Why do Autocrats Disclose?

Economic Transparency and Inter-Elite Politics in the Shadow of

Mass Unrest

May 2018

Word Count (excluding appendix): 9,500

Abstract

Autocratic governments hold a preference for opacity. Autocracies are less transparent than democracies and a closed informational environment preserves autocratic regimes from mass unrest. Yet, autocracies vary widely in the extent to which they disclose economic information. In this paper, we offer an explanation for why some autocrats choose to disclose. We contend that, paradoxically, some autocratic leaders may benefit from increasing the capacity of the populace to mobilize. In so-doing, autocratic leaders threaten rival members of the elite, reducing the risk of elite challenges and increasing their freedom of maneuver. We contend that transparency acts as one mechanism toward these ends. We formalize these intuitions and demonstrate empirically that leaders in transparent autocracies enjoy a reduced hazard of removal via coup relative to their opaque counterparts. Personalistic dictators and entrenched autocrats – who suffer the smallest risk of sanctioning by their elites – are particularly unlikely to disclose information.

Governments have a taste for opacity. Limited transparency facilitates rent-seeking and increases leaders' freedom of maneuver (Adserà, Boix and Payne, 2003; Brunetti and Weder, 2003; Ferraz and Finan, 2008; Reinikka and Svensson, 2003). Moreover, collection and dissemination of economic data entails substantial financial costs. Presumably, leaders who face little pressure from the public to disclose would eschew such costs and provide less information about their actions or aggregate economic outcomes.

Transparency's role in facilitating mass mobilization under autocratic rule stacks the deck still further against disclosure. Government disclosures – particularly of economic information – help members of the populace form shared beliefs regarding their leaders' performance, making mass mobilization against the regime more likely. Hollyer, Rosendorff and Vreeland (2015) demonstrate that autocratic regimes that disclose large volumes of information are more prone to collapse, due to mass protest or processes leading to democratization, than regimes that fail to disclose.

Yet autocratic governments do disclose information to their publics. While democracies, on average, disclose substantially more than autocracies, the latter vary considerably in the extent of their opacity.

We provide an explanation for why autocrats choose to disclose. We contend that, even as disclosure renders autocratic regimes more vulnerable to mass protest, it insulates autocratic leaders from opposition that emerges from *within* the regime. Those leaders more vulnerable to rival elites use the threat of mass insurrection, enhanced by transparency, to keep those rivals in line; those leaders less susceptible to coups will be less transparent.

We construct a model in which autocratic leaders balance risks arising both from rival elites and from the population. Attempts by members of the elite to oust their leaders may act as a focal point for mobilization by the masses. Mass mobilization threatens elite survival, since it may result the sweeping away of many, or all, members of the incumbent regime. In acting against their leadership, therefore, members of the elite jeopardize their own privileged positions. Leaders may have an incentive to facilitate this collective action by the masses, insofar as this induces quiescence from rival elites. Yet, leaders face a risk in taking such a step: the masses may mobilize against the regime even without elite infighting. Autocratic leaders must walk a knife-edge in dealing with these competing risks.

Building from Hollyer, Rosendorff and Vreeland (2015), we *take as given* that government disclosure is one mechanism through which autocratic leaders facilitate mass collective action. They demonstrate,

both theoretically and empirically, that increased levels of disclosure are associated with an increased risk of mass mobilization under autocratic rule – and with an increased risk of regime collapse resulting from mass collective action. They argue that economic transparency facilitates collective action because it helps coordinate citizen beliefs: Citizens will be unwilling to take to the streets unless they are certain their beliefs about the need to remove an autocratic regime are widely shared.

Similar forces are likely to influence citizen responses to discord within the autocratic regime. Individual citizens are better able to coordinate on engaging in protest following such infighting when they recognize that their perceptions of the incumbent regime are widely shared. Rival members of the elite understand that transparency facilitates mobilization by the masses, and are less likely to act against their leaders when these leaders choose to disclose. Transparency (and the associated threat to elite survival) is used by leaders to cow recalcitrant rival members within the regime.

Leaders, therefore, are more likely to disclose when they perceive threats as emerging from within their ruling coalition. We measure the level of threat to the leader from the inner-circle elites in various ways. Bueno de Mesquita et al. (2003, 37, 65) argue that the threat posed by elites is likely to be falling in a leader's time in power. Analogously, Geddes, Wright and Frantz (2012) find that personalistic autocrats – who rule over regimes that derive their legitimacy from the leader himself – have less to fear from elites than those autocrats who rule institutionalized regimes, with designated succession mechanisms and popular legitimacy distinct from the leader's identity. Finally, following Gandhi's (2008) approach to classifying autocracies, 'hierarchical' regimes – such as military dictatorships and monarchies – have less to fear from elites than the more 'precarious' civilian-ruled autocracies. In all instances, we would expect disclosure to be rising in the threat posed by the elite – i.e., disclosure will be greatest (1) when leaders are new to power, (2) under non-personalist regimes, or (3) under civilian controlled autocracies.

1   Argument

Authoritarian leaders must navigate two threats to their rule. One emerges from within the regime itself. The other is the danger of mass mobilization on the part of the public. We share this framework with much of the recent literature on autocratic institutions (see particularly, Svolik, 2012). Models of autocratic rule often find these threats to be strategic substitutes – for instance, policies aimed at alleviating the threat of mass

revolt may increase the risk of a coup (Svolik, 2013*b*). Here, we contend that the reverse holds: policies that increase the mobilizational capacity of the populace may force members of the regime to toe the line set by the leadership.

Members of the regime, when dealing with a leader who acts against their interest, face a choice of whether to remove this leader. Removing the leader, on the one hand, opens up the possibility that his replacement will prove more amenable to the elite. But, this is a costly gamble – removing the leader increases the risk of regime collapse, potentially costing these same elite individuals their privileged positions (Besley and Kudamatsu, 2007; Bueno de Mesquita et al., 2003; Gehlbach and Malesky, 2010; Padró i Miquel, 2007).

We contend that transparency alters these elites' decision calculus. Previous work (Hollyer, Rosendorff and Vreeland, 2015) establishes that transparency enhances the mobilizational capacity of the populace, boosting the probability that attempts to remove the leader cause the regime to collapse.[1] This pushes members of the elite toward inaction. As the danger of insurrection mounts, members of the elite grow more complacent in the face of an uncooperative leadership. Following Slater (2010), a common external threat produces internal cohesion for the regime.

1.1 Transparency and Protest in Autocracies

Transparency, under autocratic rule, tends to facilitate mass mobilization by the populace against the regime. This effect arises due to coordination problems inherent in mass protest. Protests that draw widespread participation are likely to succeed in forcing the regime to change policy or leadership, or even in bringing about regime change. Smaller protests, on the other hand, are likely to be put down, at considerable cost to participants.

Any individual's decision to protest thus depends on her beliefs about the willingness of others to similarly turn out. In this context, public information is likely to play an important role (Morris and Shin, 2002). Information that is witnessed by all citizens, and *known* by all citizens to be publicly observed, allows individuals not only to update their beliefs about the performance of government, but also their higher-order beliefs about the expectations held by others. In the absence of such information, uncertainty about the willingness of others to mobilize may render mass protest impossible, whereas, public disclosures by the government may

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[1]We say 'mobilizational capacity' here to emphasize that large numbers of citizens are not yet already in the streets. The strategic logic of elites in deciding whether to oust a leader may differ if protests have *already* begun (Casper and Tyson, 2014).

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render protest feasible. Hollyer, Rosendorff and Vreeland (2015) formalize this argument and demonstrate, both theoretically and empirically, that this particualr form of transparency (disclosure by the government of aggregate economic information) renders mass protest more likely under autocratic rule.[2]

Specifically, these authors find – using a definition of transparency identical to that we present in our empirical sections – that transparency is associated with more frequent protests and strikes in autocratic regimes, and that the level of transparency predicts autocratic regime collapse as a result of protest or processes leading to democratization.[3] This relationship is visible in the raw data: Transparency scores in the five years leading up to democratization are, on average, $\frac{1}{3}$ of a standard deviation above the average in the full sample of autocracy-years, a difference that is highly significant. In more rigorous specifications, they find that a one standard deviation increase in transparency is associated with an increase in the hazard of democratization of between 38 and 61 percent.[4]

1.2 Transparency, Coups and Autocratic Failure

We also take as a building block of our argument that elite in-fighting, and coups and coup-attempts act as a focal point for protest (on a related point, see Casper and Tyson, 2014). Leadership struggles act as signals to the citizenry of (1) incipient policy changes and (2) intra-regime conflict and weakness. Since mass mobilization entails strategic complementarities, citizens are only likely to take to the streets following a usurpation when they recognize that others share their perception of the implications of this conflict. Are the current leadership's policies widely understood to benefit the populace – as, for instance, might be the case after reports of strong economic growth are disclosed – such that an incipient change is undesirable? Is the regime widely understood to be despised – as, for instance, might be the case after the disclosure of declining living standards – such that any moment of weakness should be exploited to ensure its removal?

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[2]See also Bueno de Mesquita (2010), Edmond (2013), Little, LaGatta and Tucker (2015) and Shadmehr and Bernhardt (2014).

[3]This claim holds for a limited portion of the parameter space. Transparency boosts the probability of mass unrest so long as successfully unseating a leader is 'hard' – in the sense that the costs of protest are large relative to selective benefits for mobilization, or the threshold for success is high. This is common feature of global games models of unrest (for related findings, see Little, 2016; Shadmehr and Bernhardt, forthcoming).

[4]This claim is *not* conditional on the performance or type of the autocratic government. Rather, the probability of collapse is unconditionally rising in transparency. To see why this is the case, assume citizens observe some negative information about the government. Because protest requires coordination, this information may prove insufficiently convincing to inspire mobilization – more information that confirms the original signal (i.e., more transparency) makes protest more likely. By contrast, if citizens receive positive information about the government's performance, they are unlikely to revolt – and increasing the precision of this information will not substantively change their decision. Staying at home does not require coordinated beliefs.

Since transparency helps ensure that (1) these perceptions are widely shared, and (2) *known* to be widely shared, citizens are more likely to respond to elite attempts to replace the leader with protest in a transparent than an opaque environment.

Autocratic leaders determine the level of disclosure with these effects in mind. Disclosure constitutes a risky gamble for such a leader. Rival elites are rendered more complacent by virtue of the increased mobilizational capacity of the populace. Yet, empowering the populace in this manner is hazardous: citizens may depose the regime even as the elite toes the leadership's line. Leaders are thus placed in the position of trading off the threat they face from the populace against the threat from the elite. *When the latter is high, the leader will choose to increase the popular threat to reduce that posed by the elite. By contrast, when the internal threat is low there is little incentive to disclose. Any gains in internal regime cohesion are more than offset by increases in the threat of popular mobilization.*

We do not wish to suggest that transparency is the unique or the most important tool through which leaders may play the threats posed by the populace against those from the regime elite. Our contention is merely that, following existing work on protest and transparency (Hollyer, Rosendorff and Vreeland, 2015) and on the interrelated nature of mass mobilization and coups (Casper and Tyson, 2014), transparency facilitates mass protest in the wake of a coup. Autocratic leaders' decisions over whether or not to disclose are be driven, in part, by the threat posed by regime elites.

Similarly, we do not wish to contend that leaders' attempts to balance the competing threats from the mass public and within the regime are the only forces driving variation in levels of autocratic transparency. Autocrats may disclose information to appeal to international investors or the international financial institutions, or as a commitment to restrain censorship (Shadmehr and Boleslavsky, 2015) or to better monitor their political opponents (Egorov, Guriev and Sonin, 2009). Our explanation is intended to complement these existing accounts.

2 Related Literature

Our intuition that elite attempts to discipline autocratic leaders risk the stability of the autocratic regime draws on Bueno de Mesquita et al. (2003) and Besley and Kudamatsu (2007). Padró i Miquel (2007) contends that

this 'politics of fear' allows leaders to expropriate from their winning coalition.[5]

Slater (2010) advances a related argument: that a powerful and sustained external threat may enable the formation of elite 'protection-pacts' in autocracies. Leaders are left relatively secure and elites contribute large amounts of resources to sustaining the regime. Hence these regimes are particularly long-lived. Slater (2010), however, particularly focuses on moments immediately surrounding a regime's founding, whereas, our argument applies throughout its time in power. Moreover, in our formulation, leaders manipulate the level of external threat, whereas, in Slater (2010) this is exogenously given.

We also follow a recent literature that examines the strategic tradeoffs between popular and elite threats to autocratic leaders. For instance, Svolik (2012, 2013b) also explores the manner in which increased capacity to repress a popular opposition may leave leaders at risk of a coup. Bueno de Mesquita and Smith (2009) similarly stress that autocratic leaders must meet popular and elite threats, and like this paper, they consider the role of public goods that enhance the ability of the populace to coordinate. Casper and Tyson (2014) examine the relationship between protests and coups – and find feedback mechanisms between these two threats. Specifically, they find that media freedoms increase the risk that one form of threat sparks the other, in line with our primitive assumption that leadership struggles may give rise to protest, particularly in transparent environments.

Our work also contributes to a growing literature on public information under autocratic rule. The mass media has been the focus of much of this work. Accounts by Egorov, Guriev and Sonin (2009) and Lorentzen (2014) argue that autocratic regimes can effectively outsource the role of monitoring their lower level agents to the media. The benefits of such monitoring must be traded off against the risk that a free media may promote mass public opposition. King, Pan and Roberts (2013, 2014), in a series of innovative studies of the PRC's 'Great Firewall', find supportive evidence for these accounts – online censors permit criticism of local government corruption and other forms of mis-governance, but delete calls for protest. In complementary theoretical explorations of media control under autocracy, Gehlbach and Sonin (2014) and Shadmehr and Bernhardt (2015) examine autocrats' incentive to engage in media censorship, given that citizens rationally update to discount good news about the regime or interpret no news as bad news, while Guriev and Treisman (2015) examine the trade-offs dictators face between employing censorship, propaganda and the co-optation

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[5] Di Lonardo and Tyson (2015) develop a related argument, in which an external threat diminishes group infighting, as applied to a terrorist group rather than an autocratic regime.

6

of elites.[6]

While these papers share our focus on information dissemination under autocratic rule, the conception of transparency used in these papers differs fundamentally from the approach taken here. Rather than focusing on the media or on the public providing information to the government (say about sources of political opposition or discontent or the performance of the bureaucracy), we emphasize the role of *government* disclosures of information to the public. Increasing transparency does little to enhance monitoring of lower-level public officials in our formulation, since there is no outsourcing of information collection to private organizations.

Boix and Svolik (2013) also examine the role of (a different form of) transparency under autocratic rule, and – like this paper – they conclude that higher levels of transparency are associated with a reduced risk of coup. In their model, transparency relates to the ability of members of the regime to observe efforts by autocratic leaders to amass greater authority and power. Transparency is thus, in their formulation, the clarity of the 'rules of the game.' The critical concern for Boix and Svolik (2013) is thus the information available to the elite.

By contrast, our concern is with information made available to the wider public. If a given piece of information is revealed to the public, it must also be accessible to members of the regime elite – so, these two notions of transparency must be at least somewhat correlated. However, there is no reason to expect that the reverse holds – considerable amounts of information are likely circulated among autocratic elites and not disclosed to the broader public.

Our definition and – in the empirical sections below – our measure of transparency is derived from Hollyer, Rosendorff and Vreeland (2014), which focuses on the disclosure of economic information by the government to the broader public. We treat the findings of Hollyer, Rosendorff and Vreeland (2015), that transparency of this type increases the risk of mass public protest under autocratic rule, as a *theoretical primitive*. These authors also find, in an appendix, that transparency is associated with a reduced risk of autocratic regime collapse brought on by coups, a finding which is consistent with our argument. Our interest here is in autocratic leader removal, which may or may not entail regime collapse. Unlike these other pieces, this work explores the conditions under which autocrats disclose.

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[6]For an excellent review of the literature on information problems in non-democracies, see Wallace (2015).

3 Model

We present a model of bargaining within an autocratic elite that takes place in the shadow of mass unrest. Steps taken by regime-members to discipline their leaders threaten the stability of regime. In these assumptions, our model shares features of work by Besley and Kudamatsu (2007) and Padró i Miquel (2007). We, however, incorporate a leader's decision to pursue policies that may facilitate mass mobilization into the model. We label this term 'disclosure,' and we interpret the choice to disclose as an increase in transparency, which we know helps coordinate political action. The regime's leaders, in order to forestall sanction by the elite, strategically choose a level of disclosure, threatening both the leader's and the rival elite's survival.

3.1 Model Primitives

Consider an interaction between an autocratic leader L, and a group of regime elites R. There also exists a non-strategic mass of citizens denoted M.[7] L chooses a level of disclosure $d \in (0, 1)$. R observes the choice of d, and must determine whether to retain him in office. We denote this decision $v \in \{0, 1\}$, where $v = 1$ denotes a decision to remove.

Following the choices of d and v, a contest for power takes place between members of the regime and the populace. If R choses to keep L in place (sets $v = 0$), the probability that the regime falls is given by $p(d)$, where $p'(d) > 0$. We thus make a primitive assumption (an empirical regularity well-established in the existing literature, as noted above) that greater disclosure is associated with a higher potential for political protest. To keep things simple we assume that $p(0) = 0$ and $p(1) = 1$.

If there is political in-fighting and L is removed, the entire regime is destabilized. The probability the regime falls to mass insurrection is now given by $\omega p(d)$ where $\omega > 1$. The term ω reflects the degree to which internal strife destabilizes the regime. One can think of ω as reflecting the strength of L vis-à-vis R. If the rival is "stronger" in that a coup is more likely to lead to L's removal and R's replacing L, then ω is small; if instead the rival's actions are more likely to bring the entire regime down, and hence R is unlikely to challenge L, then we might view L as stronger and more entrenched: ω is large.

To anticipate the empirical flavor of ω, following the approach of Bueno de Mesquita et al. (2003), ω

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[7]Throughout, we use the male pronoun to refer to autocratic leaders. We ascribe female pronouns to R and M for purposes of clarity.

may be a function of L's time in power. During L's tenure, he entrenches himself and cultivates an R with increasing levels of dependency and loyalty (see chapter 3 in Svolik, 2012). Little (2017) advances an argument that such entrenchment may arise due to actors learning the strength of the leadership over time. Alternatively, one might think of ω as being higher in personalistic than institutionalized regimes (Geddes, Wright and Frantz, 2014), or as being higher in hierarchical as compared to precarious regimes (Gandhi, 2008).

Let national income (or, equivalently, the rents accruing to the regime) be normalized to 1; if a leader survives in office, he derives utility from the share of national income he consumes λ. We assume that $\lambda \in (\frac{1}{2}, 1)$ which captures a divergence of interest between the leader L and the elite R – a benefit to being the leader, and a motive for the elite to desire to remove the leader. R earns the residual $(1 - \lambda)$, if the regime is not overthrown by the masses.

If mass insurrection takes down the regime, then L and R get nothing, regardless of the value of v. We allow for a further "congruence" of interest across L and R by another variable, r. One can think of r as the returns from regime cohesion. It represents the additional payoff earned by the leader and the elite in the instance that the elite chooses not to remove the leader and the regime (the leader and the elite together) survives potential mass insurrection. r thus offers a reduced form method of capturing the extent of policy congruence within the regime. When r is high, L and R hold similar policy preferences, such that both enjoy substantial benefits from continued joint rule. If she removes the leader, R diminishes her ability to enact these jointly preferred policies, at least temporarily, and so suffers a substantial cost. If, by contrast, r is low, policy disagreements are rife, and the opportunity costs involved in displacing the leader are consequently slight. To avoid the trivial case, we require $r \in \left[1, \frac{\lambda}{1-\lambda}\right]$.[8]

So, if both L and R survive in power together, then both get the added benefit r. If R sets $v = 1$, she loses r, and (the now-ousted) L receives a payoff normalized to 0. If $v = 0$, L has a $(1 - p(d))$ chance of receiving λ, and a $p(d)$ chance that mass insurrection brings down the whole regime, and leaves L with 0. L also ends up with 0 if R sets $v = 1$, removing him from office.

In a complementary fashion, if $v = 0$, R has a $(1 - p(d))$ chance of receiving $(1 - \lambda)$ (and the additional r), and a $p(d)$ chance that mass insurrection brings down the whole regime, leaving R with 0. If the elite

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[8]We know this interval is non-empty since $\lambda > \frac{1}{2}$ by assumption.

decides to oust L (setting $v = 1$), she gets the bigger piece of the pie – the λ share (but loses the r).

The ouster is costly in another way as well – it sends a signal to the masses. Sensing regime weakness,

the masses may take to the streets and bring down the entire regime. The probability of successful mass

insurrection is thus augmented by $\omega > 1$. So, if $v = 1$, R has only a $1 - \omega p(d)$ chance of getting λ – and

she faces a $\omega p(d)$ chance that mass insurrection brings down the whole regime, leaving R with 0.

Summarizing the expected payoffs of L and R, we have:

$$\text{Leader} \quad EU^L(d, v; \omega) = \begin{cases} (1 - p(d))\lambda r \text{ if } v = 0 \\ 0 \text{ if } v = 1 \end{cases}$$

$$\text{Elite} \quad EU^R(d, v; \omega) = \begin{cases} (1 - p(d))(1 - \lambda)r \text{ if } v = 0 \\ (1 - \omega p(d))\lambda \text{ if } v = 1 \end{cases}$$

The sequence of moves has the leader (L) choosing d and then the members of the rival elite (R)

choose v. We offer the equilibrium and the key comparative static in what follows. The proofs are in the

appendix.[9]

Proposition 1. *The equilibrium (d^*, v^*) is characterized by* $d^* = \inf\{d : EU^R(d, 1; \omega) \leq EU^R(d, 0; \omega)\}$

and $v = \begin{cases} 0 \text{ if } d \geq d^* \\ 1 \text{ otherwise} \end{cases}$

Our key comparative static finding:

Proposition 2. *In equilibrium, disclosure, d^* falls with ω.*

We reach two main conclusions that we can test empirically: (1) Disclosure reduces the probability of

regime disunity. We will proxy for such infighting by examining instances of autocratic leader removal via

coups. (2) High-ω leaders have little to fear from elites, and thus disclose less. We now turn to our empirical

tests of these two results.

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[9]We are grateful to an anonymous referee for suggesting this approach.

4 Empirical Measures

4.1 Outcome Variables

Throughout, our measure of transparency is the HRV Index (Hollyer, Rosendorff and Vreeland, 2014). We present two sets of empirical results: The first, which examines the risk autocratic leaders face of a coup, treats this index as the primary explanatory variable of theoretical interest. In the second, which examines autocrats' decision to disclose, the HRV Index is our outcome term. Proposition 2 states that this term should be falling in ω.

This index is a continuous measure which reflects the public disclosure, by governments, of credible economic information. It is constructed by relying on the presence or absence of data from the World Bank's World Development Indicators (WDI) data series.

To be more precise, the HRV Index scales the presence/missingness of 240 variables from the WDI using an item response algorithm. The criteria for these 240 variables are such that (1) each variable is reported by at least one country in each year covered (1980-2010), to ensure reporting carries a consistent meaning; (2) data compiled only for a subset of countries or that clearly are constructed only by the Bank with minimal input from national statistical agencies are omitted; (3) alternative transformations of the same underlying information (e.g., reporting in multiple currencies) are omitted. The item response algorithm adjusts for the fact that certain terms (e.g., population) are reported with far greater frequency than others, and weights the importance of the reporting of any one observation based on its ability to predict disclosure of other variables.

We do not assume that the public accesses information directly from the World Bank. Rather, we expect disclosure to the World Bank to correlate with the disclosure of *credible* information to the domestic press and influential members of the public. These actors then relay more or less precise impressions of the state of the economy on to the broader public. Essentially, the degree to which information is conveyed and then accepted as valid, and subsequently published by the World Bank is a proxy for the informational environment within a given autocracy more generally. The greater is the willingness of the leadership to provide information to the World Bank (or international lenders or other entities), the more likely it is that the population more broadly has more and better information about economic aggregates. Moreover, the Bank's screening of data acts as a check on the credibility of the information available to the public – overt lies by the government are likely

to be treated as missing data by the World Bank and to be disregarded in equilibrium by the populace.[10]

In our initial set of regressions, the outcome of interest is the removal of an autocratic leader via a coup. We rely on Svolik's (2012) dataset on autocratic leaders, which defines both the duration of a given leader's rule and the method of his removal, to measure this term. Coups are defined as instances in which the leader is ousted either by the military or an elite faction, where this group either applies force or uses the threat of force. Coups are the most extreme form of inter-elite struggles depicted in our theory. In relying on this measure we likely undercount instances of regime infighting – particularly in more institutionalized regimes. In practice, this implies that the coefficients on our measures of institutionalization (described below) are biased downward.

In our regressions examining autocratic disclosure, Svolik's data define our unit of observation: the autocratic regime-year. They also define an explanatory term of theoretical interest: $New\ Leader \in \{0,1\}$, which takes the value 1 if a given leader has been in power for five years or less.

4.2 Controlling for Confounds

One possible concern with our analysis lies in the likely correlation between levels of government disclosure and the level of state capacity. Governments choose whether to disclose economic information based not only on a political calculus, but also on their ability to collect and process the relevant data (Stone, 2008). Hollyer, Rosendorff and Vreeland (2014) discuss this concern in detail, and argue that economic transparency reflects *both* a state's willingness and ability to disclose. For instance, less developed states of all regime-types disclose at low levels, but, as capacity rises, democracies respond by increasing transparency far more than autocracies.

Nonetheless, the correlation between transparency and state capacity may bias our results with regard to the association between economic transparency and coups. Note, however, the direction of the bias is non-obvious: While regimes with low levels of capacity may be prone to collapse generally, highly capable

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[10]While the international financial institutions (IFIs) are actively concerned with the quality of their data, a number of recent papers have suggested that some caveats are in order. Linsi and Mugge (2017) study the IMF's Balance of Payments data and suggest that measurement quality may have deteriorated over time, and the measures themselves are subject to large errors. Boräng et al. (2018), using the same HRV measure as used here, suggests that domestic data collection is often politicized. Similarly, Hollyer, Rosendorff and Vreeland (2014) show that data is not missing at random, but correlated with political variables. On the one hand, these suggest greater caution on the use of IFI data to operationalize the economic concepts under study; on the the other hand these works suggest a burgeoning (and overdue) literature on the politics of data collection and publication.

bureaucracies may be more prone to staging coups (Egorov and Sonin, 2011; Svolik, 2013*b*). To adjust for these potential biases, we include a control for GDP *per capita*, measured in thousands of constant 2005 US dollars, from the Penn World Table version 7.1 in all specifications. In using GDP *per capita* as a proxy for capacity, we follow the influential study of Fearon and Laitin (2003). As described below, we also flexibly control for a past history of coups, which – if coups and state capacity are indeed correlated, and given the highly persistent nature of capacity – should help to adjust for confounding.

In our models that examine variation in the level of disclosure, we also include a lagged dependent variable in all specifications. Besides adjusting for dynamics in the data generating process, the inclusion of this term should help control for highly persistent confounds – such as state capacity – that might affect both past and present levels of disclosure.

We also rely on the Penn World Table version 7.1 for several additional economic controls. In all specifications, we control for the rate of growth in real GDP *per capita*, as measured in constant 2005 US dollars. In our specifications examining the risk of coup, this control helps adjust for the potentially destabilizing effects of economic recessions (Alesina et al., 1996; Haggard and Kaufman, 1995). In our specifications examining levels of disclosure, this control adjusts for the possibility that autocrats choose to publicize good news when the economy is performing well, and attempt to disguise under-performance through opacity (Wallace, 2016). When examining levels of disclosure, we additionally include controls for GDP, economic openness ($\frac{Exports + Imports}{GDP}$), and levels of government consumption.

We also include an indicator for fuel exporters in regressions examining disclosure, given the findings of Egorov, Guriev and Sonin (2009), who find that resource-abundant dictators tend to place greater restrictions on the media. Finally, we include an indicator for regimes that are currently subject to IMF conditionality, given that the IMF often imposes disclosure requirements on borrower countries.

4.3 Measuring ω: The Entrenchment of Leaders

Our theoretical model's central comparative static prediction holds that autocrats should disclose more readily when they have more to fear from their inner elite – i.e., autocrats disclose at greater levels as ω falls. Operationalizing this theoretical parameter poses challenges: To borrow a term from Pepinsky (2014*a*), ω reflects a 'logics' approach to the study of authoritarian regimes – it corresponds to a measure of the distribution of

power between regime elites and dictators. This balance of power both gives rise to certain observable institutional configurations and is sustained by such configurations (on this point, see Pepinsky, 2014*b*; Svolik, 2013*a*). Moreover, the mapping from ω into empirical covariates is imprecise.

To help address these concerns, we rely on several different indicators to capture variation in ω, each of which borrows from the literature on autocratic regimes. Following the logic of Bueno de Mesquita et al. (2003), who argue that elite loyalty increases over the tenure of an autocratic leader, long-serving leaders have higher values of ω.[11] We also use the autocratic institutions data from Geddes, Wright and Frantz (2012) (henceforth GWF). The GWF definition of "personalistic" leaders maps onto our model parameter ω, with personalistic regimes corresponding to high values of ω. Finally, we approximate ω using Gandhi's (2008) categorization of autocracies. In contrast to civilian rulers, who hold precarious control over elites, leaders who enjoy a hierarchical relationship with their elites (military dictators and monarchies) correspond to high-ω regimes. We code an indicator for hierarchical regimes based on data from Cheibub, Gandhi and Vreeland (2010) (henceforth DD). We make use of the GWF and DD datasets alternatively.[12]

While this catholic approach to operationalizing ω helps to address concerns that the idiosyncrasies of any one measure could produce spurious results, it does not resolve all issues that arise from adopting a logics approach to autocratic institutions. Specifically, these institutions both reflect and sustain the underlying balance of power within a given regime. We emphasize that our empirical results pertaining to autocratic institutions should not be interpreted causally – institutions may play a causal role over both leader survival and disclosure, but institutions also are affected by unobserved intra-regime dynamics that may also have a causal effect on these terms.

5 Empirical Models

5.1 Transparency and Coups

Proposition 1 forms the first basis of our empirical investigation. We empirically interpret the equilibrium behavior as, conditional on autocratic institutions, transparency insulates leaders from coups.

[11]As noted above, our empirical measure of leader tenure comes from Svolik (2012).

[12]Note that Geddes, Wright and Frantz (2012) have military and monarchy categories, but these categories do not include military dictators or monarchs whom they deem to have a personalistic following. Indeed, the personalistic category includes autocrats under all sorts of formal institutions.

Note that this is not a comparative static claim. Both disclosure and leader removal (i.e., coups) are endogenous in our model. However, it is clear from Proposition 1 that leaders disclose only to forestall the threat of removal at the hands of the elite. This is an equilibrium causal claim.[13]

Evidence of the relationship between transparency and the frequency of coups is visible in the raw data. Figure 1 plots the average frequency of successful coups among autocratic leader years in the sample, by transparency quartile. The simple bivariate relationship suggests that the risk of coup is falling in transparency – in particular coups are less frequent when transparency is above, as compared to when it is below, the sample median.

Figure 1: Frequency of Leader Removal via Coup by Transparency Quartile
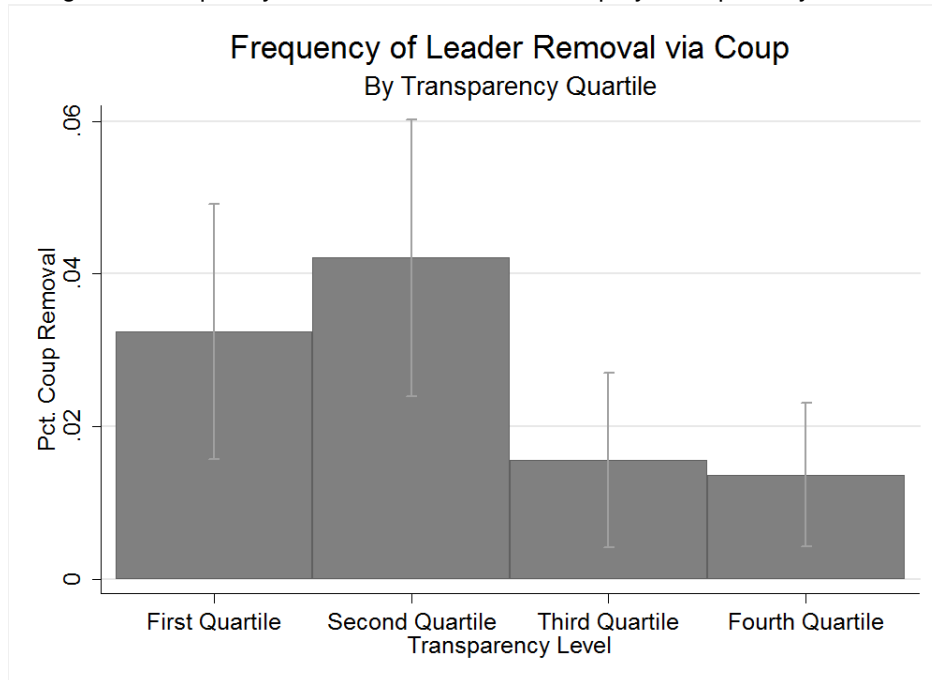
The frequency of leader removals via coup, as a function of transparency. Autocratic leader years are grouped by transparency quartile, which is plotted on the x-axis. The frequency of successful coups within each quartile is plotted on the y-axis. Whiskers denote 95 percent confidence intervals around these frequencies.

We estimate the relationship between the hazard of leader removal via coup and transparency using a series of Cox competing hazards specifications. Competing hazards models are a means of estimating

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[13]Given that we can only work with observational data in this setting, we cannot realistically draw causal inferences from our empirical analysis. We can only assess if the associational relationship between transparency and coups is consistent with the causal logic of our theoretical model.

the hazard (the probability that an event takes place in time t, given that it has not already taken place) of one of several mutually exclusive events. In our case, the event of interest is leader removal via coup, and the competing hazards are alternate forms of leader removal.[14] The unit of observation is the autocratic leader-year.

To adjust for the possibility that past successful coups predict future coups, we stratify the baseline hazard rate in our Cox estimates based on two measures of coup history.[15] The first is a simple indicator variable $\{0, 1\}$, equal to one if any past autocratic leader was removed via a coup. The second is an ordered variable $\{0, 1, 2, 3\}$, which – if equal to any element in $\{0, 1, 2\}$ denotes the number of past autocratic leaders removed via coup and, if equal to 3, denotes that more than two previous leaders have been removed via coup. We additionally fit models in which we simply include a control for the binary indicator of past coups. We thus fit specifications of the following form:

$$h_l(t) = h_0(t, c_l)exp(\gamma transparency_{l,t-1} + \mathbf{X_{l,t-1}}\beta)$$ (1)

where l denotes autocratic leader, t denotes time, c_l is an indicator for coup history, and $\mathbf{X_{l,t-1}}\beta$ is a vector of time-varying controls and associated coefficients. $h_0(t, c_l)$ is estimated non-parametrically within each stratum, based on the fraction of observations that experience a coup at time t as compared to the number of observations at risk (leaders who have not yet been removed for *any* reason). Duration dependence is thus factored out of the likelihood function, while a history of coups may shift both the shape and level of the baseline hazard function (Beck, Katz and Tucker, 1998; Box-Steffensmeier and Zorn, 2002). Our hypothesis holds that the coefficient on transparency, γ, should be negative.

Results from the model specified in Equation 1 are presented in Tables 1 and 2. Table 1 reports results that use the GWF definitions of autocratic institutions, while Table 2 reports analogous results that employ the definition of hierarchical intra-regime relations (i.e., military or monarchical regimes) defined by Gandhi (2008).[16] When employing the GWF controls, we include an interaction between the indicator for party-based regimes and time, to address violations of proportional hazards assumption (Box-Steffensmeier and Jones,

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[14]See Goemans (2008) for an alternative application of the competing hazards model. This approach assumes that the hazard of one form of removal is conditionally independent of alternative forms of removal (Gordon, 2002).

[15]On this approach, see Box-Steffensmeier and Zorn (2002), who term this a 'conditional gap time' model.

[16]Note that, because the Cox model incorporates duration dependence, the Bueno de Mesquita et al. (2003) definition of ω is incorporated into both sets of results.

2004). Results in which the baseline hazard is stratified based on whether there was a previous coup are presented in the leftmost column; those stratified based on the ordered indicator of coup history are presented in the center column; and results that do not stratify the baseline hazard, but simply control for an indicator of past coups, are presented in the rightmost column of both tables.

Table 1: Hazard of Leader Removal via Coup

	Past Coup Strata	Coup Experience Strata	Past Coup Control
Transparency	-0.248	-0.282	-0.240
	[-0.480,-0.016]	[-0.531,-0.033]	[-0.461,-0.019]
Growth	-0.003	-0.005	-0.000
	[-0.031,0.026]	[-0.042,0.032]	[-0.029,0.029]
GDP *per capita*	-0.110	-0.094	-0.117
	[-0.208,-0.012]	[-0.175,-0.013]	[-0.229,-0.005]
Party	-1.793	-1.709	-1.735
	[-2.595,-0.991]	[-2.451,-0.967]	[-2.661,-0.810]
Party $\times$ t	0.113	0.112	0.109
	[0.045,0.181]	[0.049,0.175]	[0.037,0.182]
Personal	-0.807	-0.676	-0.809
	[-1.609,-0.004]	[-1.437,0.084]	[-1.592,-0.025]
Ever Past Coup			-0.047
			[-0.908,0.814]
# of Subjects	89	89	89
# of Failures	36	36	36

Results from Cox competing hazards regressions of leader removal via coup on transparency and controls. 95 percent confidence intervals are reported in brackets.

Table 2: Hazard of Removal via Coup (DD Controls)

|	Past Coup Strata	Coup Experience Strata	Past Coup Control
Transparency	-0.202	-0.228	-0.217
	[-0.401,-0.002]	[-0.450,-0.006]	[-0.420,-0.014]
Growth	-0.008	-0.006	-0.006
	[-0.035,0.019]	[-0.040,0.028]	[-0.033,0.021]
GDP *per capita*	-0.073	-0.071	-0.078
	[-0.145,-0.001]	[-0.138,-0.004]	[-0.154,-0.002]
Hierarchical	0.410	0.280	0.430
	[-0.196,1.017]	[-0.311,0.871]	[-0.182,1.041]
Ever Past Coup			-0.126
			[-0.969,0.717]
# of Subjects	94	94	94
# of Failures	37	37	37

Results from Cox competing hazards regressions of leader removal via coup on transparency and controls. 95 percent confidence intervals are reported in brackets.

In all specifications, the coefficient on the transparency term is negative, with 95 percent confidence intervals bounded away from zero. Point estimates indicate that a one standard deviation increase in the HRV Index is associated with a 35-40% fall in the hazard of a coup. The associated 95 percent confidence interval runs from a decline of 3% to a decline of 58% in the hazard function when the GWF controls are employed. The analogous 95% confidence interval with the DD controls runs from approximately zero to 49%.

To ease interpretation of these results, we present plots of smoothed estimates of the hazard function, using the GWF controls, in Figure 2. The solid line depicts the smoothed hazard when the HRV Index is at its 10th percentile in the sample, while the dashed line presents the same when the HRV Index is at its 90th percentile. In the former instance, the hazard that a newly seated leader is ousted via a coup during the first year of his reign is roughly 3.25 percent. When transparency is at its 90th percentile, this falls to a hazard of

roughly 1.75 percent.

Figure 2 also reveals that the hazard rate declines over time, particularly over the first 20 years of a leader's rule. This is consistent with our claim that entrenched autocrats face fewer risks from within the ruling elite – a point to which we return below.

Figure 2: Smoothed Hazard Function of Leader Removal via Coup
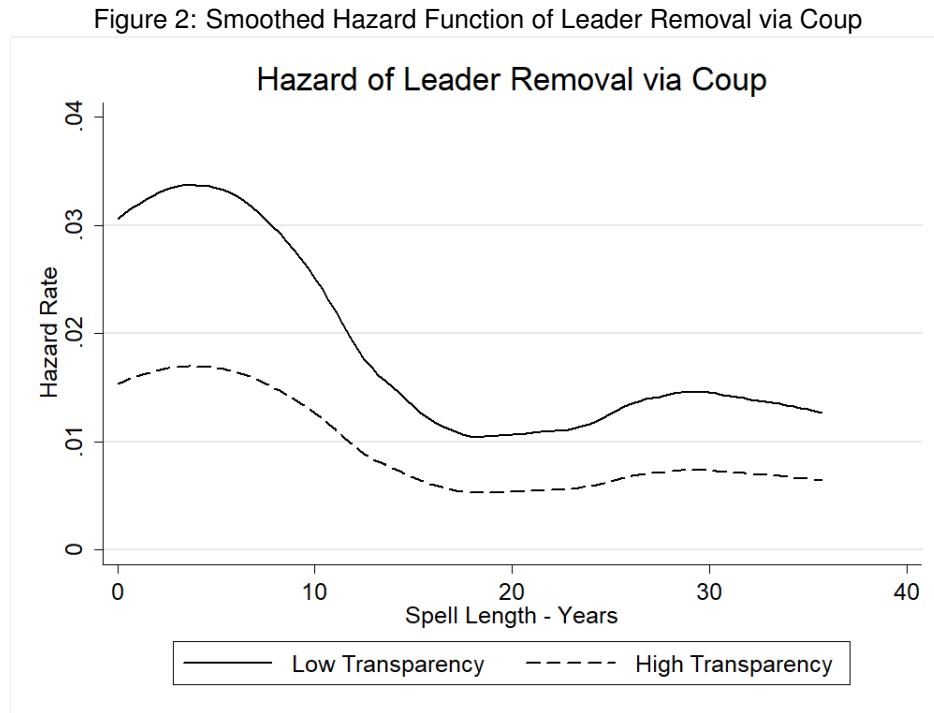
Estimates of the smoothed hazard function from the model in the third column of Table 1. The solid line depicts the hazard of coup when transparency is at its 10th percentile in the sample. The dashed line depicts the corresponding hazard when transparency is at its 90th percentile. Estimated hazards are for a non-personalistic military/monarchical regime that has not previously experienced leader removal via a coup.

As is also consistent with theoretical mechanisms, personalistic regimes (as defined by GWF) are less likely to experience a coup than military regimes – a result that is significant at the 95% level in two of three specifications. Contrary to our expectations, party-based regimes are less likely to experience coups than military regimes, though this effect diminishes with the time a leader has served in office, and goes to zero as a leader's tenure approaches 15 years in power. We expect that this reflects the more hidden nature of regime infighting in more institutionalized regimes. In party-based regimes, regime elites can resort to mechanisms

short of violence to discipline or remove the leader. The greater incidence of unobserved infighting in such regimes tends to bias the coefficient on this indicator toward zero. Hierarchical regimes (as coded by the DD data) show no significant correlation with the incidence of coups.

5.1.1 Transparency and Economic Performance

The HRV measure of transparency captures, to some degree, the willingness of leaders to make aggregate economic data generally available. It may be that this willingness is affected by aggregate economic conditions themselves. For instance, since information collection, aggregation and dissemination is costly, states may only be able to collect and publish data in "good times". Alternatively, an autocratic leader, perhaps concerned about the effects of revealing information may only do so when there is "good" news to share. Hence we might be concerned that transparency threatens mass rising and keeps elite rivals in line only in "good" economic conditions.

This leads us to check whether the underlying results are robust to these "good news" and "good times" effects. We introduce to the estimation an interactive term, *Transparency* $\times$ *Growth*, where *Growth* is GDP growth.

Table 3: Hazard of Leader Removal via Coup (interaction)

	Past Coup Strata	Coup Experience Strata	Past Coup Control
Transparency	-0.222*	-0.249*	-0.223*
	[-0.473,0.030]	[-0.524,0.026]	[-0.459,0.013]
Growth	-0.006	-0.009	-0.002
	[-0.038,0.026]	[-0.050,0.031]	[-0.034,0.030]
Transparency	-0.008	-0.009	-0.004
$\times$ Growth	[-0.022,0.006]	[-0.023,0.005]	[-0.018,0.009]
GDP *per capita*	-0.108**	-0.090**	-0.113**
	[-0.204,-0.011]	[-0.169,-0.012]	[-0.222,-0.003]
Party	-1.724***	-1.635***	-1.660***
	[-2.496,-0.953]	[-2.366,-0.903]	[-2.558,-0.761]
Party $\times$ t	0.116***	0.117***	0.111***
	[0.047,0.185]	[0.052,0.183]	[0.038,0.185]
Personal	-0.606	-0.430	-0.605*
	[-1.351,0.140]	[-1.161,0.300]	[-1.325,0.116]
Ever Past Coup			-0.051
			[-0.909,0.807]
# of Subjects	89	89	89
# of Failures	36	36	36

Results from Cox competing hazards regressions of leader removal via coup on transparency and controls. 95 percent confidence intervals are reported in brackets.

Table 4: Hazard of Removal via Coup (interaction, DD Controls)

	Past Coup Strata	Coup Experience Strata	Past Coup Control
Transparency	-0.201*	-0.224*	-0.217**
	[-0.408,0.005]	[-0.455,0.007]	[-0.426,-0.008]
Growth	-0.008	-0.008	-0.005
	[-0.042,0.025]	[-0.047,0.031]	[-0.040,0.029]
Transparency	-0.000	-0.002	0.000
$\times$ Growth	[-0.016,0.015]	[-0.016,0.012]	[-0.013,0.014]
GDP *per capita*	-0.073**	-0.071**	-0.078**
	[-0.145,-0.001]	[-0.138,-0.004]	[-0.154,-0.002]
Hierarchical	0.410	0.280	0.430
	[-0.196,1.017]	[-0.311,0.870]	[-0.182,1.041]
Ever Past Coup			-0.126
			[-0.969,0.717]
# of Subjects	94	94	94
# of Failures	37	37	37

Results from Cox competing hazards regressions of leader removal via coup on transparency and controls. 95 percent confidence intervals are reported in brackets.

The coefficient on the interaction term is consistently effectively equal to zero, while the coefficient on transparency is largely unchanged. It does not appear to be the case that coup risk falls by more when transparency is associated with good (or bad) economic conditions. For further discussion of the empirical regularities concerning transparency and protest in autocracies and democracies, see Hollyer, Rosendorff and Vreeland (2015),

5.2 Autocracy and Transparency

In addition to advancing claims about the relationship between transparency and the frequency of coups, our theory offers predictions about which autocratic regimes are likely to disclose information. Proposition 2 contends that the minimum level of disclosure needed to forestall a coup rises as ω declines. In contrast to our claims regarding the effects of disclosure, this is a comparative static claim. We treat this proposition as advancing an empirical claim that (1) leaders disclose less once entrenched in office – and disclose more when new to office (Bueno de Mesquita et al., 2003), (2) GWF's personalistic regimes disclose less than other autocracies, and (3) DD's hierarchical leaders disclose less than civilian-ruled autocracies. Leaders grow more willing to disclose as the internal threat from elites rises precisely because transparency is posited to diminish the risk of removal by elites.

In this section, we assess these claims through a series of varying intercepts hierarchical regression models of the HRV Index on a series of institutional and time-varying characteristics. Specifically, we estimate models of the following form:

$$transparency_{i,t} = \rho transparency_{i,t-1} + \alpha_i + \mathbf{X_{i,t-1}}\beta + \epsilon_{i,t}$$

$$\alpha_i \sim N(\mathbf{Z_i}\zeta, \sigma_\alpha^2) \tag{2}$$

where i denotes a given autocratic regime, t denotes the year, $\mathbf{X_{i,t-1}}$ is a vector of time-varying controls, α_i is a regime-specific intercept term, and $\mathbf{Z_i}$ is a vector of regime-level (time-invariant) controls. The unit of observation is an autocratic regime-year.

The GWF or DD regime classifications and the fuel exporter indicator constitute the time-invariant regime characteristics $\mathbf{Z_i}$, from equation 2. The $New\ Leader$ indicator and economic covariates constitute the time-varying terms $\mathbf{X_{i,t-1}}$. We additionally control for the lagged value of the HRV Index, which also varies over time. This last term is included to capture model dynamics (Beck and Katz, 2011).

The varying intercepts model is preferred over a fixed-effects estimator given that our institutional co-variates of interest are time-invariant. However, a leader's time in office does, naturally, vary over time. As a robustness check, we therefore fit alternative specifications with regime and year fixed effects and omitting the lagged dependent variable (a difference-in-differences estimator) in Appendix B.1. We drop all institutional

covariates in these specifications, as these variables are perfectly collinear with the regime fixed-effects. Results are substantively similar to those presented below, though estimated somewhat less precisely.

We estimate the model described in equation 2 via MCMC in JAGS 3.3.0. We place separate diffuse multivariate normal priors on, respectively, the coefficients on regime-level variables ζ and the regime-year level variables β. We place an informative prior on $\rho \sim N(0, 1)$. All variables that are not either binary indicators nor time counters have been standardized.

The results from models based on equation 2 are presented in Tables 5 and 6, which report specifications employing the GWF and DD regime definitions, respectively.

Table 5: Models of Disclosure: GWF Data

		Model 1	Model 2	Model 3
Regime Predictors	**Party**	0.002	0.002	0.002
		[-0.033, 0.038]	[-0.039, 0.031]	[-0.037, 0.036]
	Personal	-0.039	-0.038	-0.044
		[-0.083, -0.001]	[-0.085, -0.007]	[-0.087, -0.008]
	Fuel Exporter	-0.037	-0.036	-0.033
		[-0.082, 0.010]	[-0.073, 0.006]	[-0.070, 0.008]
Regime-Year Predictors	**Lag Transparency**	0.960	0.961	0.964
		[0.943, 0.978]	[0.943, 0.977]	[0.947, 0.980]
	GDP *per capita*	0.004	0.005	
		[-0.012, 0.021]	[-0.013, 0.020]	
	GDP	0.003	0.003	
		[-0.009, 0.017]	[-0.009, 0.016]	
	Ec. Openness	0.002		
		[-0.013, 0.017]		
	Growth	-4×10^{-4}		
		[-0.011, 0.010]		
	Gov't Consumption	-0.010	-0.010	
		[-0.02, 0.003]	[-0.023, 0.004]	
	New Leader	0.023	0.024	0.0248
		[-4×10^{-4}, 0.047]	[0.001, 0.048]	[0.002, 0.049]
	Cubic Time Polynomial	✓	✓	✓
	# **Obs**	1530	1530	1530
	# **Regimes**	119	119	119

Results from a hierarchical varying-intercepts linear regression of HRV transparency index scores on listed covariates. Covariates that shift the intercept term are described as 'Regime Predictors', while those that directly shift predicted transparency values are listed as 'Regime-Year Predictors.' All covariates that are neither indicators terms nor time counters have been standardized by subtracting the mean and dividing by the standard deviation. 95 percent credible intervals are presented in brackets.

Table 6: Models of Disclosure: DD Data

		Model 1	Model 2	Model 3
Regime Predictors	Single Party	-0.014		
		[-0.077, 0.047]		
	Multi-Party	0.025		
		[-0.031, 0.073]		
	Legislature	0.042		
		[-0.003, 0.084]		
	Hierarchical	-0.024	-0.036	-0.034
		[-0.061, 0.005]	[-0.064, -0.009]	[-0.062, -0.004]
	Communist	0.021		
		[-0.04, 0.08]		
	Fuel Exporter	-0.003	-0.024	-0.023
		[-0.054, 0.045]	[-0.068, 0.016]	[-0.066, 0.019]
Regime-Year Predictors	Lag Transparency	0.957	0.962	0.965
		[0.939, 0.976]	[0.947, 0.979]	[0.948, 0.98]
	GDP per capita	0.008	0.002	
		[-0.009, 0.026]	[-0.013, 0.019]	
	GDP	0	0.004	
		[-0.015, 0.014]	[-0.01, 0.017]	
	Ec. Openness	-0.012		
		[-0.027, 0.002]		
	Growth	-0.004		
		[-0.015, 0.007]		
	Gov't Consumption	-0.017	-0.017	
		[-0.029, -0.002]	[-0.031, -0.003]	
	Under IMF	-0.011	-0.009	-0.009
		[-0.038, 0.012]	[-0.033, 0.017]	[-0.034, 0.014]
	New Leader	0.032	0.03	0.03
		[0.007, 0.054]	[0.006, 0.055]	[0.007, 0.056]
	Cubic Time Polynomial	✓	✓	✓
	# Obs	1481	1481	1481
	# Regimes	131	131	131

Results from a hierarchical varying-intercepts linear regression of HRV transparency index scores on listed covariates. Covariates that shift the intercept term are described as "Regime Predictors," while those that directly shift predicted transparency values are listed as "Regime-Year Predictors." All co-variates that are neither indicators terms nor time counters have been standardized by subtracting the mean and dividing by the standard deviation (95 percent credible intervals are presented in brackets).

In all specifications, the coefficient on the $New\ Leader$ indicator is positive with 95 percent credible intervals bounded away from zero in all but one instance (the lower bound on this interval is given by -4×10^{-4}). Recall further that the presence of the lagged dependent variable renders these models dynamic. We simulate the estimated marginal effect of a new leader over time in Figure 3. Estimates are from Model 2 in Table 5, to the left, and Model 2 in Table 6 to the right.

Figure 3: Marginal Effect of a New Leader: GWF (left) and DD (right)
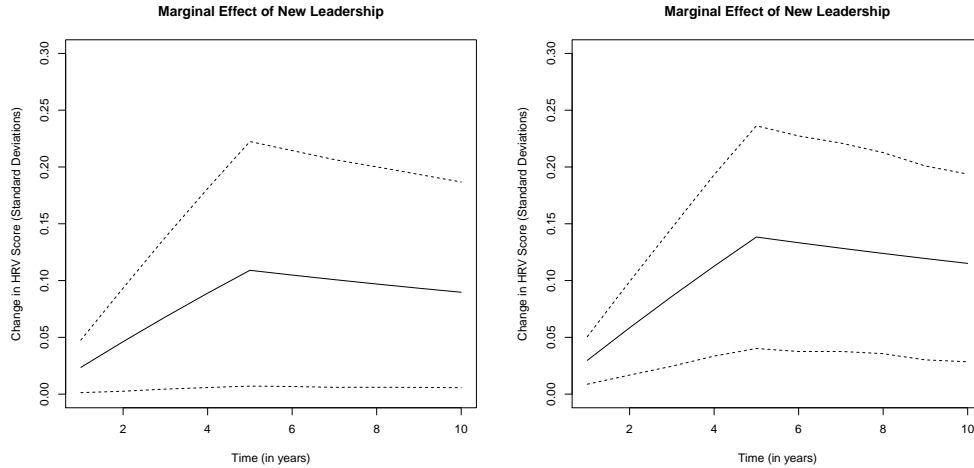
Estimates of the marginal effect of the introduction of a new leader in time $t = 1$ over a 10 year period. Standardized HRV transparency index scores are plotted on the y-axis. Time, measured in years, is plotted on the x-axis. Solid lines depict mean estimated marginal effects, dotted lines depict 95 percent credible intervals. The left panel uses the GWF data as controls, while the right used the DD definitions. Results are based on Model 2 in Tables 5 and 6, respectively.

The estimated marginal effect of a new leader is small in absolute terms. The introduction of a new leader in time $t = 0$ is anticipated to increase transparency scores by roughly 0.12 standard deviations by time $t = 5$. However, our transparency scores tend to vary little within autocratic regimes over time. This increase in transparency scores associated with a new leader is equivalent to $\frac{1}{3}$ to $\frac{1}{2}$ the average within-regime standard deviation in this term.

The coefficient on the indicator for personalist regimes is consistently negative – again in line with theoretical expectations. 95 percent credible intervals are bounded away from zero in all specifications. The estimated contemporaneous marginal effect of changing from a non-personalistic to a personalistic regime is a decline of between 0.038 and 0.044 standard deviations in the HRV Index. Given the dynamics of the model, however, the long-term equilibrium association between regime classification and transparency is considerably larger. The long-term equilibrium difference between personalistic and non-personalistic military regimes is estimated to be roughly 0.97 standard deviations.

We see similar effects when the DD regime definitions are used in place of GWF. In all specifications,

hierarchical regimes disclose at lower levels than non-hierarchical. 95 percent credible intervals on this term are bounded away from zero when measures of other regime characteristics are excluded from the model. A change from a non-hierarchical to a hierarchical regime leads to an expected contemporaneous decline in transparency of roughly 0.04 standard deviations. Model dynamics, however, imply that – over the long term – such a change would lead to a one standard deviation decline in the level of transparency.

6 Conclusion

Autocratic leaders face twin threats – from the populace and the elite – to their survival (Besley and Kudamatsu, 2007; Padró i Miquel, 2007; Svolik, 2012). We advance a novel claim: autocrats can use the disclosure of information to navigate these threats. Transparency (and the associated threat of mass-uprising) is used by autocratic leaders to instill fear and loyalty in rival elites, forestalling the risk of coups.

Across a variety of statistical specifications, an increase of one standard deviation in HRV Index scores is associated with a roughly 35% reduction in the hazard of coup. While such leaders are more insulated from threats that emerge from within their regime, existing results indicate that they suffer an increased risk from the masses. Autocrats are thus placed in a delicate position when deciding whether or not to disclose: they must trade off the threats they face from within their regime against those from without.

We introduce a theoretical argument prefaced on such a balancing act. Transparency insulates leaders from internal threats, we argue, precisely *because* it exposes them to increased external threats. The common threat to both the leader and the autocratic elite posed by mass unrest ensures greater cohesion within the regime (Padró i Miquel, 2007; Di Lonardo and Tyson, 2015; Slater, 2010). Autocratic leaders, therefore, can manipulate this threat to ensure greater freedom of maneuver vis-à-vis their winning coalition. Transparency serves as one mechanism to gain this freedom.

There are, no doubt other potential determinants for the observed variation in transparency across autocracies. Autocratic leaders may vary in the degree to which they access international credit markets or the international financial institutions, and may adjust their patterns of disclosure, accordingly. Or they may permit the collection of some information in order to exercise control over the bureaucracy or to identify sources of opposition. There may be other reasons for transparency to be associated with lower coup risk – more competent or flexible autocrats can collect and disseminate data and keep potential rivals at bay. The ar-

gument presented here complements these other potential narratives. A theoretical foundation provides a basis for an observed and robust empirical regularity: Autocrats are most prone to disclose information when the internal balance of power tends to favor rival members of the autocratic elite over the autocratic leader. Consistent with this argument, entrenched autocrats are, empirically, less inclined to transparency than their newly installed and institutionalized counterparts.

This finding adds an important caveat to conventional accounts of informational politics under autocracy. While more information may promote mobilization by the masses against autocratic rule; high levels of transparency may also entrench autocratic leaders against schisms within the elite.

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Appendix A   Proofs

Proposition 1. *The equilibrium* (d^*, v^*) *is characterized by* $d^* = \inf\{d : EU^R(d, 1; \omega) \leq EU^R(d, 0; \omega)\}$

and $v = \begin{cases} 0 \text{ if } d \geq d^* \\ 1 \text{ otherwise} \end{cases}$

Proof. Working backwards, R chooses $v = 0$ for any d^* if $EU^R(d^*, 1; \omega) \leq EU^R(d^*, 0; \omega)$. Now $EU^L(d, v; \omega)$ declines in both d and v. So L chooses the smallest d such that $EU^R(d^*, 1; \omega) \leq EU^R(d^*, 0; \omega)$. That is $d^* = \inf\{d : EU^R(d, 1; \omega) \leq EU^R(d, 0; \omega)\}$. Now $EU^R(d, \cdot; \omega)$ declines in d. Then for all $d \geq d^*$, R is disinclined to remove, but for $d < d^*$, R chooses to remove. All that remains is to check that d^* is interior to $(0, 1)$. Notice that at $d = 1$, $EU^R(d, 1; \omega) - EU^R(d, 0; \omega) = (1 - \omega)\lambda < 0$ since $\omega > 1$, while at $d = 0$, $EU^R(d, 1; \omega) - EU^R(d, 0; \omega) = \lambda - (1 - \lambda)r$. A sufficient condition for d^* to be interior is that $\lambda - (1 - \lambda)r > 0$ or $r < \frac{\lambda}{1-\lambda}$ which holds by assumption. $\square$

Proposition 2. *In equilibrium, disclosure,* d^* *falls with* ω.

Proof. Recall d^* is the smallest value of d such that $EU^R(d, 1; \omega) \leq EU^R(d, 0; \omega)$. By continuity, we have $EU^R(d^*, 1; \omega) - EU^R(d^*, 0; \omega) = 0$. Then substituting, we have $(1 - \omega p(d^*))\lambda - (1 - p(d^*))(1 - \lambda)r = 0$. Solving, $p(d^*) = \frac{\lambda - (1-\lambda)r}{\omega\lambda - (1-\lambda)r}$. Then as ω rises, $p(d^*)$ falls. By monotonicity of p, d^* falls. $\square$

Appendix B   Empirical Appendix

B.1   Regime and Year Fixed-Effects Estimates

Results from a difference-and-differences estimator regressing transparency scores on a $New\ Leader$ indicator and other time-varying covariates. The model specification includes autocratic regime and year fixed-effects (coefficients not reported). All institutional covariates are omitted from the regression as they are perfectly collinear with the regime fixed-effects. Standard errors are clustered by country.

	Model 1	Model 2	Model 3
GDP *per capita*	0.010	0.014	
	[-0.043,0.062]	[-0.034,0.061]	
GDP	-0.000	0.000	
	[-0.000,0.000]	[-0.000,0.000]	
Ec. Openness	0.001		
	[-0.003,0.004]		
Growth	-0.001		
	[-0.005,0.002]		
Gov't Consumption	0.009	0.009	
	[-0.007,0.024]	[-0.005,0.023]	
Under IMF	0.017	0.016	0.016
	[-0.116,0.149]	[-0.117,0.149]	[-0.116,0.149]
New Leader	0.109*	0.110*	0.116*
	[-0.018,0.236]	[-0.018,0.237]	[-0.011,0.243]
# of Regimes	131	131	131
# of Obs.	1481	1481	1481
$\hat{\sigma}$	0.470	0.470	0.471