 by the turn of the century. The number of tyrannies grew until the mid 1970s: in 1976 there were 47 dictatorships without legislative bodies. Autocracies also multiplied sharply in the early 1960s following the process of decolonization. Their number stayed put for about fifteen years and then grew again after the late 1970s. By the early 1980, there were around seventy authoritarian regimes with legislatures.

⁵The definition and the coding is taken from [Boix and Rosato \(2001\)](#).

Figure 2 about here.

In spite of the growth in the overall number of dictatorships, the ratio of tyrannies to autocracies has been remarkably stable throughout the second half of the 20th century. As shown in Figure 2, between 70 and 80 percent of all authoritarian regimes have had an elected legislature. Only during the seventies did this proportion fall to less than 60 percent, following a dramatic increase in the number of tyrannies.

Table 1 about here.

Table 1 reports the number of transitions to dictatorial regimes at the time of independence and from already sovereign democracies. We also present the number of transitions between tyrannies and autocracies. We see that most regime transitions occurred before 1975. At the time of independence, 32 countries became autocracies while another three became tyrannies. We counted 19 democracies shifting to tyranny and 5 to autocracy. But importantly, transitions between the two types of dictatorships were substantial: 26 tyrannies introduced legislatures and 37 autocracies lost them. After 1975, however, change is more subdued. There are no transitions between the two types of dictatorships, only a handful of countries become autocracies at the time of independence, and most regime transitions are democratic breakdowns resulting in autocracy (15 cases).

This brief overview of the data on the two types of authoritarian regimes, tyrannies and autocracies, reveals several interesting patterns. First, at the time of independence, autocracies are more likely to emerge than tyrannies. In contrast, democratic breakdowns are about equally likely to result in an autocracy as in a tyranny. But interestingly, democratic breakdowns resulted primarily in tyrannies before 1975 but exclusively in autocracies after 1975. Although the ratio of tyrannies to autocracies has been remarkably stable throughout the period under study, there is a significant amount of fluidity between tyrannies and

autocracies. However, all of this fluidity is limited to the period before 1975. In the next section, we develop our theory of institutions in dictatorships and discuss how it explains this variation.

3 The Theoretical Model

Let us turn now to explore analytically the governing structure of non-tyrannical autocracies, i.e. of authoritarian regimes in which the autocratic leader or dictator rules in coalition with a set of individuals. Here we show that these authoritarian regimes, based on a tacit “deal” among the members of the autocratic or ruling elite to govern together according to some predetermined rule, generally develop a set of political institutions (such as legislatures, committees or parties) to sustain such a “power-sharing” agreement.

Consider an authoritarian polity in which political power is controlled by a *ruler* and a continuum of *notables*.⁶ The ruler controls a share λ of the total power, while the notables control the rest, $1 - \lambda$. In order to stay in office, the ruler needs to maintain a *ruling coalition* that commands at least a κ majority of the total power; we call κ the *effective power threshold*.⁷ When $\lambda > \kappa$, the ruler controls a sufficient amount of power in order to rule alone. But when $\lambda < \kappa$, the ruler needs to recruit some *allies* from among the notables in order to stay in office. In that case, we assume that the ruler recruits allies with the minimum joint power required for him to stay in office, $\mu = \kappa - \lambda$. Furthermore, we assume

⁶The assumption that notables are atomless players simplifies the analysis below, but it is not essential. One interpretation of this assumption may be that the notables enjoy significant influence locally, but the power of any single notable is of little consequence at the national level.

⁷Although our concept of the ruling coalition is close to [Bueno de Mesquita et al.’s \(2003\)](#) winning coalition, there is an important difference between the two: whereas [Bueno de Mesquita et al.](#) measure the size of the winning coalition in individuals, our metric is the amount of power held by the ruling coalition. Thus we capture a distinctive feature of dictatorships: the existence of large differences in power across individuals.

that an alternative coalition of notables that would *not* include the ruler but would survive in office is also feasible, $\lambda < 1 - \kappa$. Thus $\lambda \in (0, 1 - \kappa)$. Figure 3 illustrates this model of an authoritarian polity.

Figure 3 about here.

When the ruler recruits allies, he promises each ally a share $\beta > 0$ of net government revenue per unit of power the ally holds. For instance, when $\beta = 1$, then the share of revenue paid to the allies is $\mu\beta = \mu$. That is, the share of revenue paid to the allies corresponds to the power held by them.

However, government revenue may differ across periods as a result of variation in administrative costs, economic performance, or political turmoil. More precisely, revenue is 1 with probability π (good times) and it is 0 with probability $1 - \pi$ (crises.) Thus when the ruler keeps his promise, each ally receives the payoff β with probability π and the payoff 0 with probability $1 - \pi$.

We assume that power-sharing between the ruler and the allies is politically desirable: In any period, the ruler maintains μ allies and still keeps a nonnegative share of government revenue, $1 - \mu\beta \geq 0$. On the other hand, our assumptions about the payoffs to the allies imply that, as long as the ruler keeps his promise to pay a β fraction of net government revenue to each ally, each ally receives a nonnegative payoff in any period as well.

Any power-sharing agreement in an autocracy is bedeviled, however, by extraordinary political tensions. To obtain higher rents, to lower the probability of rebellions among ambitious notables or to build up a more cohesive country that can be then employ to expand abroad, the dictator will strategize to get rid of or at least subject with a much firmer grasp the class of notables. The leader may try to check, imprison or kill all the notables

at the same time and then proclaim himself absolute ruler or monarch. Alternatively, he may use more gradual tactics. He may get rid of a few notables at a time without the rest taking notice, proceed to absorb the fortunes and power of those he just eliminated and use his growing power to further purge more notables. In that he may be aided by a faction of loyal supporters (within the general class of notables) which would then give him the extra resources needed to overwhelm everyone else. Naturally, a few sequential rounds of such type of “salami” tactics will transform him into a tyrant. In turn, one or several local notables may as well try to upset the existing balance of power. They may attempt to accumulate resources, organize particular networks of supporters or reshape the class of notables itself to constrain the dictator or to fire him. In fact, these intra-elite tensions will be exacerbated by the secrecy typically associated with authoritarian governance. If the allies of the dictator have limited or no information about actual government revenue, they will have to rely on the ruler’s report of revenue when they claim their promised share in the spoils of government. Because the allies anticipate that the ruler will be tempted to understate government revenue, the possibility of maintaining the autocratic deal will become even lower.

To sum up, in the process of ruling, the autocratic elite has to make sure that no one within the ruling class will either create factions or internal networks, use exogenous resources or stir the support of those that are excluded from government to challenge the status quo, that is, to shift the internal balance of power (of the autocratic elite) and to reconfigure the composition of the governing elite. To the extent to which the elite is successful in preventing anyone from reneging from the autocratic deal, that autocracy will endure. Otherwise, it will collapse and give way to a different political arrangement.

Now, the autocratic deal cannot be simply grounded on a verbal pact among autocrats,

i.e. an orally given promise to respect the position or status of everyone and to consult everyone informally to decide over any issue. It cannot be based either on a mere written agreement - in the form of a contract accepted and signed by everyone. As in any pact, the autocratic deal needs to rely on some external guarantees, that is, on some guarantees that go beyond the strict promise to behave well and keep the agreement. Unless there are some mechanisms to monitor the behavior of the parties of the agreement and unless there are some means to enforce the pact, anyone may have the temptation to renege from it and to undo the agreement to jointly share in ruling.

The autocratic “pact” requires the existence of some public body or institution that confirms the nature of the deal made among autocrats and that guarantees its maintenance. Naturally, this body (or organization) cannot be a third party independent from the autocratic elite to whom the latter entrusts the enforcement of the pact. If that body were external to the ruling clique, the sovereignty of the state would be actually lying in its hands and not under the control of the governing elite. The institution (or institutions) that embodies (and preserves) the pact must be some structure where the members of the elite are represented or in which they participate and which reflects the nature of the pact among the members of the elite. This collective body (or institution) must be such that it serves both to monitor the autocratic deal (by giving the right type of information about the current balance of power and about the possible attempts to alter it) and to enforce it (by punishing or credibly threaten to punish those that may deviate from the power-sharing agreement).

The introduction of a set of governing institutions fulfills in an appropriate manner the two central functions of monitoring and enforcement needed to sustain the autocratic deal. They give everyone enough information about the status of all the involved parties. In meeting together as a separate group, each notable checks that their equals are still alive

and that they have not experienced arbitrary changes (brought on by the leader) in power, assets and status. Similarly, every notable observes the nature, size and stability of the existing factions in the country. In doing so, he verifies that no section of the notable class is too loyal to the leader or, in other words, too "monarchical." The very routine of meeting in an assembly also serves as a yardstick to measure the intentions of the leader. Any attempt by the national leader to block or not convene his lords' assembly is a signal that he is indeed intent on disrupting the old balance of power and should therefore trigger an immediate backlash from his notables.

Institutions are also an adequate (even if it is not a bullet-proof) mechanism to enforce the pact. In an autocracy the national leader is stronger than any individual notable (or than a fraction of the group of notables) yet weaker than the whole population of notables. This is, as a matter of fact, not unlike a tyrannical government, where the tyrant always succumbs to the coordinated antagonism of his subjects. But autocracies and tyrannies differ in a key sense. In a tyranny, the tyrant's goal is to prevent the very possibility of coordination. In an autocracy the institutions where notables meet with some regularity make the possibility of coordination available in a public manner. In an autocracy, the dictator has already conceded to his allies the possibility of coordination. Notables meet, with some (not necessarily high) regularity, and this meeting may become an occasion to coordinate against the dictator. To put it in other words, the assembly of notables reduces the coordination costs of the agents of the dictator and hence tips the balance away from what otherwise would become a tyranny.

3.1 Allies' Rebellion as a Collective Action Problem

In order to understand when power-sharing between the ruler and his allies will succeed, first we need to understand a central feature of authoritarian politics: the only punishment that the allies may use to deter the ruler from reneging on his promise to compensate them for their support is to replace him with a challenger. While any single notable is too weak to compel the ruler to comply with their power-sharing arrangement, a collection of notables may be able to credibly threaten to join a challenger. The credibility of that threat in turn determines the terms of any power-sharing agreement that the ruler will abide by in the first place.

Hence our first step is to examine the credibility of the allies' threat to abandon the ruler in favor of a challenger - the threat of an allies' rebellion. The choice of the word "rebellion" in our model should not be taken too literally. In our use of the term allies' rebellion, we are motivated by the recognition of the right to a barons' rebellion in Clause 61 of the Magna Charta of 1215 in the case of the King's transgression against the Charter. But most modern rebellions are called coups or plots or even revolutions (as in the 1968 July Revolution that brought the Baath Party to power in Iraq). Below we examine the central role that the participants' anticipation of the success or failure of such collective endeavors plays in their credibility as threats against the ruler's opportunism.

In a rebellion, each ally may either *support* the ruler or *rebel* against the ruler by joining a *challenger*. As long as the ruler remains in power, each ally who supports the ruler receives the expected benefit $b \geq 0$ from the ruler. Alternatively, if a rebellion is staged and succeeds, the allies who joined the challenger will enjoy the expected benefit from the challenger's rule θ . On the other hand, those allies who supported the ruler will lose any benefits and receive the payoff zero. However, if a rebellion fails, an ally who joined the challenger will receive

the payoff $\theta - r$, where $r > 0$ represents the ruler’s punishment of those who participated in a failed rebellion. Thus while rebelling entails the risk of a lower payoff in the case of a failure, supporting the ruler is also risky since a rebellion may succeed.

Whether a rebellion succeeds depends on the proportion of allies that join the challenger, which I denote ρ . The rebellion succeeds when $\rho > \rho^*$ and fails otherwise. These payoffs are summarized in Figure 4.

Figure 4 about here.

We assume that all aspects of this setting except for the payoff from a successful rebellion θ are common knowledge. More precisely, each ally privately observes an imperfect signal s_i of the payoff from a successful rebellion θ . The signal s_i is distributed uniformly on the interval $[\theta - \varepsilon, \theta + \varepsilon]$, and the realizations of s_i are independent across allies. We think of $\varepsilon > 0$ as “small.” In turn, we can say that each ally’s signal s_i comes with a small, idiosyncratic noise. For expositional simplicity, we assume that θ has a uniform prior density on the interval $[1 - \sigma, 1 + \sigma]$, $\sigma > 0$. In other words, before observing the signal s_i , each ally assigns the same probability to any value of θ in the interval $[1 - \sigma, 1 + \sigma]$.⁸

When should an ally join a rebellion against the ruler? To answer this question, consider first an alternative, simpler setting in which the benefit from a successful rebellion θ is public information and thus common knowledge among the allies. If $\theta < 0$, each ally prefers supporting the ruler to rebelling, regardless of how many allies plan to rebel. Alternatively, if $\theta > b + r$, rebelling strictly dominates supporting the ruler.

When the payoff from a successful rebellion θ is in the interval $[0, b + r]$, however, this model resembles a multi-person Stag Hunt. That is, supporting the ruler is an ally’s optimal

⁸These simplifying distributional assumptions are inconsequential as long as the support of θ contains the interval $[0, b + r]$ and ε is small relative to σ . The mean of the prior distribution of θ can be interpreted as the long-run average payoff from being a member of the ruling coalition.

choice whenever at most ρ^* allies rebel, and rebelling is her optimal choice as long as more than ρ^* allies rebel. Thus whether a rebellion succeeds is unrelated to the benefit from supporting the ruler b , the cost of a failed rebellion r , or the participation threshold ρ^* ; it depends exclusively on what each ally believes about the intended actions of the others.

This multiplicity of equilibria disappears in the present setting where each ally observes only an imperfect signal s_i of the payoff from a successful rebellion θ . Given our assumptions about the distribution of s_i , each ally has an unbiased estimate of θ . More precisely, after ally i observes the signal s_i , she believes that θ is distributed uniformly on the interval $[s_i - \varepsilon, s_i + \varepsilon]$, and her expectation of θ is s_i . However, she does not know the signals $s_{\sim i}$ that other allies observed, and in turn, the true value of θ is not common knowledge.

Suppose therefore that each ally follows a threshold strategy according to which she rebels when her signal s_i exceeds some threshold s^* and supports the ruler otherwise. Then in equilibrium, each ally must be indifferent between supporting and rebelling against the ruler whenever $s_i = s^*$. When $s_i = s^*$, ally i 's expected payoff from supporting the ruler is

$$\Pr(\rho \leq \rho^*)b + [1 - \Pr(\rho \leq \rho^*)]0 = \Pr(\rho \leq \rho^*)b.$$

On the other hand, her expected payoff from rebelling is

$$\Pr(\rho \leq \rho^*)(s^* - r) + [1 - \Pr(\rho \leq \rho^*)]s^* = s^* - r\Pr(\rho \leq \rho^*),$$

given that the expectation of θ is s_i . Therefore, for an ally who observes the signal $s_i = s^*$, we have

$$\Pr(\rho \leq \rho^*) = \frac{s^*}{b + r}. \tag{1}$$

In order to find the threshold signal s^* , we need to compute the equilibrium probability that a rebellion will fail, $\Pr(\rho \leq \rho^*)$, for an ally with the signal $s_i = s^*$. Given the threshold strategy, the proportion of allies ρ that rebel corresponds to the proportion of allies with the signal $s_i > s^*$. Given some payoff from the rebellion θ , this proportion is

$$\rho = \frac{\theta + \varepsilon - s^*}{2\varepsilon}.$$

In turn, $\rho \leq \rho^*$ when

$$\frac{\theta + \varepsilon - s^*}{2\varepsilon} \leq \rho^*,$$

or equivalently, when

$$\theta \leq s^* + 2\varepsilon\rho^* - \varepsilon. \quad (2)$$

Thus we have

$$\Pr(\rho \leq \rho^*) = \Pr(\theta \leq s^* + 2\varepsilon\rho^* - \varepsilon) = \frac{s^* + 2\varepsilon\rho^* - \varepsilon - (s^* - \varepsilon)}{2\varepsilon} = \rho^*.$$

In other words, an ally with the signal $s_i = s^*$ believes that the proportion of allies that will rebel is distributed uniformly,

$$\Pr(\rho \leq \rho^*) = \rho^*. \quad (3)$$

Substituting (3) into (1), we see that, in equilibrium, the allies follow a threshold strategy, with the threshold signal

$$s^* = \rho^*(r + b). \quad (4)$$

In effect, the signal s_i coordinates allies' beliefs about the likelihood of a successful rebellion. Importantly, this equilibrium is unique and thus requires no additional assumptions about

the formation of allies' beliefs.⁹

The equilibrium threshold (4) implies a very simple and intuitive relationship between the likelihood of a successful rebellion and our political setting. In order for an ally to rebel, the imperfect signal s_i of the payoff from a rebellion θ must be higher: i) when a greater proportion of allies is required for a successful rebellion (high ρ^*), ii) when the payoff from supporting the ruler is high (high b), and iii) when the cost of a failed rebellion is high (high r).

The equilibrium threshold (4) also implies that the punishment of those who participated in a failed rebellion and benefits are substitutes from the ruler's point of view. The choice of the two policies may therefore depend on the cost of repression relative to that of economic benefits, which may vary across regimes (e.g. military vs. civilian dictatorships) or circumstances (e.g. economies at different stages of development.) In fact, [Wintrobe \(1998\)](#) assumes that repression and benefits (loyalty in his terminology) are substitutes; we derive this relation within a strategic model of an allies' rebellion.

When should the ruler expect a rebellion to succeed? The ruler must form an expectation about the likely success of a rebellion without observing the signal s_i . The threshold signal s^* implies that there is a threshold benefit from a successful rebellion θ^* , such that a rebellion succeeds for any $\theta > \theta^*$. Using (2) and (4), we have

$$\theta^* = \rho^*(r + b) + 2\varepsilon\rho^* - \varepsilon \quad \text{for } \theta^* \in [1 - \sigma, 1 + \sigma].$$

Thus the ruler expects that the allies' rebellion succeeds when $\theta > \theta^*$ and fails otherwise.

⁹For a general proof see [Morris and Shin \(2003\)](#).

Then the probability of a successful rebellion is

$$\Pr(\theta > \theta^*) = \begin{cases} 0 & \text{if } \theta^* < 1 - \sigma, \\ \frac{1+\sigma-\theta^*}{2\sigma} & \text{if } \theta^* \in [1 - \sigma, 1 + \sigma], \\ 1 & \text{if } \theta^* > 1 + \sigma. \end{cases}$$

Like the threshold signal s^* , the threshold benefit from a successful rebellion θ^* also depends on our political setting in an intuitive way: a large payoff to the allies b , a large proportion of allies that is required for a successful rebellion ρ^* , and high cost of a failed rebellion r raise the equilibrium threshold benefit from a successful rebellion θ^* and thus lower the probability of its success. In other words, the ruler knows that a rebellion is more likely to succeed if he pays his allies poorly, when a small fraction of them must defect to the challenger in order for a rebellion to succeed, or when the punishment for those who participate in a failed rebellion is lenient.

In fact, recall that the ruler recruits allies with the minimum joint power that satisfies the effective power threshold, $\mu = \kappa - \lambda$. In order for the notables to form a coalition that excludes the ruler and commands a κ majority of the total power, $2\kappa - 1$ notables must abandon the ruler. Thus the fraction of allies required for a successful rebellion is

$$\rho^* = \frac{2\kappa - 1}{\kappa - \lambda}.$$

Note that ρ^* is increasing in the ruler's relative power λ . In other words, weak rulers – rulers who need to maintain a large coalition of allies in order to stay in power – are more vulnerable to a rebellion, because the defection of a smaller fraction of allies is required for a rebellion to succeed.

Proposition 1. *In a unique Bayesian Nash equilibrium, each ally supports the ruler if $s_i \leq s^*$ and rebels if $s_i > s^*$, where $s^* = \rho^*(r + b)$. An allies' rebellion succeeds if $\theta > \theta^*$, where $\theta^* = \rho^*(r + b) - 2\varepsilon\rho^* + \varepsilon$ for $\theta^* \in [1 - \sigma, 1 + \sigma]$.*

3.2 Political Institutions and Authoritarian Power-Sharing

Above, we have established how the credibility of the threat of a rebellion depends on the key factors in our political setting: the payoff from supporting the ruler, the number of allies that the ruler needs in order to stay in power, and the punishment for those who participate in a failed rebellion. We can now examine how the credibility of this threat affects the possibility and the terms of a power-sharing agreement between the ruler and the allies.

The timing of actions in this extensive game is as follows. In period $t = 0$, the ruler and the allies form a power-sharing agreement according to which the ruler pays allies a β share of government revenue in each period. The timing of actions in any period $t \geq 1$ is depicted in Figure 5. First, nature determines the size of revenue, then the ruler privately observes revenue, reports it to allies and pays them, then the allies observe the ruler's report and their compensation but not revenue, and finally, if a rebellion is staged, each ally observes a signal of her payoff under the challenger and either supports the ruler or rebels against him. We study a Markov Perfect Equilibrium in which the allies condition their actions in any period $t \geq 1$ on the ruler's announcement of revenue, the compensation they receive, and, if a rebellion is staged, the challenger's offer.

Recall that a rebellion is the only punishment available to the allies and that it must fulfil two objectives. First, it must discourage the ruler from renegeing on his promise to pay allies a fraction β of government revenue. But the same threat must also deter the ruler from lying about revenue. In fact, either type of defection hurts the allies equally and yields the

same benefit to the ruler. If the ruler reneges on his promise to pay allies β , the allies receive the payoff 0. If the ruler lies about revenue – when he claims that revenue was 0 when it was actually 1 and the allies believe him – the allies receive the payoff 0 as well. Thus the two types of defection are indistinguishable when revenue is observed only by the ruler.

Consider first how the allies may use the threat of a rebellion in order to deter the ruler from reneging on his promise to share with each of them a β fraction of revenue. The allies may threaten to rebel in any period in which they receive a payoff other than β . But note that the threat of a rebellion does not imply that each ally will unconditionally join any challenger. Once the ruler defects, each ally simply considers the challenger’s offer (based on her signal s_i) and decides whether to rebel. This is what we mean when we say that “allies rebel.”¹⁰

But the allies also fear that the ruler will lie about revenue in order to avoid paying them: the ruler may claim that the government is in a fiscal crisis and revenue is 0 because he does not want to pay each ally a β fraction of revenue. Given the lack of any subtler instruments that would discourage lying, the allies must also threaten to stage a rebellion after the ruler claims that revenue is 0. In turn, the threat of a rebellion will outweigh the immediate benefit to lying when

$$1 - \mu\beta + \delta V \geq 1 + (1 - \phi_{\rho^*})\delta V, \quad (5)$$

where $\delta \in (0, 1)$ is a discount factor, ϕ_{ρ^*} is the probability of a successful rebellion when each ally receives the payoff 0 and the proportion of allies required for a successful rebellion

¹⁰We can check that once a rebellion is in place, the ruler pays allies 0 and that each ally considers the challenger’s offer. Alternatively, no ally has an incentive to consider the challenger’s offer when a rebellion is not in place, as long as other’s do not. Thus the ruler’s and allies’ actions constitute a Bayesian Nash equilibrium in each period, both during a rebellion and when a rebellion is not in place.

is ρ^* , and V is the ruler's expected discounted payoff when the above incentive constraint is satisfied,

$$V = \pi(1 - \mu\beta + \delta V) + (1 - \pi)(1 - \phi_{\rho^*})\delta V = \frac{\pi(1 - \mu\beta)}{1 - \delta[1 - \phi_{\rho^*}(1 - \pi)]}.$$

Since the two types of defection – not sharing revenue and lying – are indistinguishable and the same punishment – an allies' rebellion – is used to discourage both, the incentive constraint (5) also describes incentives that will discourage the ruler from not sharing revenue.¹¹ In turn, the ruler will comply with the power-sharing agreement as long as

$$\delta \geq \frac{\mu\beta}{\mu\beta + \phi_{\rho^*}(\pi - \mu\beta)}.$$

Note that the greater the probability that a rebellion succeeds and the lower the payoff to each ally β , the greater the range of discount factors under which power-sharing is possible.¹² But the likelihood of fiscal crises also affects the feasibility of power-sharing: the more likely such crises are, the harder it is to share power.

In fact, even though the threat of a rebellion may be sufficient to compel the ruler to share revenue as agreed, it does so at the price of potentially collapsing in each period with a crisis, which happens with the probability $(1 - \pi)\phi_{\rho^*}$. Thus both the ruler and the allies would prefer to eliminate any asymmetries of information among each other.

This is precisely what an institutionalized power-sharing agreement may accomplish. Both the ruler and the allies will benefit from establishing an institutional mechanism that

¹¹Both constraints bind only during good times.

¹²The effect of the ruler's power λ is ambiguous: higher λ implies lower μ and thus a lower total expenditures on allies, which lowers the attractiveness of a defection. But higher λ also implies higher ρ and thus decreases the credibility of a rebellion and thus raises the attractiveness of a defection.

reveals government revenue to all parties in each period. This mechanism could be, for instance, a periodic review of government spending and revenue or the consultation of major policies by a council of allies or their representatives. Lying about revenue by the ruler will be, in turn, observable to the allies.

Once such an institutionalized power-sharing agreement is in place, the threat of an allies' rebellion will serve to deter the ruler from circumventing those institutions and from the downright refusal to share revenue as agreed. The ruler will comply as long as

$$1 - \mu\beta + \delta V^I \geq 1 + (1 - \phi_{\rho^*})\delta V^I,$$

where V^I is the ruler's expected discounted payoff under an institutionalized power-sharing agreement,

$$V^I = \pi(1 - \mu\beta) + \delta V^I = \frac{\pi(1 - \mu\beta)}{1 - \delta}.$$

Thus the ruler complies an institutionalized power-sharing agreement when

$$\delta \geq \frac{\mu\beta}{\mu\beta + \pi\phi_{\rho^*}(1 - \mu\beta)}.$$

Importantly, the range of discount factors under which power-sharing is possible is always greater when power-sharing is institutionalized than when it is not. When we rewrite the threshold discount factors under power-sharing with (δ^I) and without institutions ($\delta^{\sim I}$) as

$$\delta^I = \frac{1}{1 + \pi\phi_{\rho^*} \left(\frac{1}{\mu\beta} - 1 \right)} \quad \text{and} \quad \delta^{\sim I} = \frac{1}{1 + \pi\phi_{\rho^*} \left(\frac{1}{\mu\beta} - \frac{1}{\pi} \right)}$$

respectively, we see that the latter is larger than the former. This result is intuitive: Because

the allies no longer need to stage a rebellion every time the ruler claims there is a crisis, the expected payoff from power-sharing is greater, which in turn reduces the ruler's temptation to renege on it. Thus institutions allow for power-sharing when it otherwise would not be possible.

Proposition 2. *In a Markov Perfect equilibrium, the ruler honors an institutionalized power-sharing agreement and allies support the ruler as long as $\delta \geq \delta^I$, whereas the ruler honors a power-sharing agreement that is not institutionalized and allies support the ruler as long as $\delta \geq \delta^{\sim I}$. Moreover, $\delta^{\sim I} > \delta^I$.*

The implications of this result are sharpest when we consider how changes in our political setting in factors other than the discount factor affect the feasibility of power-sharing. Consider what happens when the distribution of power changes in favor of the ruler: once the ruler controls more power λ , the fraction of allies who must rebel in order to remove him ρ^* increases, which according to the equilibrium threshold (4) lowers the likelihood of a successful rebellion. As a result, defection is now more attractive to the ruler.

Figure 6 illustrates how a change in the ruler's power $\Delta\lambda$ affects the feasibility of power-sharing. We plot the threshold discount factors under power-sharing with and without institutions (solid and dashed line respectively) against changes in the ruler's power $\Delta\lambda$. We see that an increase in the ruler's power reduces the range of discount factors under which power-sharing is feasible, both with and without institutions. However there is also a range power shifts after which power-sharing will collapse without institutions, but will survive with institutions. Thus it may be in fact an increase in the ruler's power that may propel a ruling coalition to establish institutions in order to maintain a power-sharing arrangement.

Yet as Figure 6 indicates, even those institutions may not save a power-sharing agreement once the ruler's power grows too large. This result may explain why the discovery of natural

resources or an increase in the price of those resources are frequently followed by the collapse of the existing institutional constraints on individual ruler's (Friedman 2006; Karl 1997): the discovery of natural resources or an increase in the price of those resources advances the power of the ruler relative to that of the allies, which according to our model narrows the range of discount factors under which power-sharing will be feasible.

Figure 6 about here.

What happens when power-sharing isn't possible at all? When the circumstances are unfavorable and power-sharing is not feasible ($\delta < \delta^{\sim I}$), the ruler violates the power-sharing agreement in every period while the allies support the ruler in any period only because a more attractive challenger is not presently available and, in fact, abandon the ruler as soon as such a challenger appears. Thus our model predicts that these polities will be unstable, with frequent leadership changes.

To summarize, we show that the terms and the stability of power-sharing between the ruler and the allies depend on the credibility of the allies' threat of a rebellion. This threat is credible when the ruler needs to maintain a large number of allies in order to stay in office, when the cost of a failed rebellion is low, and when the challenger's offer is high relative to the benefits that allies receive from the ruler. Institutions expand the range of circumstances under which power-sharing is feasible by eliminating asymmetries of information between the ruler and the allies and allow for power-sharing when it otherwise would not be possible. Yet even institutionalized power-sharing agreements may collapse once the ruler's power grows too large.

4 Conclusion

From a historical point of view democracy has always constituted a very exceptional form of government. Until the last hundred years, republican polities were confined to a few cities in the classical world and in medieval and modern Europe - and even then their democratic institutions were of the most imperfect sort. A back-of-the-envelope calculation shows that, since it emerged about 100,000 years ago, close to ninety nine percent of mankind has been governed by authoritarian rulers - tyrants, monarchs, princes and warlords of all venues.

Yet the literature on nondemocratic regimes is still in its infancy for at least two reasons. First, most of the literature on dictatorships mistakenly treats the rule of a tyrant as the standard type of autocratic government. In this paper, we present data that indicate that this view is at best unrepresentative of modern dictatorships. While quantitative data on institutions in pre-modern dictatorships are lacking, Lo's (1969) depiction of Court Conferences under the Ming suggests that same may be true about pre-modern dictatorships:

Even... when absolutism was at one of its heights in China... Emperors might hint and threaten and court favorites might coerce and intimidate, but Court Conferences persisted as the focus in which important issues were resolved. And when rulers or their favorites planned unpopular courses of action, officialdom found it possible to block them by collective action (p. 70).

Second, the study of dictatorships is still wedded to a sociological approach committed to the construction and description of ideal types, that is, of types developed on the basis of the high frequency of certain particular traits. By contrast, we start with the observation that a successful dictatorship must resolve two political conflicts: The conflict between those in power and those excluded from power, but equally importantly, also the conflict among

those in power.

We therefore investigate how the distribution of power within an authoritarian polity affects the possibility for power-sharing. We argue that a fundamental problem of authoritarian rule is the need to share power in an environment where any defection must be backed by a credible threat of violence. This is because, in a dictatorship, any power-sharing agreement is the very foundation of political authority. Moreover, the only punishment available the dictator's allies is to replace him with a challenger. We study how the credibility of that threat shapes the possibilities for power-sharing and find that the crude nature of this threat creates strong incentives to establish institutions that would alleviate moral hazard problems in authoritarian governance. Yet even these institutions survive only as long as any shifts in the balance of power between the dictator and his allies do not undermine the credibility of the allies' threat to replace the dictator.

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Table 1: Transitions to and between authoritarian regimes, 1955-99

	Became independent and autocracy	and tyranny	From democracy to autocracy	tyranny	From tyranny to autocracy	From autocracy to tyranny
1955-59	3	1	1	2	2	4
1960-64	20	1	3	6	6	5
1965-69	7	0	1	7	5	12
1970-74	2	1	0	4	13	16
<i>Total 1955-74</i>	32	3	5	19	26	37
1975-79	1	0	2	0	0	0
1980-84	0	0	6	0	0	0
1985-89	0	1	2	0	0	0
1990-94	2	0	4	0	0	0
1995-99	0	0	1	0	0	0
<i>Total 1975-99</i>	3	1	15	0	0	0

Sources: [Przeworski et al. \(2000\)](#) for 1955-74, [Keefer \(2002\)](#) for 1975-99.

Figure 1. Number of Dictatorships with and without Legislature, 1951-1999

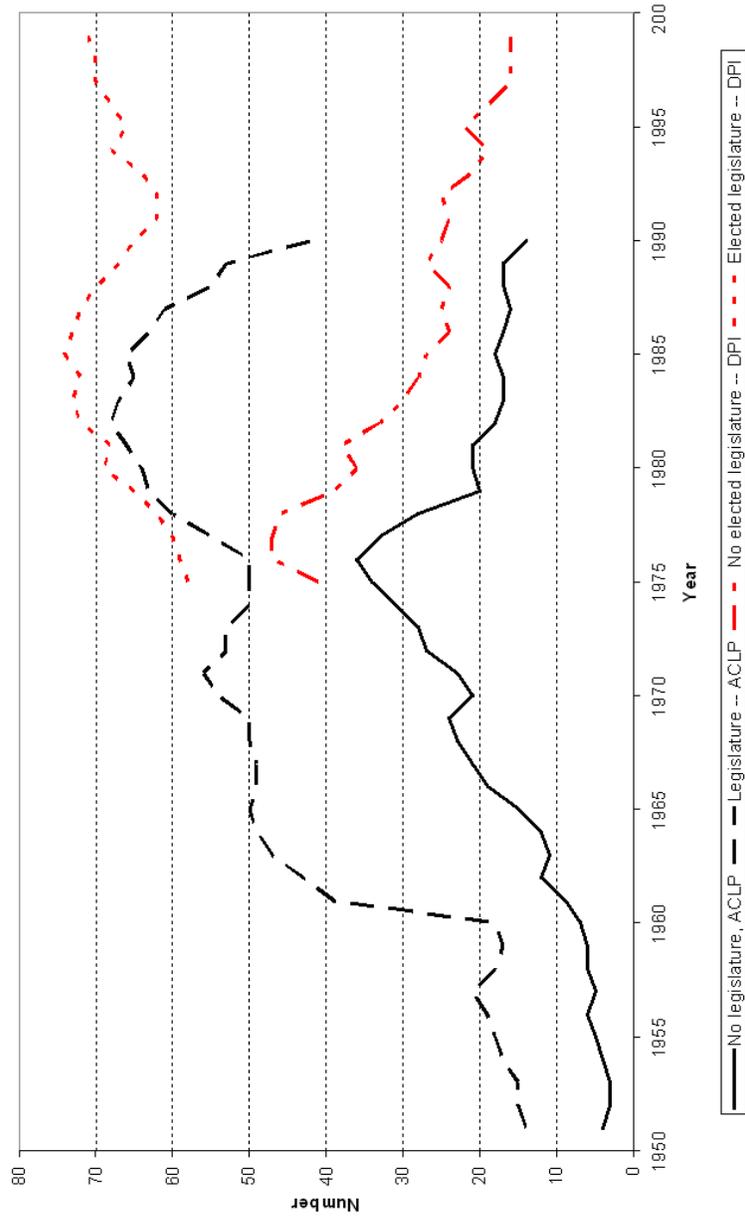


Figure 1: Number of dictatorships with and without legislature, 1951-1999.

Figure 2. Frequency of Dictatorships with and without Legislature, 1951-1999

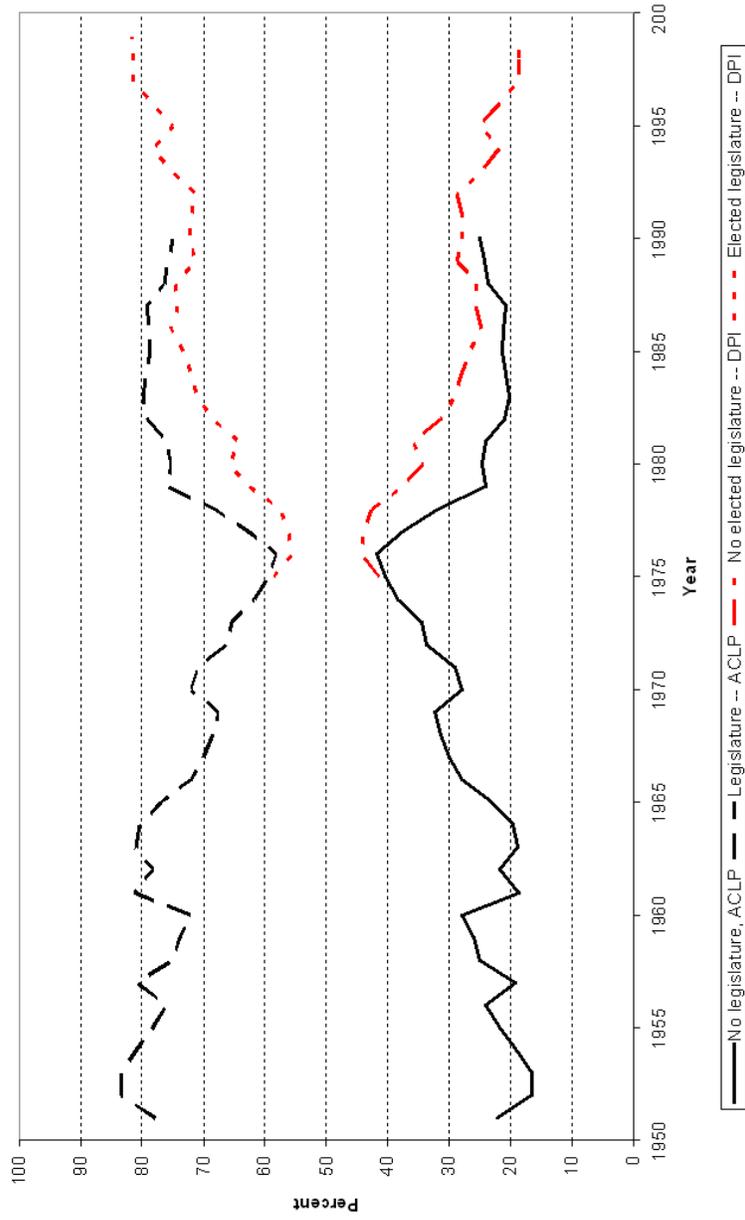


Figure 2: Frequency of dictatorships with and without legislature, 1951-1999.

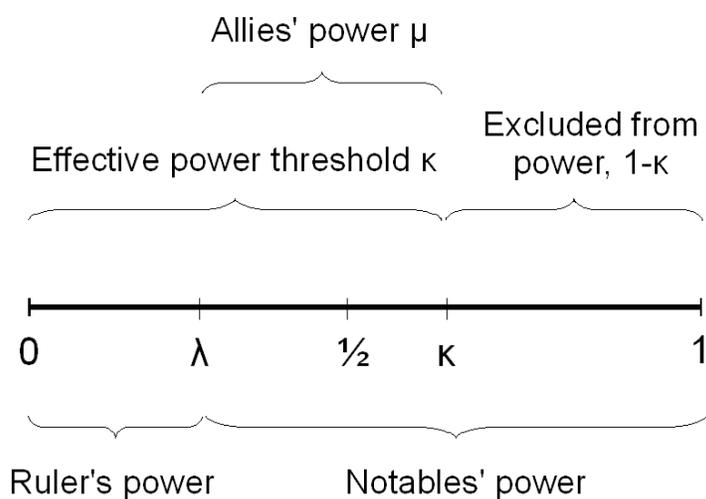


Figure 3: A model of an authoritarian polity

		$\rho \leq \rho^*$	$\rho > \rho^*$
<i>Ally i</i>	<i>Support</i>	b	0
	<i>Rebel</i>	$\theta - r$	θ

Figure 4: Payoffs to ally i

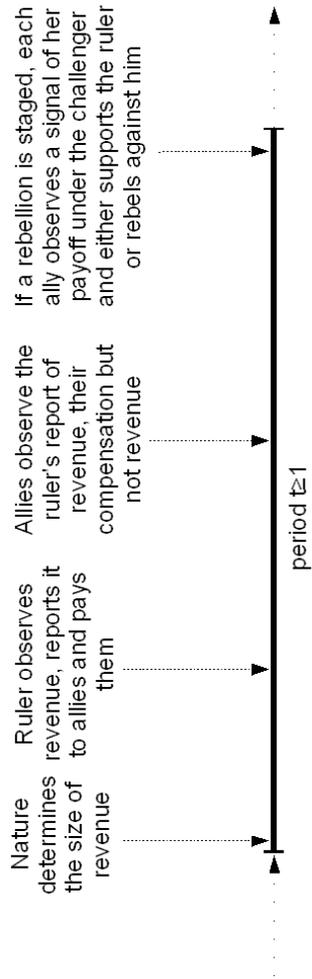


Figure 5: The timing of actions in periods $t \geq 1$

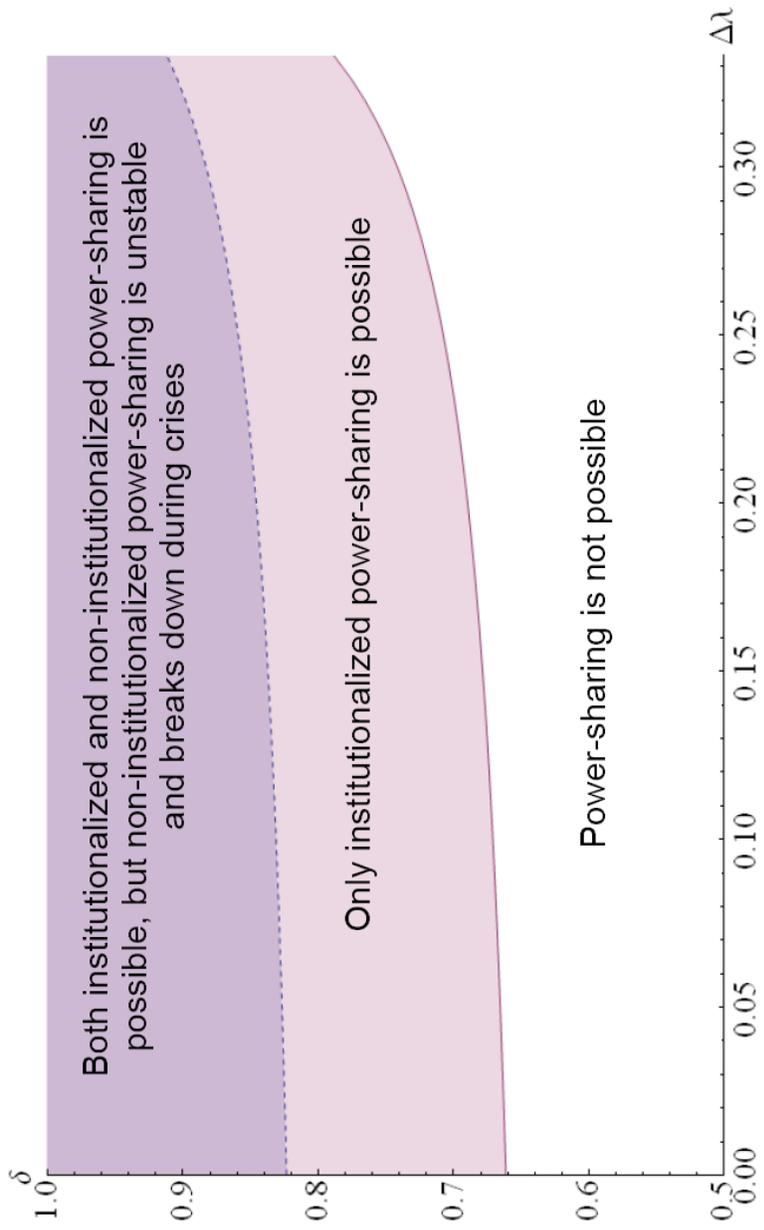


Figure 6: Power-sharing and changes in the distribution of power