

Forcing Consent: Information and Power in Non-Democratic Elections

Arturas Rozenas*

ISM University of Economics and Management, Vilnius, Lithuania

ABSTRACT

Why do governments hold elections that lack credibility? What explains variation in repression levels across non-democratic elections? While the literature has suggested many explanations for elections in autocracies, it has not yet provided a theory that would explain both the incidence of non-democratic elections and the variation in their degree of competitiveness. In this paper, we build an informational model of non-democratic elections explaining when elections may stabilize an autocrat's rule and when they may fail to do so. We argue that to achieve stability, elections must yield a sufficiently high vote-share for the incumbent and be *optimally* repressive. The degree of optimal repression is shown to increase with the incumbent's expected popularity. The model is then applied to explain some stylized facts about non-democratic elections and to derive a set of novel research hypotheses about the effects of non-democratic elections, variation in electoral repression, and fraud technology. We test the chief implication of the model using an original dataset on political arrests in the Soviet Union. We find that even if elections present no choice, they reduce the expression of anti-government sentiments.

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“Only God who appointed me will remove me”, claimed the Zimbabwean President Robert Mugabe before the run-off presidential election in 2008. After a campaign marked by violence and intimidation, Mugabe won the election with 85 percent of the vote. This is but one example of the old, widespread, and yet puzzling phenomenon of unfree and unfair elections where the public is given a right to elect their leaders, but the outcome is largely forced upon them. What is the value of non-democratic elections to political leaders? Why do some leaders hold elections that are perceived as a sham while others avoid them altogether? What explains variation in competition levels across non-democratic elections?

Existing literature has largely focused on the reasons as to why autocrats choose to hold elections. One common explanation is that elections ‘legitimize’ the regime by creating a facade of democracy and making the public believe that the autocrat has a popular mandate (Barkan and Okumu, 1978; Magaloni, 2006; Schedler, 2006; Pepinsky, 2007). Unfortunately, this line of research has not suggested a mechanism to explain how the facade of democracy can be effective if everyone knows it is a facade.¹

Other theories focus on the usefulness of elections in maintaining elite-cohesiveness (Geddes, 2006; Magaloni, 2006), co-opting the opposition (Gandhi and Przeworski, 2007), or distributing patronage (Blaydes, 2010; Lust-Okar, 2006). These theories serve well in explaining the reasons for non-democratic parliamentary elections, where the spoils of the office can be shared. However, in presidential elections, where political power is rarely divisible and where few elite members can expect political gains, these theories are inadequate (Gandhi and Lust-Okar, 2009, p. 407).²

Further, by focusing mostly on the usefulness of elections, the above studies fail to address why some autocrats abstain from holding elections. Geddes (2006, 28) estimates that about 26 percent of non-democratic regimes avoid direct national elections. Why do some leaders insist “I will die, my successor will die but there will never be elections again!”³, while others hold elections that are discounted as sham? To account for this variation, not only the benefits but also the costs of elections must be considered. The fact that elections can facilitate protests and destabilize the status quo (Fearon, 2011; Kuzio, 2005; Tucker, 2007) has had little recognition in the theories on the incidence of elections. Such recognition is necessary if we want to understand not only the presence but also the absence of elections.

This paper proposes a theory that focuses on the informational role of non-democratic elections. We propose a mechanism explaining how evidently unfree and unfair elections can change public perceptions about the autocrat’s popularity, and thereby deter threats to his rule. Thus, our model makes the following contributions: First, it shows how even evidently rigged elections can induce political stability. This way, we address the main deficiency of the ‘legitimacy’ theories of non-democratic elections. Second, it specifies the conditions under which elections fail to achieve stability and instead facilitate revolts

¹On the the same point, see Cox (2009, p. 5), Schmitter (1978, p. 149), Bueno de Mesquita et al. (2003, p. 6), and Lust-Okar (2006, p. 460).

²For the same reasons, these theories cannot be used to analyze non-democratic referenda.

³Augusto Pinochet of Chile, quoted in Munoz (2008, p. 66).

and uprisings against the government, thereby addressing both the occurrence and the absence of non-democratic elections. Third, our model proposes a rationale for both parliamentary and presidential elections (as well as referendums). Fourth, it provides predictions for a wide set of phenomena pertinent to elections under authoritarianism.

The latter contribution is perhaps the most important one. While there are many theories that suggest various reasons for non-democratic elections, they fall short of providing a unified framework within which non-democratic elections can be studied. A theory of non-democratic elections should not only provide a reason as to why such elections are held but also give an explanation for other phenomena that are of interest for students of such elections: What explains the variation in repression levels used in such elections? When can one expect a stable political environment in the aftermath of non-democratic elections? How can one explain the variation in electoral fraud technology? Building up from a set of simple and reasonable assumptions, we develop a model that generates hypotheses for each of these questions.

The informational perspective on non-democratic elections has been adopted in some previous studies, and it is important to emphasize the difference between these accounts and the one presented in this paper. In his influential account of elections under authoritarianism, Cox (2009) argued that election campaigns allow autocrats and their opponents to acquire information about each other’s capacity to mobilize and thereby avoid costly conflicts.

There are two key difference between this account and ours. First, the above model ignores election results by assuming that they cannot be credible by definition. This approach assumes away one of the key problems appearing in non-democratic elections: what can the results of rigged elections tell us about the true popularity of the elected party? Instead of assuming that election results are *never* credible, we model their credibility explicitly. We specify how electoral repression affects the outcome of elections and, in turn, how the credibility of election results is judged in light of the information about the levels of electoral repression. This approach allows us to generate empirical predictions about the post-election political stability conditional on election results, which cannot be done in the framework by Cox (2009).

The second difference is that we focus not on information *acquisition* but on *communication*. The argument that focuses on information acquisition is well suited to provide an answer to the question ‘Why do autocrats hold elections they can lose?’ The explanation is as follows: by providing information about the opposition’s capacity to mobilize, elections provide a safe exit path to the leaders who would otherwise face the threat of violent removal. For unpopular leaders it is better to lose elections and step down than to be removed violently from office. However, this account does not provide any answer to another equally important question: ‘Why do autocrats hold elections they cannot lose?’ If elections cannot be lost, they also cannot provide a safe exit path. This is an important shortcoming of the theory because it cannot explain a large class of non-democratic elections.

In contrast, our communicative model of elections accommodates both competitive and non-competitive elections. We argue that non-democratic elections not only provide

a safe exit path but that they also *deter* violent challenges, thus removing the need for a safe exit path altogether. To lend support to the communicative model of elections, in the first empirical section of the paper, we employ original data on single-party elections in the Soviet Union. We show that the patterns we observe in the data are compatible with the communicative model but they cannot be accounted for in the alternative framework that focuses on information acquisition and a safe exit path.

Another set of models emphasizes the communicative role of elections. For instance, in her seminal paper, Geddes (2006) argued that non-democratic elections deter threats from the opposition by signaling the incumbent's popularity and resourcefulness (cf. Magaloni, 2006). This argument is conceptually identical to the 'legitimization' theories of non-democratic elections (Barkan and Okumu, 1978; Schedler, 2006; Pepinsky, 2007).

Our model employs a similar intuition, but there are crucial differences. Instead of simply assuming that non-democratic elections send a signal that the government is popular and resourceful, we explain the strategic intuition as to why the public accepts election results even if it knows them to be distorted. We also specify conditions under which elections fail to achieve the goal posited by the theory. Therefore, we are able to generate some theoretical predictions that diverge from the existing accounts of non-democratic elections. Most importantly, our theory predicts that autocrats with high public support are expected to hold more repressive elections than autocrats with low public support. This prediction is in stark difference with the suggestion that leaders resort to restricting political competition when they are not confident in winning free and fair elections (Geddes, 2006, p. 7).

The nature of non-democratic elections is important not only for explaining how autocracies work, but it is also essential for understanding the dynamics of democratization. Democratization models assume that elections induce governments to follow the interest of a majority. For instance, the poor desire democracy because it is expected to lead to wealth redistribution (Acemoglu and Robinson, 2006). However, opposition intimidation, franchise manipulation, and patronage may result in a leadership that does not represent the preferences of the majority. Those who threaten autocracy because they believe in the redistributive nature of democracy should not be expected to settle for unfree and unfair elections resulting in representatives who do not redistribute. Yet, often democratization efforts lead to rigged electoral systems that survive for quite some time.

Consider, for example, czarist Russia around the 1905 Revolution. In response to frequent popular uprisings, Nicholas II appeased the public by introducing an elected legislature, the Duma (Acemoglu and Robinson, 2006, 140-2). However, soon thereafter the electoral process became so tightly controlled that few believed it had any substance ((Carson, 1955, p. 1-8); (Pipes, 1974, p. 114)). The rigged electoral system did not solve all the problems of the Czar but it did, for more than a decade, delay further revolutionary threats. If the dissenters rebelled in order to institute elections, why would they be appeased by rigged elections? There are multiple examples in history where non-democratic elections have had such an 'anesthetic effect' (Schmitter, 1978) on a regime's opponents.

This paper proposes a mechanism explaining this anesthetic effect. We proceed as follows: First, we briefly explain our focus on the informational nature of elections. Second, we present a formal model of non-democratic elections. Third, we apply the model to explain some stylized facts about non-democratic elections and to derive new research hypotheses. Fourth, we consider an extension of the model to account for a fragmented opposition and post-election fraud. Finally, in the empirical section of this paper we use original dataset on single-party elections and argue that even such blatantly uncompetitive elections might foster political stability.

1. POPULAR SUPPORT, INFORMATION, AND POLITICAL SURVIVAL

Our model builds upon the observation that autocrats, even brutal ones, care about their popularity (Arendt, 1963; Finer, 1988; Wintrobe, 1998). In particular, we maintain the assumption that an autocrat who faces an attempt to overthrow him is more likely to survive in the office when he is popular. This implies that in order to remain unchallenged, an autocrat must maintain a public *belief* that he is sufficiently popular. Importantly, whether such belief is factually correct matters only if the challenge does actually occur.

How does the image of popularity add to the autocrat's survival? First, leaders who rule without a modicum of consent are more likely to face attempts of removal. As noted by Finer (1988, p. 15), "the claim to rule by virtue of superior force invites challenge." Second, the autocrat's opponents will be more inclined to express their dissent if they believe they are in a majority (Kuran, 1995). Thus, the opposition will organize more easily if it believes that the autocrat has a narrow base of support. This applies not only to the civilian opposition but also to the military class. According to Linz (1978, 17), "it seems unlikely that military leaders would turn their arms against the government unless they felt that a significant segment of society shared their lack of belief".

A potential difficulty with the above arguments is that the major threat to most leaders, especially in military regimes, comes in the form of a coup, not a popular uprising (Tullock, 1987, p.10). Why would popular support aid leaders who face a coup threat? First, a wide support base for an incumbent may suggest high costs of removal if, for example, a removal attempt leads into a civil conflict. A coup can be conducted by a handful of men in uniform but it can fail or escalate into war if strongly opposed by the civilian population.⁴ Second, leaders who are uncertain about the continuing support of military forces may attempt to widen their popular support base in order to deter coups. General Ziaur Rahman of Bangladesh is an example of a leader who adopted this strategy (Masoom, 2000, p. 233). Lastly, removing a popular leader is less attractive because the successor will be less popular and hence more likely to be challenged (Geddes, 2006, p.4).

⁴The Spanish Civil War is a paradigmatic case of how a coup attempt escalated into civil war (see Beevor, 2006, Part 2). Knapp Putsch in Germany (1920), February Mutiny in Japan (1936), and the April Rebellion in France (1961) are a few examples of coups that failed due to civilian opposition (Lichbach, 1995, p. 81).

The above arguments point to the importance of beliefs about the autocrat's support base. By definition, autocracies restrict free expression of opinion and thus make it difficult for anyone to learn citizens' true political loyalties. Opinion surveys can be highly unreliable since respondents are prone to misrepresent their preferences (Kuran, 1995). News harmful to a leader may be risky to report; hence, even the secret police cannot be completely relied upon in finding out the population's political preferences (Wintrobe, 1998, p. 25). For these reasons, we maintain the assumption that neither the autocrat nor his challengers know the autocrat's true popularity.

Information scarcity is not the only problem facing autocratic leaders and their opponents. An autocrat's rule is more stable not when he himself knows that he has wide support, but when his opponents believe him to be widely supported. Thus, the key problem we emphasize is that of communication, not learning. Suppose an autocrat knows that he is popular. In order to deter challenges to his rule, he must make this information public. But how can he *credibly* communicate this information without free media and fair elections? Paradoxically, in order to communicate his popularity to potential challengers, an autocrat may behave like a democrat. However, as we show below, under certain circumstances, the best choice for an autocrat is to call unfree and unfair elections that reveal and communicate only partially credible information.

2. MODEL OF RIGGED ELECTIONS AND INFORMATION

Consider an autocratic leader A facing a challenger B who might be either a member of the opposition or a member of the ruling coalition. Each player receives a payoff equal to 1 if he is in power and 0 otherwise. Power can be acquired either peacefully or through a conflict. Peaceful acquisition of power is costless both for the party that exits the office and the party that enters the office. In contrast, if power is acquired through a conflict, it incurs a deadweight cost of $c > 0$ on both of the parties.⁵ For example, if B rebels and A concedes, then B 's utility is $u_B = 1$; however, if A fights, then $u_B = 1 - c$ if B wins and $u_B = -c$ if B loses.

Suppose the society consists of n individuals of two different types: if $s_i = 1$, then citizen i supports A ; otherwise, if $s_i = 0$, the citizen i supports the challenger B . The reasons for which citizens support the autocratic government on its opposition are immaterial to our analysis. Let $\theta = \frac{1}{n} \sum_i s_i$ denote the share of the population that supports A (hence, $1 - \theta$ is B 's popularity). We assume that A wins in a conflict against B if and only if $\theta \geq w$. Here, w represents the weakness (e.g., military or repressive) of the autocratic state. If the state is weak (w is high), then the B can win even if A is moderately popular. Conversely, if the state is strong (w is low), B can overthrow A only if A is overwhelmingly unpopular. To be successfully overthrown, the government must be weak and unpopular.

We assume that the autocrat's popular support, θ , is known only imperfectly: both players have common prior beliefs about θ , represented by a probability distribution F

⁵One could assume that the costs are different for A and B , but this would not change the substantive results.

with support on $[a, b]$, where $a < w < b$. Accordingly, popular support for A is known to be at least a , and the popular support for B is known to be at least $1 - b$. Sometimes we refer to citizens who are known to support the opposition (their share in society is $1 - b$) as the ‘core opponents’.

Let π denote a prior probability that A would lose if challenged by B : $\pi = \Pr(\theta < w) = \int_a^w dF(\theta)$. Note that if A is perceived to be sufficiently unpopular ($c < \pi$) then B prefers to challenge him: probability of winning against A outweighs the costs. Whether the challenge results in a conflict depends on the magnitude of A ’s perceived unpopularity. If $\pi > 1 - c$, then A is better-off relinquishing his power and avoiding a costly conflict. However, if $\pi \in (c, 1 - c)$, then both parties strictly prefer conflict to a peaceful resolution. We refer to the interval $(c, 1 - c)$ as the ‘conflict range’ and assume that this range is non-empty ($c < 1/2$). Note that, contrary to the framework by Fearon (1995), the inefficient conflict is not driven by informational asymmetry.

Further, suppose the autocrat can call elections and reveal some new information about his true popularity, θ . Specifically, we are interested in elections where the autocrat *can* use pre-election repression, denoted by r . Intentionally, we define ‘repression’ somewhat broadly as a set of observable actions that inhibit electoral competition to the autocrat’s advantage - intimidation or bribery of voters, prohibition or ‘elimination’ of popular opposition candidates, restrictions on assembly rights that impede the opposition’s mobilization, or media bias. This concept of repression is similar to that of Wintrobe (1998, p. 33) and the concept of ‘authoritarian manipulation’ by Schedler (2006, p. 3). Importantly, repression refers to the autocrat’s observable activities before votes are counted, and therefore it does not include post-election fraud. Later, we extend the model to allow post-election cheating.

The election result will naturally depend on the autocrat’s true popularity and the degree and effectiveness of repression. We use the following model of voting:

$$\Pr(y_i = 1 | s_i = 1) = 1 \tag{1}$$

$$\Pr(y_i = 1 | s_i = 0) = r \tag{2}$$

Every citizen who supports the government, votes for the government. However, every opponent votes for the government only with probability r , which denotes the degree of repression used in elections. The greater is repression, the more it is likely that every opponent will vote (or will be forced to vote) for the incumbent. Note that this is very general representation of many practices used in non-democratic elections: r could represent voter intimidation, bribery, or disenfranchisement of the opposition groups.

However, if the opposition is well-organized to counteract the repression, or if the repressive system is not sufficiently efficient, there will be some critical amount of votes that the opposition will receive regardless of how much the autocrat chooses to repress. Formally, let z be the maximum number of votes the autocrat can receive from the set of known opponents. Then, for any repression level, the vote-share of A cannot exceed the upper bound $\bar{y} = \bar{y}(z) = b + z(1 - b)$. For example, if z is close to 1 (the opposition is

badly organized or repression is highly efficient), then the maximum percentage of votes the autocrat can receive is close to 100 percent.⁶

It turns out that, in large electorates, the autocrat's vote-share in elections can be represented by a simple vote-share production function, substantially simplifying the further analysis.

Lemma 1. *In large electorates, the autocrat's vote-share, given the true support level θ and repression r , is given by $y(\theta, r, z) \equiv \min\{\theta + r(1 - \theta), \bar{y}\}$.*

All proofs are in the Appendix.

Thus, few very reasonable assumptions about voting in non-democratic elections lead to a tractable function for the autocrat's vote-share: when elections are free and fair ($r = 0$) the autocrat's vote-share is equal to his true popular support ($y = \theta$). Otherwise, if elections are not free and fair ($r > 0$), the autocrat's vote-share becomes biased to the autocrat's favor. Note that since the autocrat's popularity (θ) is unknown, election result is uncertain, unless $r = 1$, in which case elections are completely unfair and hence completely predictable.

The election result, y , and repression levels, r , are used to update the players' beliefs about the autocrat's popularity, θ . We let $f(\theta|y, r)$ denote the posterior beliefs. This model emphasizes a trade-off between risks and benefits of pre-election repression. On the one hand, the greater the repression the less risky is the outcome of elections – as r increases so does the probability that the autocrat wins with a larger margin ($y = \bar{y}$) irrespective of his true popularity, θ . On the other hand, the higher is repression, the less informative are the elections. Intuitively, if all voters are intimidated into voting for the autocrat, then the election result will not provide any new information – a forced vote does not indicate political loyalty. Mathematically, it can be easily demonstrated that as repression increases ($r \rightarrow 1$), the posterior beliefs approach the prior beliefs, $f(\theta|y, r) \rightarrow f(\theta)$. Conversely, as elections become more free and fair (and hence riskier), the autocrat's true popularity can be learned with increasingly high precision. Formally, $f(\theta|y, r)$ converges to a degenerate distribution $\mathbf{I}(\theta)$ as $r \rightarrow 1$. The main objective of the autocrat is to repress at such a level that elections are sufficiently informative but not too risky.

The structure of the game is given in Figure 1. At Stage 1, A decides between having no elections ($r = \emptyset$) and having elections with repression level $r \geq 0$. The choice of r is observed by the opposition⁷. At Stage 2, B decides between not rebelling, $R(r) = 0$, and rebelling, $R(r) = 1$. If B rebels, A can respond by either fighting or concession. A history where B rebels and A fights is called a 'conflict'; any other history is called a 'settlement'. If either $r = \emptyset$ or $R(r) = 1$, then the game is terminated at Stage 2; otherwise, at Stage 3, the election result is announced. At Stage 4, B again chooses $R(y, r) = \{0, 1\}$ and A responds by fighting or conceding.

⁶A more realistic model could assume that z (and, therefore, \bar{y}) is also a random variable. We conjecture that this additional complexity would not change the qualitative results.

⁷The assumption of observable repression is largely immaterial: since players have the same information sets at the start of the game, B can perfectly infer A 's action whenever A has a unique best response, which is mostly the case in this game.

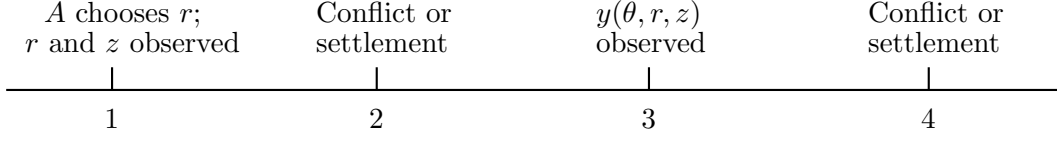


Figure 1: Stages of the game. At stages 1 and 2 players' information is given by $f(\theta)$. At stage 4, players' information is given by $f(\theta|y, r)$.

The model *does not* assume that the loser must concede to the winner of elections. For instance, suppose winning elections requires a simple majority of votes. The autocrat who is able to withstand a rebellion even if he is highly unpopular (w is low) will have an incentive to disregard elections even if they clearly indicate that the incumbent's true support is less than a simple majority (e.g., Burma in 1990 or Ivory Coast in 2000). The frequency of such 'stolen' elections (Thompson and Kuntz, 2006) suggests that what is important is not the formal margin (i.e., a majority) but the 'effective margin' that deters the losing party from questioning the voting outcome.

There are a few potentially important features not incorporated explicitly in this model. First, the opposition parties may boycott uncompetitive elections (Beaulieu and Hyde, 2009; Lindberg, 2006). We conjecture that the opposition's decision whether to rebel after elections are announced but before votes are counted (Stage 2) is in many ways equivalent to a boycott. Second, we assume that the autocrat faces a united opposition – an assumption frequently violated in reality. Later, we extend the model to accommodate a fragmented opposition.

3. ANALYSIS AND RESULTS

3.1. Elections and Belief-Transformation

Let $\pi(y, r) = \Pr(\theta < w|y, r)$ be the updated probability that the autocrat is sufficiently unpopular. To derive $\pi(y, r)$, we need to distinguish two cases. When $y < \bar{y}$, the posterior distribution is degenerate and θ can be inferred exactly from election results y and repression level r . However, if $y = \bar{y}$, then θ can only be learned imperfectly. For notational convenience, define a function $\eta(x, y) \equiv \frac{x-y}{1-y}$. The probability that the autocrat is unpopular after elections that yielded him at least \bar{y} votes is given by

$$\tau(r) = \pi(y = \bar{y}, r) = \int_{\max\{a, \eta(\bar{y}, r)\}}^{\max\{w, \eta(\bar{y}, r)\}} f(\theta|y = \bar{y}, r) d\theta. \quad (3)$$

In words, $\tau(r)$ is the probability that the autocrat is unpopular given that he repressed at level r and the election result is $y = \bar{y}$. Note that for $r \leq \eta(\bar{y}, w)$, $\tau(r)$ is identically zero. The Lemma below states that under certain conditions, elections can transform public beliefs about the popularity of the autocrat only to the advantage of

the autocrat.

Lemma 2. *If $r < \eta(\bar{y}, a)$ and $y = \bar{y}$, then $f(\theta|y, r) = f(\theta|\theta \geq \eta(\bar{y}, r))$ and $\tau(r) < \pi$.*

The results may not be intuitive. First, after an election delivers a high vote-share to the autocrat, the updated belief distribution is more ‘favorable’ to the autocrat than it was before the election. That is, the posterior distribution will be equal to the prior distribution truncated from the left: before the election it is believed that the share of the autocrat’s supporters is at least a and after the election it is believed that this share is at least $\eta(\bar{y}, r)$, which is greater than a . Second, if repression is not excessive, the posterior (post-election) probability that the government is unpopular is always smaller than the prior (pre-election) probability.

We call this mechanism of belief-transformation a ‘forced consent’. Elections can create public consent to the incumbent’s rule by signaling that he is popular and therefore any attempt to remove him is less likely to succeed. However, rigged elections provide only partial information about the autocrat’s true popularity; thus, they do not permit learning whether the autocrat is truly popular or not. It is possible that the autocrat is in reality unpopular, $\theta < w$, but the information after rigged elections leads everyone to believe that he is popular with a sufficiently high probability. In this sense, the consent resulting from rigged elections is ‘forced’: by repressing, the autocrat does not allow some of the dissenting voices to speak out. By contrast, free and fair elections result in perfect information, which precludes any discrepancy between the true state of the world and public beliefs and hence makes the consent not forced but a ‘natural’ one.

3.2. Equilibrium Repression

The autocrat is facing the following trade-off: when too much repression is used, elections lose informational content and thus they cannot transform the beliefs; if too little repression is used, then elections are informative but risky. How much is a rational autocrat expected to repress the electoral competition?

Proposition 1. *Let $\pi \in (c, 1 - c)$. There is a unique equilibrium such that*

$$r^* = \tau^{-1}(c) = \frac{\bar{y} - K}{1 - K}, \text{ where } K = F^{-1}\left(\frac{\pi - c}{1 - c}\right).$$

If the autocrat is facing risk of conflict ($\pi \in (c, 1 - c)$), then his optimal action is to hold elections and repress at such level that makes the opposition indifferent between rebelling and not rebelling whenever the autocrat wins a sufficiently high vote-share, $y = \bar{y}$. In the proof of this proposition, we also demonstrate that given this strategy of the autocrat, the optimal strategy for the opposition is to postpone the decision to rebel to the post-election period, $R^*(r^*) = 0$. Moreover, since elections may inform the competing parties of their relative popularity, conflict in the presence of elections is less likely than in their absence. Thus, by providing additional information, elections can help autocrats to avoid a costly exit from power (cf. Cox, 2009).

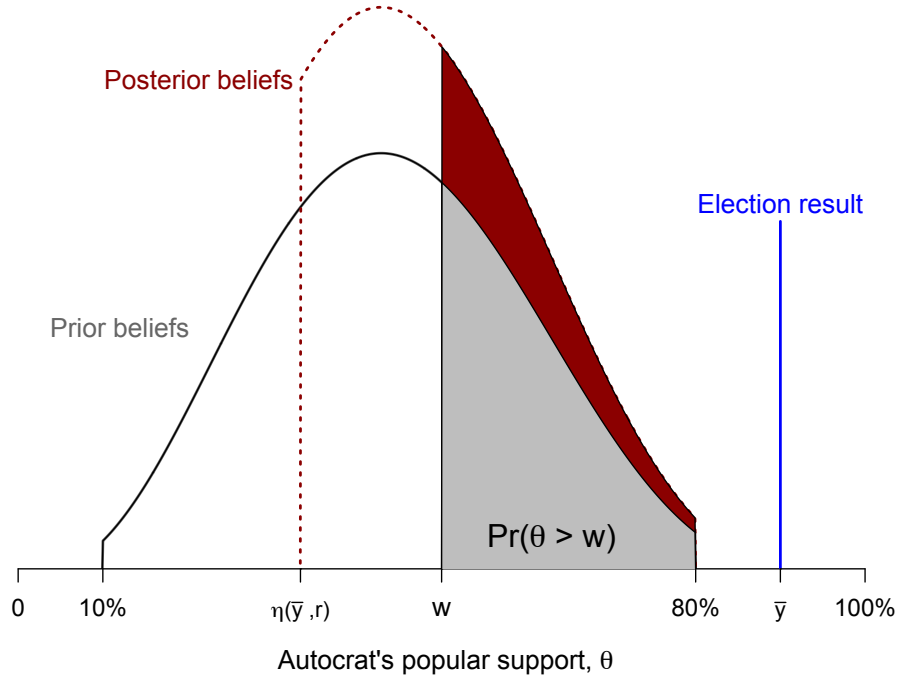


Figure 2: Beliefs about regime popularity, θ , before and after elections where A received \bar{y} votes. The dark red area is the ex post value added of elections with result \bar{y} and repression r .

However, reducing the risk of a costly exit from power is not the only, and indeed not the main, value of non-democratic elections deduced from this model. In addition to providing such an exit, unfree and unfair elections allow some of the less popular autocrats – who would certainly lose against the opposition – to remain in power *unchallenged*. By revealing only partial information about true popularity, rigged elections allow moderately unpopular *ex ante* types of autocrats to ‘mix’ with popular *ex ante* types.

Figure 2 is useful in explaining this intuition. Before elections are held, A can expect to win either in conflict or in free and fair elections only if $\theta \geq w$. In equilibrium, A must repress at such a level that if the opposition observes the result $y = \bar{y}$, then it must believe that A is unpopular with a probability of at most c . The *ex ante* probability that an autocrat who represses at level r receives a vote-share of \bar{y} is $\Pr(\theta \geq \eta(\bar{y}, r^*))$ – the dark shaded area in Figure 2. Thus, without elections, the autocrat can *expect* to remain in power only if his true type happens to be in the light shaded area. With optimally rigged elections, he expects to remain in power *unchallenged both* when his true type is in either the light or dark shaded area.

Consider this hypothetical deliberation of an autocrat: ‘If I call free and fair elections, I will remain in power only if my true popularity is above w . Without elections, I will

also remain in power only if my true popularity is above w , but now I will incur a cost of conflict. However, if I call optimally rigged elections and receive a sufficient vote-share (at least \bar{y}), then I will remain in power and face no rebellion if my true popularity is at least $\eta(\bar{y}, r^*)$, which is less than w . Hence, calling optimally rigged elections, I can remain peacefully in power even if I am less popular than what is required to do so.'

Similarly, one can think about the deliberation of the opposition after the elections: 'Given that the autocrat won \bar{y} votes by repressing at level r^* , how likely is it that the share of his supporters is less than w ? This election result is possible if either the autocrat is in fact popular (light shaded area) or if he is moderately unpopular (dark shaded area). But the probability that he is moderately unpopular is c since $\tau(r^*) = c$ and hence, it does not pay me to revolt against him.' This way, repressive elections obfuscate the popular *ex ante* types of autocrats (light shaded area) with some of their less popular *ex ante* types (dark shaded area).

What happens if the autocrat does not face a threat of removal, $\pi \leq c$, or if the threat is too great to be worth fighting it, $\pi > 1 - c$?

Proposition 2. *If $\pi \leq c$, then either (1) $r^* = \emptyset$ or (2) $r^* \geq \eta(\bar{y}, a)$. If $\pi \geq 1 - c$, then $r^* \leq \eta(\bar{y}, b)$.*

Without a threat of rebellion, the autocrat does not have a reason to communicate new information about his popular support to the public. Hence, he either does not call elections or calls highly rigged elections without any informative content. On the contrary, if an autocrat is perceived as sufficiently unpopular, $\pi \geq 1 - c$, then he holds competitive and fully informative elections.

4. EMPIRICAL IMPLICATIONS

In this section, we apply the model to account for a few stylized facts associated with non-democratic elections and to generate a set of new hypotheses.

4.1. Explaining Stylized Facts

Large victory margins. Non-democratic elections frequently result in margins of victory that are dubious, if not absurd, by any reasonable standards. This empirical regularity begs a question: 'Why not settle for more moderate and more believable results?' According to our analysis, the autocrat can obfuscate the public beliefs about his true popular support only if he gathers a sufficiently high vote-share, $y = \bar{y}$. Note that since $\bar{y} \geq b$, the autocrat must receive a larger vote-share than the maximum possible support he has in the population, b . A lower vote-share would reveal too much information and leave elections void of their full purpose.

Elections in military regimes. Geddes (2006) reports two interesting empirical findings: (1) military regimes are the least likely to hold elections and (2) elections increase regime survival across all types of regimes but less so in military ones (p. 28-29). This is very much consistent with our analysis as the following proposition suggests.

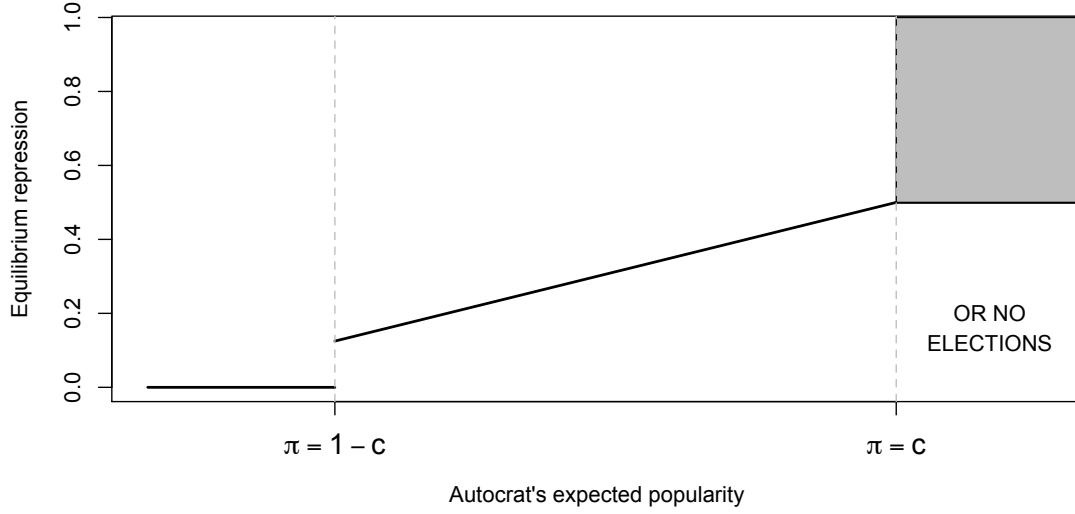


Figure 3: Autocrat's expected popularity, $E(\theta)$, and equilibrium level repression.

Proposition 3. *In equilibrium, an autocrat's expected gain from unfair elections is equal to $\tau(r^*) + c$ if $\pi < c$, and zero otherwise. Moreover, $\tau(r^*)$ is strictly increasing in w .*

Military regimes (low w) are less likely to call elections because (a) they are less likely to be threatened and (b) they can gain much less from elections than non-military regimes (high w). Elections called by military regimes will be less free and fair and hence they will have less informational content. Such elections can cause only small changes in public beliefs about the regime's popularity and hence they cannot generate a large increase in political stability. The monopoly of force allows military regimes to be less sensitive to public discontent. However, this very insensitivity also precludes them from behaving in a manner that creates a greater public consent to the existing order.

4.2. Research Hypotheses

There are many comparative statics results one can draw from Propositions 1 and 2. We discuss a few of the more interesting ones.

Regime's expected support. How does a regimes' willingness to hold elections depend on its *expected* popularity? Do leaders who are more secure hold more free and fair elections? Figure 3 shows how an autocrat's equilibrium behavior changes as a function of his expected popularity, $E(\theta)$, assuming that *a priori* θ is distributed uniformly on the interval $[a, b]$, $w = 1/2$, $z = 0$, and $c = 1/5$.

When an autocrat's true public support is believed to be very low, $\pi \geq 1 - c$, free and fair elections are held. On the contrary, if an autocrat's expected popularity is

sufficiently high, $\pi \leq c$, then either no elections are called or there is a range of unfair elections that one can observe in equilibrium. Assuming that holding elections incurs a fixed cost gives a more clear-cut comparative static: autocrats with a sufficiently high expected popularity do not hold elections.

The most interesting case is when an autocrat's expected support is in the intermediate range, $\pi \in (c, 1 - c)$. In this case, unfair elections are called and the levels of repression *increase* with the expected popularity. Interestingly, the stronger the autocrats assess their base of support, the more they are willing to suppress the electoral competition. This counterintuitive implication can be explained as follows: If, prior to elections, the threat is high (π is substantially greater than c), in order to avoid conflict, the autocrat needs a substantive change in public beliefs, which in turn requires moderately free and fair elections. On the contrary, if the autocrat is perceived to be relatively popular (π is only slightly greater than c), then in order to deter a challenge, he needs only a minor change in public beliefs about his popularity. Hence, the autocrat who believes he is popular can reduce the risk of losing elections by repressing more.

Costs of Conflict. It is straightforward to verify that r^* is increasing in c – elections are less competitive when the costs of conflict are large. For example, if the opposition can rebel only in a way that incurs a minor cost on the autocrat (i.e., a peaceful public protest), then the autocrat is likely to use less repression. If, instead, a civil conflict is a possibility, then elections are less free and fair.

In addition, notice from Figure 3 that the range where rigged elections are possible, $(c, 1 - c)$, widens as costs of conflict depreciate. Goemans and Marinov (2008) report that in the post-Cold War era elections – both democratic and non-democratic – have increased in frequency. One way to explain this finding is by noting that increased international interference in conflict resolution may have lowered the costs of conflict and hence widened the range at which autocrats find it optimal to wage rigged elections.

5. EXTENSIONS: FRAGMENTED OPPOSITION AND FRAUD

We now enrich the model to accommodate two important assumptions: a fragmented opposition and possibility of post-election fraud.

5.1. *Fragmented Opposition*

There are many ways in which opposition fragmentation may affect actors' political calculations. Opposition voters might be discouraged from voting if their political wing is fractionalized. Also, the opposition's capacity to mobilize voters might be impeded due to reduced economies of scale. However, what seems to be crucial in the context of our model is the cooperation and coordination problems that a fragmented opposition must solve.

Suppose that there are two opponents B_1 and B_2 whose cooperation in removing the autocrat most likely will depend on multiple factors (e.g., mutual trust, attitudes towards violence). We let k denote the probability that the opposition manages to cooperate.

Let b_1 and b_2 denote the weights of groups B_1 and B_2 respectively, and let $b_2 \leq b_1$. This implies that the popular support of the opposition group B_i is $b_i(1 - \theta)$. Let $\lambda_i(k)$ refer to a prior probability that A would lose in a conflict against the opponent B_i :

$$\lambda_i(k) = (1 - k) \underbrace{F(b_i w)}_{\text{Prob. } B_i \text{ wins}} + k\pi. \quad (4)$$

If the opposition parties cooperate for sure ($k = 1$), then their probability of winning is π , the same as a unified opposition. Naturally, when the opposition is divided, the threat the autocrat is facing is smaller compared to when the opposition is united: $\lambda_i(k) < \pi$ for $k < 1$. Since a divided opposition is less likely to pose a threat, the autocrat has fewer incentives to hold elections. However, when the threat exists, $\lambda_1(k) \in (c, 1 - c)$, we have:

Proposition 4. $r^*(k) = \frac{\bar{y} - K}{1 - K}$, where $K = F^{-1}\left(\frac{k\pi + (1 - k)F(b_1 w) - c}{2k + 1 - c}\right)$.

A few interesting insights follow from this analysis. First, repression is *decreasing* in the opposition's ability to cooperate, k . A stronger (more likely to be united) opposition poses a greater threat to the incumbent and, thus, by the logic spelled out earlier, the government needs to send a stronger signal to convince the opposition that the costs of challenge will most likely outweigh the expected benefits. A stronger enemy needs a stronger argument to be deterred from attacked. Empirical researchers have noticed a positive correlation between the opposition's cohesion and the level of democracy (van De Walle, 2006). Our analysis provides a theoretical mechanism making sense of this correlation. It also suggests that, in the causal mechanism linking electoral repression and opposition unity, the latter is the antecedent of the former.

Second, electoral repression is decreasing in b_1 , the share of the largest opposition group. When opposition's support is divided evenly, in the face of uncertainty about its cooperation, it poses a smaller threat to the government, which induces more repressive elections. Thus, opposition fragmentation increases electoral repression for two related but conceptually different reasons: there is a direct effect of the threat from the largest group b_1 and there is an indirect effect. When none of the opposition groups constitute a natural leader, admittedly, opposition groups should find it more difficult to cooperate (lower k), which, by the above argument, should also increase electoral repression.

5.2. Election Fraud

We now add an extra stage in the game: after observing an election result y (Stage 3), the autocrat announces a result $\psi(y) \in [0, 1]$, which may or may not be equal to the true result. We assume that if the autocrat commits fraud, $\psi(y) \neq y$, then the fraud can be detected with a commonly known probability p . If fraud is detected, then the opposition receives a signal $s = 1$ and otherwise it receives a signal $s = 0$. Signal $s = 1$ might mean that election results are released suspiciously late (e.g., Zimbabwe in 2008), or suspiciously early (e.g., Iran in 2009), or a truck with rigged ballots is uncovered (e.g.,

Ukraine 2005). In such cases, the public knows that cheating occurred but they cannot tell its full extent.

Availability of fraud changes the informational structure of the game in an interesting manner: Without fraud, the autocrat and his opponents have the same information about θ throughout the game. With fraud, players have the same information before the elections, but in the post-election period, the autocrat, contrary to the opponent, learns the true election result y .

Let $\pi_A(y, r) = \Pr(\theta < w|y, r)$ denote A 's post-election belief that he is unpopular. There are three types of beliefs that A can possibly have in the post-election period. First, after history where $y < w + r(1 - w) < \bar{y}$, A knows that he is certainly unpopular, $\pi_A(y, r) = 1$; we denote the type of A who holds such beliefs by \underline{w} . Second, after history where $y \in [w + r(1 - w), \bar{y})$, A must believe that $\pi_A(y, r) = 0$; we refer to this type as \bar{w} . Third, let u be those types that observed $y = \bar{y}$ and hence are uncertain whether they are popular, $\pi_A(y, r) = \tau(r)$.

Let $I(r)$ be an information set of player B induced by history r ; that is, the information as to what type of A player B is facing given history r . For example, if elections are free and fair, $r = 0$, then B knows that A has perfectly learned his true type θ and hence $I(r) = \{\underline{w}, \bar{w}\}$. Interestingly, the choice of pre-election repression determines what the autocrat will be able to know about himself *and* what the opposition will believe about him in the post-election period.

We assume that, in the event of rebellion, the autocrat cannot avoid paying the cost of conflict. This means that by announcing 'I won the elections', the autocrat states that he is not going to concede power peacefully. The sequence of moves in the game with post-election fraud is as follows:

1. A chooses between no elections, $r = \emptyset$, and elections with repression $r \geq 0$.
2. A observes y and every type $t \in \{\underline{w}, \bar{w}, u\}$ announces $\psi_t(y)$;
3. Iff $\psi(y) \neq y$, then the Nature with probability p sends signal $s = 1$;
4. B responds by choosing $R(r, s, \psi) = \{0, 1\}$.

The game in stages 2-4 constitutes a signaling game with imperfectly observable actions. In equilibrium, two conditions must be satisfied. First, the players' strategies in stages 2-4 must constitute a perfect Bayesian equilibrium (PBE) after every history (y, r) . Let $E_s u_A^*(r, y(\theta, r))$ be A 's expected payoff in a PBE after history r .⁸ Second, at stage 1, A must choose r^* such that $r^* \equiv \arg \max_r \int E_s u_A^*(r, y(\theta, r)) f(\theta) d\theta$. That is, the autocrat must choose such a repression level that maximizes his *ex ante* expected payoff given expected equilibrium payoff following any history r .

Proposition 5. *Let $\pi \in (c, 1 - c)$. There are two sets of equilibria where*

⁸Here, the expectation is taken with respect to the random variable s . As we show in the proof, after history (r, y) , any PBE (if it is not unique) yields the same expected payoff, thus, given (y, r) , $E_s u_A^*(r, y(\theta, r))$ is unique too.

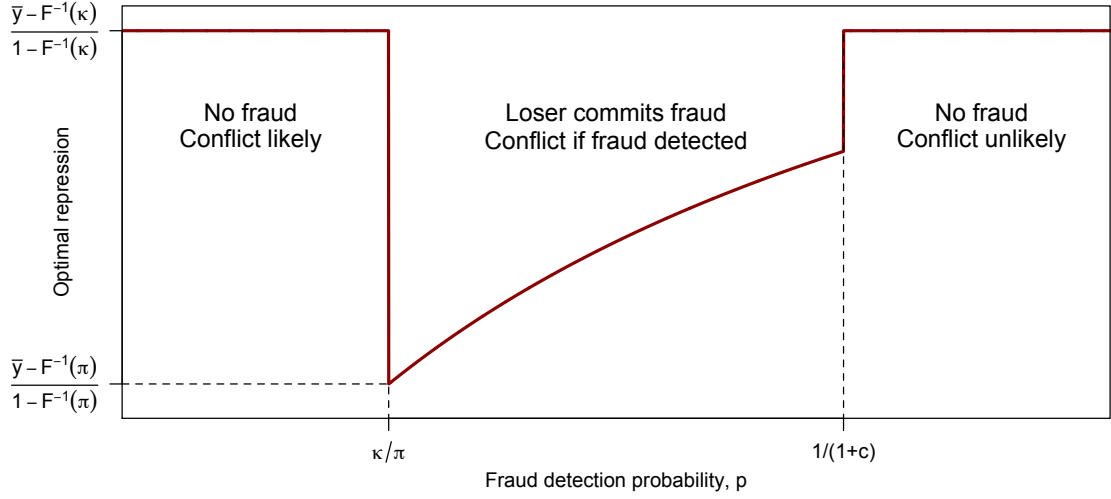


Figure 4: Optimal levels of pre-election repression given the fraud detection probability p . $\kappa = \frac{\pi-c}{1-c}$ and F is the prior distribution function of θ . The example assumes that θ a priori is distributed uniformly on $[0.1, 0.9]$, $c = 0.3$, and $z = 0$.

- If $p \in \left(\frac{\pi-c}{\pi(1-c)}, \frac{1}{1+c}\right)$, then $r^* = \frac{\bar{y}-K}{1-K}$, where $K = F^{-1}\left(\frac{1}{p} \frac{\pi-c}{1-c}\right)$ and $\psi_t^*(y) \neq y$ iff $t = \underline{u}$ and $R^*(s, \cdot) = 1$ iff $s = 1$;
- If $p \notin \left(\frac{\pi-c}{\pi(1-c)}, \frac{1}{1+c}\right)$, then $r^* = \frac{\bar{y}-K}{1-K}$, where $K = F^{-1}\left(\frac{\pi-c}{1-c}\right)$ and $\psi_t^*(y) = y$ for all t and $R^*(s, \cdot) = 1$ for any s if $p < \frac{\pi-c}{\pi(1-c)}$ and $R^*(s, \cdot) = 1$ iff $s = 1$ for $p > \frac{1}{1+c}$.

A graphical expression of the Proposition 5 is given in Figure 4. Several intriguing findings can be derived from this analysis. First, pre-election repression is a necessary but not a sufficient condition for post-election fraud. When fraud is feasible and the fraud detection probability is neither too low nor too large, the autocrat optimally uses less pre-election repression than in the equilibrium of the game where fraud is not feasible. However, the optimal degree of fraud is always bounded above zero. Pre-election repression and post-election fraud are technological complements not substitutes.

Remarkably, even if an autocrat has a possibility to commit fraud *after* votes are counted, it does not incentivize him to abandon repression *before* votes are counted. If an autocrat uses pre-election repression everybody knows for sure that election result does not represent the true distribution of support. If he does not use repression but uses only fraud, then nobody might actually find out that fraud took place. Repression is evident whereas fraud requires evidence. Thus, one would intuitively suspect that, if fraud is feasible, the best option would be to allow competitive elections with no repression and then fix the results if need be.

However, in the strategic environment with uncertainty the above intuition fails. Since only the loser benefits from fraud, whenever fraud signal is detected, everyone can

infer that the incumbent is in fact the loser. Thus, when detected, fraud is highly informative of the autocrat's true unpopularity. By contrast, pre-election repression is not informative about the unpopularity of the incumbent because it takes place before votes are counted (at which point the autocrat and the opposition share the same situation). Using sufficient degree of pre-electoral repression allows autocrats to avoid a situation where they commit a lot of fraud and thereby risk being detected as unpopular types.

The second interesting finding is that fraud is committed only if the fraud-detection probability p is neither too low nor too high. The latter condition is intuitive but the former is not. When p is very small, the signal $s = 0$ is uninformative about the autocrat's true actions – since the detection probability is low, the fact that fraud was not detected does not inform whether fraud was actually committed. Consequently, popular autocrats cannot separate themselves from the unpopular ones and elections lose their informational content. In such conditions, the autocrats who learn they are unpopular are better-off reporting the true results and avoiding costly conflicts that they know they are going to lose.

However, the autocrats who learn they are popular cannot credibly convince the opposition that the reported election result is true *even if in fact it is true*. This is the curse of low detection probability: an autocrat cannot be caught lying and thus it would seem he would want to lie; but since lies cannot be detected, nobody believes him even if he is not lying. Thus, when the fraud detection probability is low, the autocrat who wins elections with a sufficient margin cannot deter the opposition from revolting against him. Moreover, since he learns that he has greater popular support, he will not concede and therefore a conflict is going to be more likely. Only when the detection probability is reasonably high, autocrats can start benefiting from elections and election fraud. This finding could inform further research, in line with Beaulieu and Hyde (2009), on the autocrats' incentives to invite election monitors.

5.3. Discussion

The insight that non-democratic elections can change the beliefs of the population has been widely used in the literature. Our contribution consists in turning this insight into a theoretical tool that enables us to hypothesize about variety of phenomena pertinent to non-democratic elections. In particular, we proposed an explanation for two empirical regularities: the frequency of large vote margins and the relatively small effect of elections on political survival in military regimes. In addition, we generated a set of new hypotheses for future empirical research on variation in pre-election repression, the effects of opposition fragmentation, the costs of conflict, and the likelihood of post-election fraud.

In addition to showing how elections can present autocrats with a peaceful exit path (cf. Cox, 2009), we argued that elections may also allow them to avoid exiting altogether. Indeed, if the purpose of elections is only to provide new information and thereby avoid costly conflicts, then it is not clear why autocrats employ rigged elections, which in fact provide biased (and hence low-quality) information. The model of forced consent,

however, suggests that, under variety of circumstances, the best option for autocrats is to reveal and communicate only partial information; thus, it explains why autocrats who want to avoid costly conflicts do not go all the way into calling fully informative free and fair elections.

Finally, the model presented some results regarding opposition fragmentation and post-election fraud. With respect to the former, we found that opposition fragmentation induces autocrats to *increase* repressiveness of elections, contrary to what intuition would suggest. This calls into question a suggestion made in literature that opposition fails to be unified because the system is repressive (e.g. van De Walle, 2006). We suggest that the relationship is in the reverse: the system is more repressive because the opposition is fragmented.

With respect to post-election fraud, first, we found that post-election fraud occurs only if elections are repressive but not vice versa. This finding may help understand why leaders resort to observable measures of repression as opposed to holding free and fair elections and then falsifying the results. Second, the model suggests an explanation as to why autocrats might be interested in increasing transparency of elections (e.g., by allowing international observers): post-election fraud is a useful technology only under common knowledge that the fraud-detection probability is sufficiently high.

6. ELECTORAL ANESTHESIA IN SINGLE-PARTY ELECTIONS

Can elections, even if they are blatantly unfree and unfair, have an effect on the population posited by the theory of forced consent? To investigate this question empirically, we study single-party elections in the Soviet Union. The analysis is based on an original dataset on political prosecutions in the Soviet Union – a country with an extended and well-documented history of non-competitive elections – and explore how waves of political dissent are related to the timing of elections. To our knowledge, this is the first attempt in the field to study non-democratic elections using this kind of micro-level data.

Elections in the Soviet Union could be considered they epitome of an empty electoral ritual. Ever since Stalin introduced his ‘social democratic’ constitution of the Soviet Union in 1936, elections to the Soviet legislature – the Supreme Soviets – were held with nearly clocklike precision. Every four years (or five years after the new constitution was introduced in 1978) more than 99 percent of Soviet citizens were diligently casting (or were forced to cast) their votes in elections where a single candidate ‘competed’ for a single seat.

Many students of Soviet Union politics have long noted that, even without a choice, Soviet elections were ‘legitimizing’ the government (Pravda, 1978; White, 1985) and producing a “psychological reinforcement of unity between regime and subjects” (Karklins, 1986, p. 449). This is typically considered to be the main explanation of why the Soviet Union was holding such elections in the first place. Theoretically, such an explanation is incomplete because it does not specify a mechanism explaining how the public begins to perceive a government as popular (‘legitimate’) in the aftermath of elections without

choice and under what conditions elections would fail to achieve this goal. Moreover, there has been no empirical evidence in the existing literature to support the notion that the single-party elections did have a ‘legitimizing’ effect. In this section, we present such empirical evidence and explain how it ties in with the theory of forced consent.

Importantly, focusing on the single-party elections allows us to provide evidence for the theory of forced consent, which is not compatible with some other theories of non-democratic elections. Many theories argue elections provide a safe exit path for leaders who want to avoid a violent removal from office (Cox, 2009; Magaloni, 2006). Our argument is different: we do not deny that elections might serve this purpose (in fact, our model accommodates this intuition); however, we argue that elections can also reduce the threat of challenge altogether – one does not need to look for a safe exit if one is not under threat. Since single-party elections cannot be lost, they do not provide any path for safe exit and, thus, they pose a challenge to ‘safe exit’ theories. In contrast, the theory of forced consent does accommodate single-party elections and explains how can they be used as informational devices that deter threats. Yet, to demonstrate its validity, we need to show that the stabilizing effect of elections does exist even if they present no choice and, hence, no safe exit.

The Soviet elections also cannot be accounted for by the argument that elections are institutions of co-optation and power-distribution among the lower rank members of the ruling party (Magaloni, 2006). First, the Supreme Soviet was largely a powerless institution. There is some difference of opinion in the scholarship about the power of the Supreme Soviet: some describe it as an “ornamental and decorative” institution and others suggest that it had a more important role but “a lesser role than that of other major institutions” (Hough and Fainsod, 1979, p. 368). Indeed, the Supreme Soviet held only a few brief sessions a year (being in the legislature was never a full time job), and the legislation offered by the Central Committee was always unanimously approved. It is therefore very difficult to see how elections to the Supreme Soviet would serve as tools for opposition co-optation and power-distribution.

Lastly, distributive accounts of non-democratic elections suggesting that elections are tools for the distribution of clientelistic benefits (Blaydes, 2010; Lust-Okar, 2006) also fail to accommodate the Soviet elections. While election campaigns were extensive and resourceful (Carson, 1955), there is no historical evidence of resources having been distributed to attract voters to the polls.

6.1. *Data on Anti-Regime Dissent*

To study how waves of political dissent varied with respect to the timing of elections, we employ an original dataset of Political Arrests in the Soviet Union (PASU). Like every other dictatorship, the Soviet government punished its citizens for even the slightest expression of dissent towards the regime or its policies. Sometimes such punishments were conducted in a covert manner by extra-judicial institutions without any proper legal proceedings (Gregory, 2009*a,b*). However, Article 58 of the Soviet criminal code stipulated legal prosecution of citizens on the grounds of ‘anti-state’ and ‘counter-revolutionary’

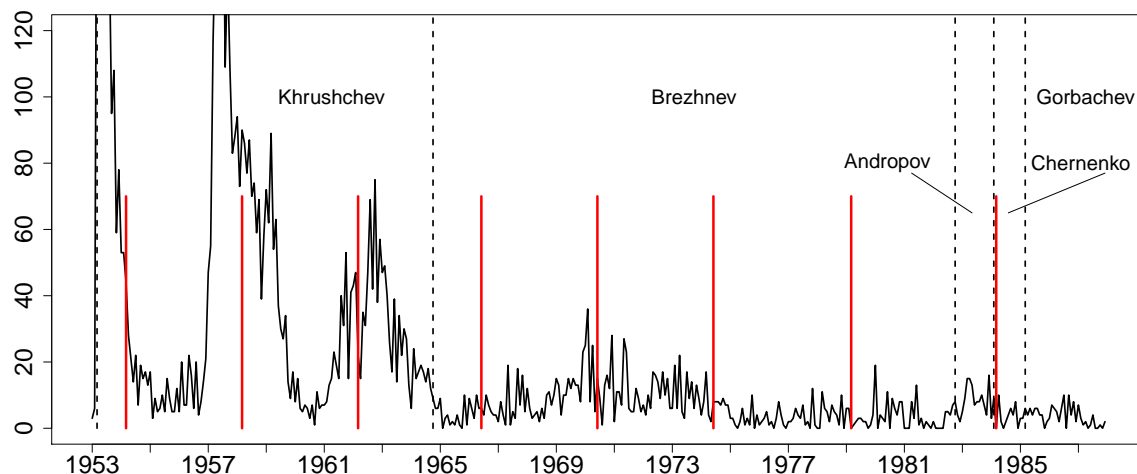


Figure 5: Monthly number of anti-Soviet crime cases in the USSR. The red verticals are the times of elections to the Supreme Soviets.

activities. Such activities included public or private criticism of the government and its policies, involvement in ‘anti-state’ activities and organizations, public insults to the leaders of the Soviet Union and so on. The cases of the ‘anti-state’ activity that were pursued under Article 58 were meticulously registered and documented.

Since many of the documents of the Soviet era have now been declassified, these legal proceedings provide a unique look into the dynamics of public sentiment regarding the Soviet government and its policies. The PASU dataset was constructed by coding legal documents ‘anti-state activities and anti-state propaganda’ kept at the the Soviet prosecutor’s office (Kozlov, 1999b). The PASU dataset contains information from 5185 cases involving 7171 arrestees (some cases involve many persons) from 1953 to 1991.

The activities for which people were arrested ranged from simple expressions of grievances (e.g., “while in a drunk state, the arrestee was cursing the living standards in the USSR and was praising the United States”) to organization of riots or calls for regime change. Other ‘crimes’ concerned expression of nationalistic sentiments or practice of religious beliefs, both of which were seen as forms of anti-state behavior. The PASU dataset contains information about the arrested person’s age, ethnicity, education, profession, place of residence, and type of ‘crime’. However, in this analysis, we only use the information on monthly counts of cases across all ‘crime’ categories.

Figure 5 shows the arrest data aggregated by months together with a running five month average, leadership spells, and times of elections to the Supreme Soviets. There are several striking patterns in the data: First, the number of arrests is decreasing in time and is also related with the leadership of the country: the highest number of arrests appear during the last months of Stalin’s rule (data start in January 1953, Stalin died in March 1953). During the tenures of the subsequent leaders, the number of arrests was decreasing until it stabilized around the mid-1960’s. Second, dissent also follows a

highly cyclical pattern, which cannot be explained by leadership spells since there are multiple cycles within the spell of the same leader.

Why would waves of dissent be cyclical? And what explains the timing of these cycles? As we noted before, our conjecture is that waves of dissent are related to the timing of elections. In the next section, we show that the dissent waves come in cycles because elections come in cycles.

Before proceeding with the analysis, we need to address several important concern about the data. First, the data in Figure 6 represent the dates when the case was processed in the court and/or when the person was arrested (we refer to these as arrest dates for brevity). Naturally, since we want to study the dynamics of public dissent, the more appropriate frame of reference would be the date of the actual crime. Unfortunately, the date of the actual crime is reported in only one-third of the case. In the upper panel of Figure 6, we plotted the data by the arrest and the crime date. Although there are some discrepancies, the general dynamics looks remarkably similar across both series. In fact, our results remain qualitatively the same if we use the crime-dates instead of arrest dates.

The second important concern is whether the data measure the expressions of political dissent or do they actually measure state repression? That is a fundamental problem in researching political dissent in an authoritarian state: the state can arrest people who do rebel against but it can also arrest people even if no ‘crime’ is committed. How can we separate the two?

One argument in favor of treating the data as representing the incidence of the actual dissent is that it closely follows the general patterns about social stability in the Soviet Union: Khrushchev’s era is generally known to have been socially more volatile than the quiet ‘stagnation’ era of Brezhnev. This pattern is very clear in the data.⁹

Further, though some of the cases in the dataset might be the ones where arrest occurred without the actual crime, there are strong reasons to believe that for the most part that is not the case. If many of the cases in the dataset were instances of framed crimes, one would most likely see that the description of these crimes lack individual detail. Instead, we find that the descriptions of the crimes are rather detailed and contain idiosyncratic references, which would clearly be lacking if the prosecutors were simply making up the crimes.

In addition, we can cross-validate the data by examining how well it correlates with the information on public dissent in the Soviet Union obtained from alternative sources. We consider two such sources. The first source is an internal memo titled “On Mass Public Disorders Since 1957...” prepared by the head of the KGB in 1987 at the request of Mikhail Gorbachev. The document lists the exact dates of mass protests and riots that occurred, with the estimated number of participants, the number of people arrested, and killed. In the middle panel of Figure 6 we plot the incidences of these events of mass disorders as blue spikes (with the height of the spike proportional to the number

⁹The data clearly fail to pick up the dissent that started occurring in late 1980’s: it seems that the repressive structure of the state in that period changed dramatically as dissent did happen but people were not arrested. However, excluding post-1985 data from the analysis does not change the results.

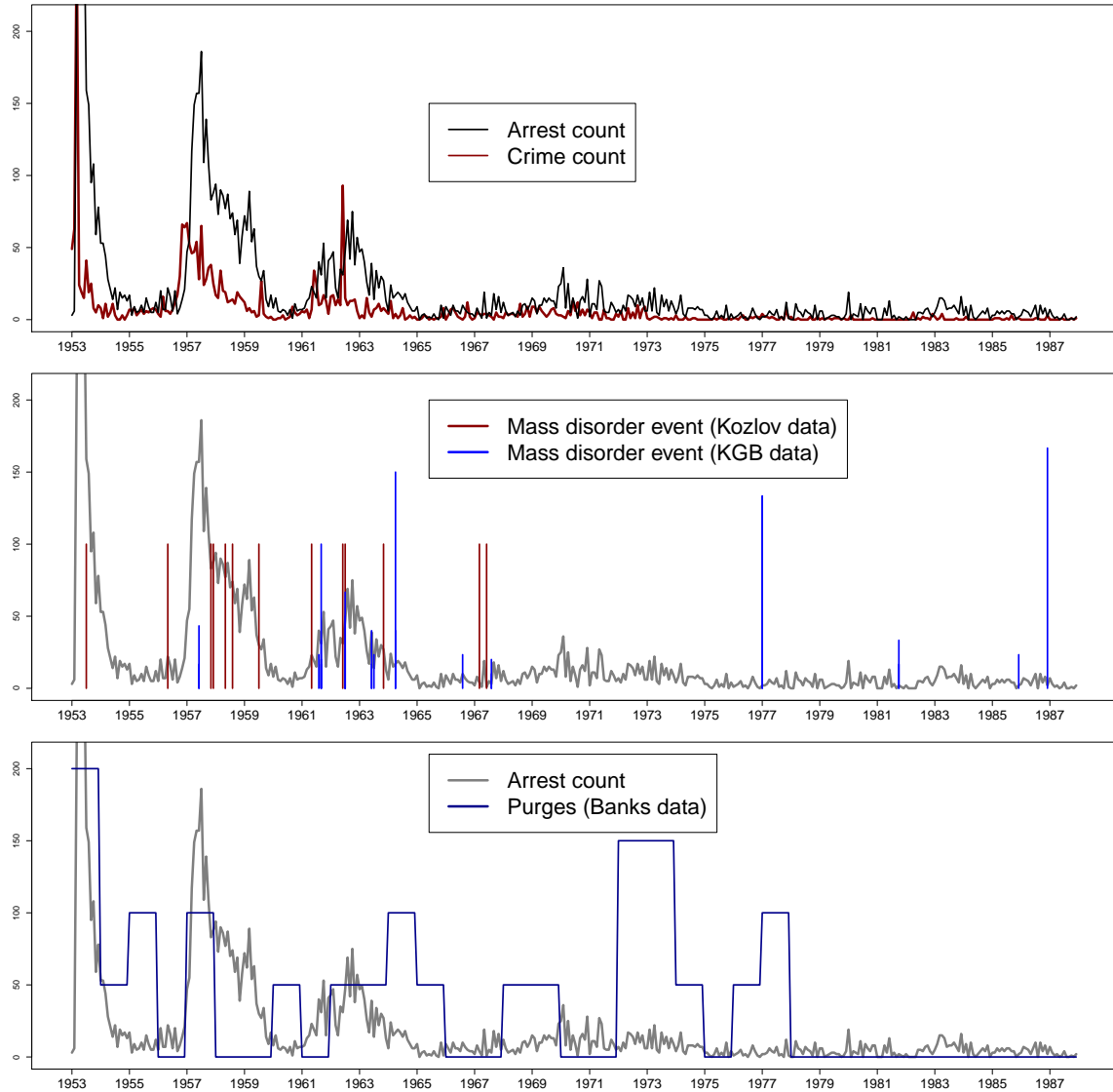


Figure 6: Cross-validating the data on political arrests: (a) Crime count vs arrest count; (b) Arrest count vs incidences of mass public disorder from KGB's internal records (Istochnik, 1995) and historical accounts (Kozlov, 1999a); (c) Arrest count vs political purges (Banks, 1996).

of participants). Since these data extend only to 1957, we also include the incidence of mass protests and riots documented by Russian historian Kozlov (1999a). The dynamics of arrest counts and the incidence of mass disorders appears to be correlated rather well suggesting that the PASU data picks up important trends in the dynamics of the public political dissent in the Soviet Union.

Finally, if the arrest data were merely registering repression and not the underlying expressions of political dissent, we should observe strong correlation between other measures of repression and the dynamics of the political arrests. In the lower panel of Figure 6, we plot the arrest count versus the incidence of purges taken from Banks (1996). Political purges in the Soviet Union always had spillover effects into the general population and so, if our data were measuring repression only, we would observe strong correspondence between the incidence of purges and dynamics of arrests for political crimes. Instead, the correlation between the purges and the arrests appears to be weak.

6.2. *Theoretical Expectations*

In an autocratic state, there are few credible means to exchange information about the popularity of a government: the government can claim that it is popular, but the claim has no credibility because it cannot be verified in the absence of free media, assembly rights, and fair elections. The opinion polls might exist but they usually lack credibility as people are afraid to voice their opposition to the government. Public rallies supporting the incumbent might attract large numbers but one is never sure if the participants of the rallies are doing that out of honest loyalty or fear. We argued that even if highly rigged, elections can help in revealing and communicating partially credible information.

This argument has a specific dynamic prediction: relative to the occurrence of elections, political dissent should come in waves. First, the wave of dissent should dissipate as elections approach: since elections might potentially reveal new information, the opponents of the government are better-off waiting for the election outcome and then, in light of this new information, decide whether it is worth it to expressing the dissent. Second, provided that the incumbent wins them with a substantial margin using optimal repression levels, the wave of dissent should continue to weaken in the aftermath of the elections. However, as time passes, the value of this information diminishes: the government might have been perceived to be popular three years ago, but things could have changed. Thus, another election needs to be held to provide new information and deter potential dissenters by showing them that they are a minority.

The above argument requires that elections are at least potentially informative; that is, they provide at least a technical possibility of political dissent against the incumbent. It may be argued that, in the absence of choice on the ballot, Soviet elections cannot serve as an empirical case for the informational model of elections. However, the fact is that the Soviet voter had a practical possibility to express his dissent though it was costly: according to the election rules, if a voter delivers an unmarked ballot to the urn, such a ballot automatically counts as a vote for the candidate. This way, anyone who takes an effort to mark a ballot is suspected to be disapproving of the candidate and, by default, the regime. Thus, albeit costly, the dissent in the single-party Soviet elections was a possibility. This is important because even a technical possibility of dissent indicates that elections *can* be informative. For instance, if in the presence of such costs, the government would not receive a super larger margin of votes

Lastly, we should note that the Soviet Union provides a good test case for the effect of

elections because their timing can be treated as largely exogenous. As we already noted, the legal basis of the Soviet electoral system was established in the 1936 Constitution and remained unchanged until 1978 when a new constitution was introduced. While the former constitution required elections to be held every four years, the latter constitution extended this to a five year term. Except for one change, the electoral system remained untouched for half of the century. Thus, in this case, we can treat the timing of elections as largely exogenous to the incidence of anti-state activities.

6.3. Statistical Model

The crime counts y_t for months $t = 1, \dots, T$ are modeled as an overdispersed Poisson¹⁰ process with mean μ_t represented by the following semi-parametric function:

$$\ln(\mu_t) = c + \sum_{k=1}^K \alpha_k y_{t-k} + f(d(e_{it})) + \beta_L L_t + \tau(t) \quad (5)$$

First, the number of crime cases in any given month t depends on the number of cases in the previous K months, y_{t-k} . In our analysis, we set $K = 3$. This choice is a compromise between a model with a single lag of crime counts that takes only very recent past into account ($K = 1$) and a model which includes a large number of lags thereby discarding much of the data at the beginning of the series.

Second, $d(e_{it})$ refers to the distance between time t and elections to the Supreme Soviets. There are several intuitive ways to measure distance to elections. One possibility is that only time *after* elections matters: each time a new election takes place, a clock starts ticking until the next election at which point the clock is reset. This distance function, which we call ‘asymmetric’, is depicted as a solid grey curve in Figure 7: it simply measures the time (in months) since the last election.

The asymmetric distance function does not distinguish between the time before and after elections. If actors are making their calculations *in expectation* of elections, then it may be appropriate to distinguish between the time before and after elections. The symmetric distance function is represented by the dotted line in Figure 7: when elections are approaching, the distance is negative. In the aftermath of elections, the distance becomes positive and stays that way until the upcoming elections appear closer than the past elections. In other words, the negative values of the symmetric distance represent the time to elections, while the positive values represent the time after elections.

Third, in order to capture the cycle-effect of elections, we need a sufficiently flexible and yet identifiable model relating the distance to elections $d(e_{it})$ and the average number of crime counts μ_t . For this purpose, we use a generalized additive model (Wood, 2006). The model assumes that the relationship between μ_t and $d(e_{it})$ is represented by an

¹⁰As an alternative, one could use the negative binomial regression. However, such model may perform very poorly when lagged dependent variable is included in the model. Negative binomial model assumes that variance of the variable is a quadratic function of its expectation, which is very clearly rejected by our data. For these data, the overdispersed Poisson model strongly outperforms the negative binomial model in terms of the predictive power.

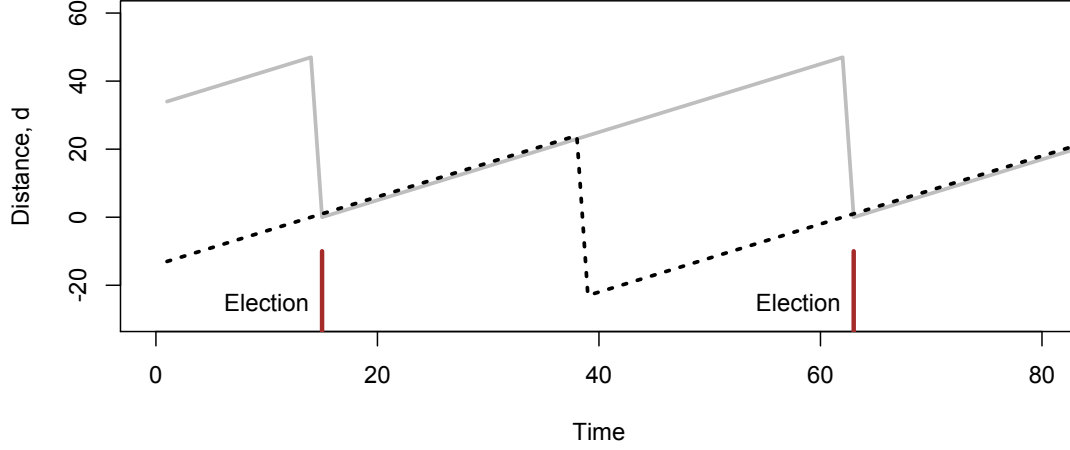


Figure 7: Asymmetric (solid line) and symmetric (pointed line) distance functions.

unknown smooth function $f(\cdot)$, which we approximate via natural cubic splines with N knots. The number of knots in the spline function is determined using cross-validation analysis. We find that increasing the number of knots above seven does not produce a sizable increase in the model fit; thus, in all the analyses, we use a spline function with seven knots. This appears to be sufficiently flexible to capture the cycles of crime counts we observe in the data.

Fourth, L_t is a dummy variable for the leader of the Soviet Union, which can potentially account for variation in the repressiveness of the state. Lastly, $\tau(t)$ is a function of time to account for time trends. For these data, the time trends are well captured by a cubic polynomial function; a higher polynomial does not produce a better fit.

6.4. Results

The results of the overdispersed Poisson regressions with symmetric and asymmetric distance functions are presented in Table 1. Coefficients of the spline function $f(\cdot)$ are not reported in the table because neither their size nor standard errors can be interpreted individually. Instead, we report the Wald statistic and p-value for the null hypotheses that all coefficients in the function $f(\cdot)$ are zero (in such case, $f(\cdot)$ would be a ‘flat’ function). In both models, the null hypotheses that distance has no effect is clearly rejected. However, this by itself does not say anything about the direction of the effect.

To trace the substantive effect of the proximity to elections, Figure 8 shows estimated curves \hat{f} with 95% confidence bounds. Consider the upper panel depicting the expected number of crime cases as a function of time before and after elections (the symmetric

Table 1: Predicting arrest counts as a function of distance to elections. Generalized additive models with overdispersed Poisson link function (quasi-likelihood approach).

	Symmetric distance		Asymmetric distance	
	Estimate	S.E.	Estimate	S.E.
Intercept	3.367*	(0.737)	3.634*	(0.527)
y_{t-1}	0.003*	(0.000)	0.004*	(0.000)
y_{t-2}	0.000	(0.001)	0.000	(0.001)
y_{t-3}	0.001	(0.000)	0.001	(0.000)
Brezhnev	-1.150*	(0.453)	-1.507*	(0.476)
Chernenko	-0.228	(0.558)	-0.291	(0.626)
Gorbachev	0.529	(0.561)	0.458	(0.625)
Krushchev	0.298	(0.497)	-0.023	(0.514)
Year	-0.279	(0.221)	-0.325	(0.218)
Year ²	-0.695*	(0.225)	-0.800*	(0.238)
Year ³	-0.348*	(0.134)	-0.389*	(0.141)
$\hat{f}(\cdot)^a$	94.1(df=7)	0.000	78.7(df=7)	0.000
N	453		453	
Deviance	4018		4125	

^a Wald test statistic and p-value for the null hypothesis that $f(\cdot)$ is flat (all coefficients in the spline function are zero). The effects are in the logarithmic scale. Standard errors in parentheses.

* p-value < 0.05.

distance). As elections approach the expected number of arrests is increasing and peaks at about nine months before elections, at which point it starts to decline. This indicates that dissent comes in waves, and the waves are clearly associated with the timing of elections.

This point is reinforced by the lower panel in Figure 8 showing the expected number of crimes as a function of time after elections (the asymmetric distance). In the aftermath of elections, the number of crimes is declining. Expectedly, we do not observe a sharp discontinuous decline in the crime counts. This may be due to inertia – the wave of dissent cannot dissipate in an instant. In about 24 months after the elections, the number of arrests reaches its overall minimum and then starts climbing up again. As time goes by, the information communicated by the last election begins to lose its value, and the wave of dissent starts rising again.

We can also assess the importance of elections in explaining waves of dissent by comparing the fit of a model that includes the distance to elections with the fit of the model that does not. Figure 9 shows in-sample predicted number of counts for the two models. It is clear that the model with the distance to elections significantly outperforms the model without this variable: the predictions of the latter model capture the true dynamics of the data rather inaccurately. Indeed, after 1965, the predictions of the model without the distance variable are almost entirely static, while the data are clearly

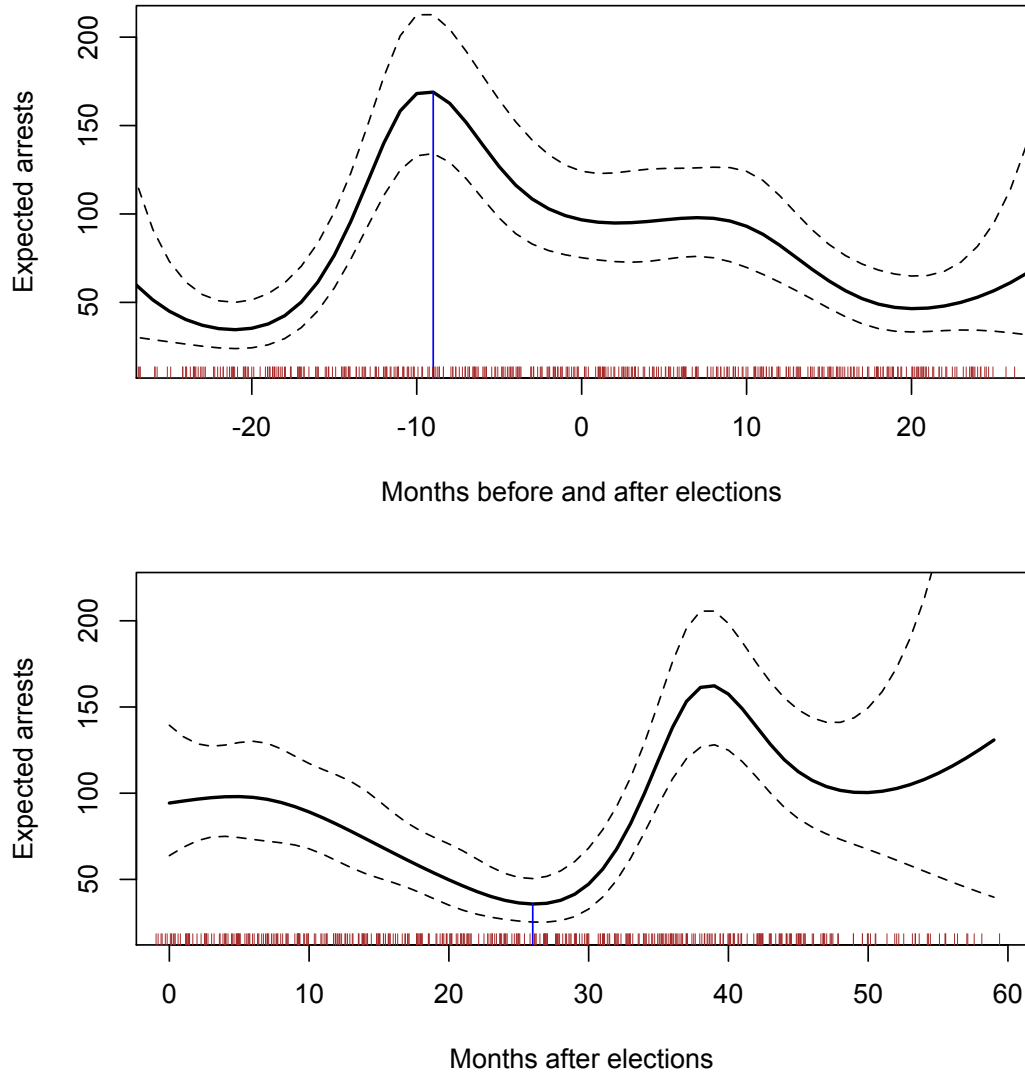


Figure 8: Expected count of arrests with 95% confidence bounds as a function of distance from elections. The upper panel uses the symmetric distance and the lower panel uses asymmetric distance function.

dynamic. In contrast, the model that accounts for the distance to elections captures the cyclical nature of the data much better both in the pre- and post-1965 era. Comparison of the residual deviance of the two models also suggests that the timing of elections is very important in accounting for the dynamics of public dissent.

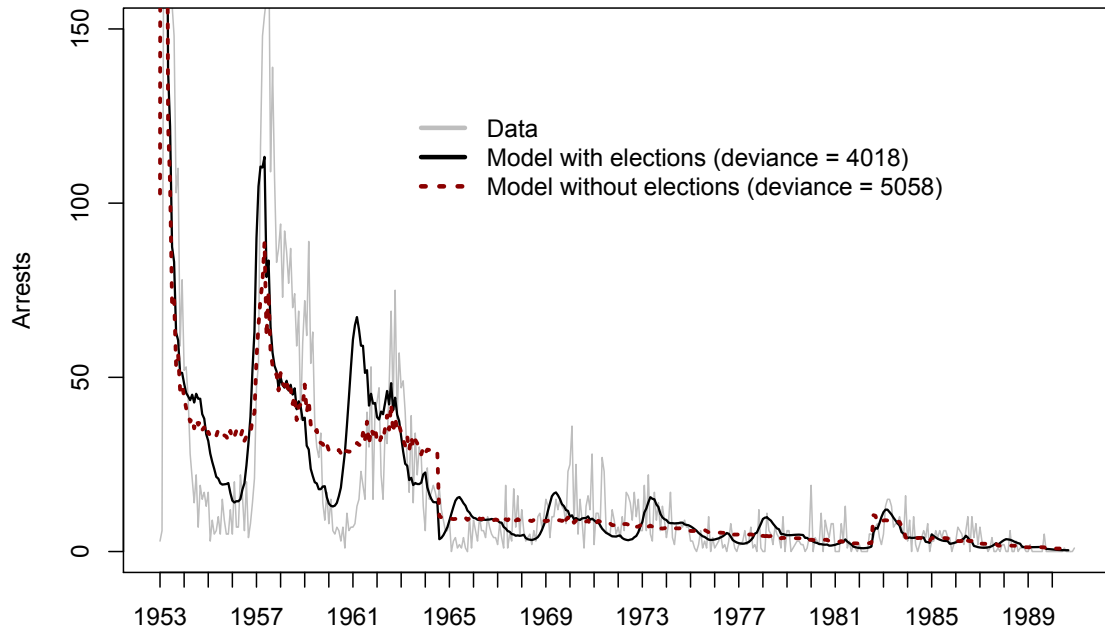


Figure 9: Model comparisons when distance to elections is included and when it is ignored: in-sample predicted values.

7. DISCUSSION

In the summer of 2009, massive post-election protests erupted in Iran. To many, the political havoc was a sign that the elections hurt the country’s leadership. However, a reformist cleric Mehdi Karroubi who was also a candidate expressed a very different opinion. He said: “It is amazing that the people’s vote has turned into an instrument for the government to stabilize itself” (NYT, June 13, 2009). Why would rigged elections stabilize a government?

Our analysis proposes an answer: unfree and unfair elections may communicate to the public that the autocrat is *likely* to be supported by a critical share of the population and thereby deter threats to his rule. We have argued that if elections are optimally rigged and if they yield a sufficiently large vote-share to the autocrat, then the public will be unable to tell whether it is dealing with a truly popular autocrat or an autocrat who is moderately unpopular. This argument does not assume that the public is somehow ‘fooled’ into changing its mind about the autocrat’s support after elections with little credibility. Remarkably, this ‘anesthetic effect’ of non-democratic elections is consistent with individual rationality.

Unfree and unfair elections are rituals of forced consent: they create a consent or at least its appearance by suppressing the voices of dissent and emphasizing the voices of consent. Thus, the consent resulting from non-democratic elections remains grounded in uncertainty: the public believes that the autocrat is likely to be popular, but it is not

allowed to learn whether it is in fact the case. This kind of consent is fundamentally different from the consent that is generated in democratic elections, where free competition allows everyone to learn the true distribution of public support. The outcome of democratic elections is uncertain *ex ante*, but *ex post* they result in certainty. The outcome of non-democratic elections is mostly certain *ex ante* but *ex post* uncertainty is not resolved.

We emphasized the communicative or informational value of elections. However, there is no reason to believe that elections can play only one role. Our model should be conceived as a contribution to a more complete understanding of electoral autocracies. Indeed, we have suggested that when autocrats face no threat of removal and are disinterested in communicating their popularity, they may call elections that have low informational content. In such instances, the value of elections is perhaps confined solely in managing the elites or distributing patronage.

Elections represent but one among many tools that autocrats may use to communicate information about their support. Autocrats are known to force citizens to participate in support rallies and demonstrations or to sanction them for not displaying political symbols that represent support for the regime and pictures of ‘dear’ leaders. Future research could consider elections under authoritarianism in the context of these alternative rituals of forced consent.

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