

It can be a stirring sight: following an unfair election, thousands of people take to the streets to demand that new elections be held under free and fair conditions. In some cases, the scale of the protests and solidarity of their participants can precipitate the collapse of a non-democratic regime; the 2004 Orange Revolution succeeded in preventing the theft of a presidential election in Ukraine, for instance, while large protests in Peru helped prevent President Alberto Fujimori from claiming a third term. In other cases, despite protesters' determination, incumbents are able to remain in power through a combination of repression and concessions; failed protest movements in Russia in 2011 and Belarus in 2020 offer stark examples.

Events like these figure prominently in theories of election manipulation and how it might be restrained, with broader implications for the stability of both democratic and authoritarian regimes. A classic view, influential in the formal modeling tradition, argues that the use of election manipulation by an incumbent is indicative of the incumbent's unpopularity. This lack of popular support, in turn, makes it less likely that an incumbent will be able to defeat a protest movement if the opposition chooses to launch one. Such models predict that there is a set of incumbents who require manipulation to reliably win an election, but—fearing costly protests—choose instead to gamble on relatively clean elections. This framework has normatively optimistic implications, by showing that stronger opposition movements—those that are more organized, better resourced, and more popular—will be better able to deter incumbents' from holding rigged elections. In turn, this dynamic makes democratic transition and consolidation more likely. I refer to this normatively optimistic view as the regime-weakness model of manipulation.

An alternative conceptualization of electoral manipulation has developed in recent years. In this view, developed most prominently by Simpson (2013), election manipulation is in fact a costly signal of the incumbent's resources and capacities. When incumbents manipulate elections, they demonstrate financial, patronage, and organizational resources; they also demonstrate the ability to bend or flout the law. In this view, incumbents that manipulate

elections effectively do not betray weakness in the form of unpopularity; instead they display alternative sources of resilience that can be used to compensate for low popular approval—these resources may also be deployed to contain a protest movement after elections. I call this the regime-strength model.

The stakes of this debate are significant for theories of democratization and autocratization. The former view is an optimistic one; in it, incumbents may restrain fraud when it might be exposed and reveal their weakness to strategic protesters—an auspicious prediction for democratization and ultimately the under-pinning of ‘self-enforcing’ democracy ([Fearon 2011](#)). If the latter view holds, the risk of electoral protest may fail to deter election manipulation; it would, in this case, be a fragile guardrail against autocratization. This debate cannot be advanced by focusing solely on protest occurrence. Instead, this paper contributes by drawing out implications from three strands of the literature on election manipulation and protest, which have (to my knowledge) not previously been explicated.

At first glance, it would appear straightforward to test these competing models. The regime-weakness model typically predicts that increasing manipulation (at a constant level of true popularity) increases the likelihood that opposition groups will initiate post-election protest Luo and Rozenas ([2017](#)); Little ([2012](#)); Schedler ([2002](#)); Beaulieu ([2014](#)). A low total vote-share amid severe manipulation is the strongest possible signal of incumbent weakness; it has had to rely on the ‘cheap talk’ of manipulation to produce paltry results, indicating that the incumbent’s genuine popularity is very low and its likelihood of defeating the protest movement is likewise small. By contrast, the regime-strength model would yield the opposite prediction ([Simpser 2013](#)); that protest initiation decreases with the level of manipulation (holding vote-share constant). Under the regime-strength model, the most favorable election outcome for protesters is one where the incumbent’s vote-share and manipulation level are low, a combination which indicate low natural popularity and diminished resource capacity.

There are two problems, however. First, the empirical record on the relationship between manipulation and protest been mixed, illustrating the limitations of current theory ([Ananyev](#)

and Poyker 2022; Daxecker 2012; Hafner-Burton, Hyde, and Jablonski 2016; Hyde and Marinov 2014; Lankina and Skovoroda 2017). Second, the expected relationship between manipulation and protest under the regime-weakness and regime-strength models is complicated by the emergence of a grievance-based model of electoral protest generally. This view, which has considerable empirical support, finds that electoral protests are largely driven by citizen grievances—not the narrowly strategic calculations about the likelihood of overthrowing the government which are assumed in the regime-weakness model. Under the grievance framework, when citizens have many individual grievances against the incumbent, a highly manipulated election can serve as a coordination point for collective action (Tucker 2007).

This theoretical complexity has frustrated our ability to distinguish between the regime-strength and regime-weakness models because they can produce the same hypotheses regarding protest initiation depending on which model of protest is true. If protest movements are narrowly strategic and manipulation indicates weakness, we will expect that the likelihood of protest will increase with electoral manipulation. On the other hand, if manipulation indicates strength we will still expect greater manipulation to make protest more likely—if electoral protests are largely driven by shared grievance rather than strategic considerations. Since the same outcome could support two theoretical models, we are at an impasse.

To move the debate forward, I model electoral protest *duration* as a dependent variable, in addition to initiation. Taken together, the two dependent variables offer distinct predictions under the regime-weakness and regime-strength frameworks. Once protests run their course, the ‘strength’ of an incumbent (its likelihood of outlasting a protest movement) is no longer latent. Instead, the incumbent’s response—repression, concessions, or attrition—and its survival (or not) reveal the incumbents’ true strength relative to the opposition. The more quickly a government puts down protests, the greater the underlying (unobserved) distribution of power favors the incumbent over the opposition. By contrast, the longer it takes the government to restore control, the less favorable the distribution of power.

Using data from 659 non-democratic elections across 100 countries, from 1989 to 2012,

this paper finds that 1) protest initiation is most likely when manipulation is severe but incumbent vote-share is low, and 2) that governments that engage in more manipulation are likely to put down protests more quickly than governments that produce little manipulation, especially when incumbents claim small vote-shares. This pattern of results is inconsistent with the regime-weakness model of election manipulation, but consistent with a world in which election manipulation indicates sources of regime resilience and protests are largely motivated by grievance. Given these results, it is likely that—while incumbents do not seek to provoke protest—the downside risk for incumbents that engage in election fraud in non-democracies has been overemphasized. This interpretation helps explain several empirical patterns at once: the relative paucity of electoral protests ([Brancati 2016](#)), the rarity of their success in overturning incumbent regimes, and governments’ attempts to claim implausibly high margins of victory in conjunction with high levels of fraud. At a theoretical level, they also suggest that protest risk should be de-emphasized in research on the causes of election manipulation, in favor of alternative explanations which emphasize the role of front-line actors in delivering manipulation. Finally, they suggest a pessimistic outlook for democratization by election in authoritarian regimes.

These are normatively optimistic models upon which a sizable literature has been founded: manipulation can be kept in check, and ultimately reduced, through the development of institutions that reveal information about election integrity: election monitoring ([Daxecker 2012](#); [Hyde and Marinov 2014](#)), more independent courts ([Chernykh and Svolik 2015](#)), media activity ([Nai, Alessandro 2017](#)), and civil society coordination ([Birch and Van Ham 2017](#)). These institutions improve election integrity, it is claimed, by increasing the likelihood that fraud will be observed and thus, incumbent weakness exposed.

## Literature review: two assumptions about election manipulation and mass protest

Research in the regime-weakness model of manipulation typically concludes that as incumbents become increasingly fearful of street protest, they dial back on manipulation—a potentially pro-democracy outcome. These models hinge on two assumptions, as discussed below. First, election manipulation is conceptualized as a short-term tool used instrumentally to secure victory in the election ([Lehoucq and Molina 2002](#)); it communicates only that the incumbent could not count on winning the election cleanly. Second, protest is typically conceptualized as narrowly instrumental, aimed at overthrowing a weak incumbent rather than any broader or more expressive goals. These assumptions face several challenges, which are discussed below. First, however, it is necessary to clarify the meaning of incumbent strength.

As sketched briefly above, a fruitful literature has examined the connections between election integrity and mass protest. This literature has grappled with the extent to which election manipulation reflects, and reveals, the incumbent’s strength. Various authors have put forth different modalities of incumbent strength, with some focusing on popularity and others on coercive power. As Leventoglu et al ([2025](#)) discuss in their excellent analysis, genuine popularity is but one potential source of incumbent strength. Popularity certainly helps an incumbent win an election and survive any challenges in its aftermath, but it is only one tool; incumbents may also draw on resource wealth, organizational capacity, support among elite groups, the military and security services, or help from foreign patrons. These latter factors may be weakly correlated, if at all, with the incumbent’s genuine popularity. This paper takes a general approach, following Leventoglu et al ([2025](#)): a stronger incumbent is one who is better able to survive in power throughout the whole electoral cycle. This means the incumbent has both prevailed in the election itself, and managed to hold off any subsequent popular revolts or elite challenges ([Svolik 2012](#)).

## The first assumption: manipulation is uninformative about strength

The characteristic assumption in regime-weakness models is that electoral manipulation communicates nothing about incumbent strength, which is closely tied to popularity. At worst, election manipulation reveals low popularity (i.e. weakness). As a result, the opposition perceives election fraud as a reliable signal of incumbent weakness, and will stage protests in order to push out the weak incumbent. For example, the model developed by Little, Tucker, and LaGatta (2015) predicts that “Just as stronger election results for the incumbent lead to less protest because they indicate that she is popular, reports of more fraud lead to more protest because they indicate that the incumbent is, for a given election result, less popular” (p. 1153). In equilibrium, this can lead weaker incumbents to step down rather than face protest due to massive fraud—a pro-democracy outcome in which stronger opposition groups deter manipulation by incumbents. Similar results are developed by Chernykh and Svoboda (2015), Luo and Rozenas (2020) and (2017), and Magaloni (2010).

Some more recent models treat election manipulation as a distortion of the electoral signal of the incumbent’s true strength, rather than a direct indicator of weakness. These models are still located within the regime-weakness framework, however. In this type of model, such as those developed by Little (2015) or Egorov and Sonin (2021), fraud may be used by incumbents to bluff their opponents into being more supportive than they would be if they knew the incumbent’s true popularity. However, greater transparency makes such bluffs more costly, by making it easier for opposition actors to distinguish signals of true strength (i.e. genuine popularity) from noise (i.e. manufactured votes). The typical result in these models is that protest risk can *partially* deter fraud. In equilibrium, the incumbent will generally choose the level of fraud anticipated by the opposition and no more—but also no less. In sum, regime-weakness models of fraud typically hold that the level of election manipulation carries no signal of the incumbent’s ability to defeat protesters; on the contrary, it only carries signals of weakness.

## A second assumption: the nature of protest

The second assumption in the regime-weakness framework concerns the nature of opposition protest. The framework is tightly linked to a view of electoral protest that is a centralized decision by rational actors pursuing narrowly strategic goals. As a result, they predict that the likelihood of protest should be highest when incumbents use massive fraud but still produce a low incumbent vote-share. This signal of weakness, in turn, indicates to opposition actors that protest is more likely to succeed in unseating the incumbent. Incumbents in these models typically face a tradeoff between the short-term benefits of electoral manipulation for winning the election, and any weakness that relying on fraud reveals to the opposition (Rozenas 2016). As Beaulieu (2014, 48) writes in this tradition, “As the opposition grows stronger, the amount of [manipulation] he will tolerate shrinks, and the incumbent who wishes to avoid protest will need to reduce the amount of manipulation she commits.”

Most fundamentally, regime-weakness models assume that opposition protest is *elite-led and instrumental*. The opposition is typically modeled as a unitary, strategic actor who stages protest when the expected benefits of successfully overthrowing the incumbent outweighs the expected cost of failure. Such abstraction helps keep formal models tractable, but this assumption is difficult to square with recent research on electoral protest and a broader understanding of political protest in authoritarian regimes.

Electoral protest may occur because manipulation galvanizes citizens who hold diverse grievances (Tucker 2007), because economic conditions are poor (Beaulieu 2014; Brancati 2016), because electoral manipulation makes people angry (Szakonyi 2021), or simply because their party lost the election (andersonLearningLoseElection2006a?). Opposition elites, in turn, might seek to initiate protest to take advantage of this popular discontent for strategic, rather than instrumental, reasons. They may wish to pressure the incumbent in order to push for improved competitiveness in the *next* election or to bargain for policy concessions (Chernykh 2014; Robertson 2010). They may stage protests in order to identify new participants, forge new social ties (Barberà and Jackson 2019) and test new tactics.

They may seek to communicate information about the government's unpopularity, to set the stage for larger, future protests (Lohmann 1994). Protests may be staged as part of internal factional rivalries within the opposition (Buckles 2017), or to drive media coverage of issues important to the opposition (Huang, Boranbay-Akan, and Huang 2019; Jennings and Saunders 2019). Indeed, opposition elites may take advantage of the bare fact of an election to challenge the incumbent, irrespective of the level of manipulation or the incumbent's vote-share (Pop-Eleches and Robertson 2015).

In line with this larger body of research, I argue that electoral protest in authoritarian regimes is best understood as *dispersed* and consequently *multi-purpose*. In other words, protests may be initiated and sustained by a mix of actors with a variety of expressive and strategic objectives, some only distantly aimed at overthrowing the government. The theoretical distinction is important. If protest is understood to be primarily instrumental, opposition actors will only launch protests they think have a good chance of unseating the incumbent. If protest is dispersed and multipurpose, protest movements may initiate for reasons orthogonal to perceived incumbent strength and severity of electoral manipulation. In such a setting, incumbents cannot count on quiet streets simply by manipulating at a low level, or even holding clean elections.

## **Election manipulation and regime weakness**

### **Election manipulation and incumbent strength**

Finally, an alternative theory of election manipulation challenges the assumption that an incumbent's ability manufacture votes communicates nothing about its ability to defeat a protest movement. This view, most persuasively articulated by Simpser (2013), holds that increasing levels of election manipulation can indicate a well-resourced, well-organized, powerful incumbent (independent of its popularity); these resources and capacities, in turn, may help the incumbent weather a protest movement. Under this view, extensive election



manipulation can be a show of strength, which induces cooperation with the incumbent from other societal actors (Simpser 2013). Since this view holds that more manipulation can further entrench the incumbent, it is a normatively pessimistic one.

As Simpson writes, an incumbent that demonstrates the ability to engage in widespread manipulation “is also likely to have the resources, capacities, and inclinations to overcome or punish opponents, reward supporters, and circumvent the law” (Simpser 2013, 6). A relatively popular incumbent (“strong” in the language used by the first set of models) may nonetheless manipulate heavily in order to produce a very large majority (Magaloni 2006), to induce regime insiders to remain cooperative (Gehlbach and Simpson 2015), or because of a bandwagon effect among front-line agents (Rundlett and Svobik 2016). By demonstrating otherwise difficult-to-observe capabilities, large-scale election manipulation can solve a coordination problem for the incumbent, securing the cooperation of elites (Simpser 2013). This can, in turn, fix expectations that the incumbent will continue to rule in the future, further enhancing its staying power (Hale 2014).

We can thus consider four possible states of the world, based on which of the foregoing assumptions are true in fact: one where both assumptions hold, one where neither holds, and two where only one assumption holds. The normatively optimistic view of the relationship between election manipulation and protest requires both assumptions to be true: electoral manipulation must communicate little information about incumbents’ ability to outlast protest, and protest initiation must be narrowly strategic. If either one of these assumptions fails to hold, the deterrence logic is undermined. However, empirically distinguishing between these four possible states of the world is further complicated by the fact that work on this subject, whether empirical or purely formal, has largely utilized a binary measure of protest occurrence as the outcome of interest. Unfortunately, as Table 1 shows, three of four possible states of the world make the same prediction: that increasing manipulation will result in an increased likelihood of protest.

This ambiguity may help account for the inconsistent relationship between election ma-

Incumbent's genuine popularity:		Low	
Protest is assumed to be:		Instrumental	Multipurpose
Manipulation...			
...obscures strength / indicates weakness	High and increasing  (Luo and Rozenas 2020; Chernykh and Svolik 2015; Little, Tucker, and LaGatta 2015)	High and increasing  (Tucker 2007; Beaulieu 2014; Brancati 2016)	
...reflects strength	High and decreasing  (Simpser 2013)	High and increasing  (Tucker 2007; Beaulieu 2014; Brancati 2016)	

Likelihood of protest initiation and expected relationship with increasing election manipulation and protest found in the literature. Several cross-national studies have found links between election manipulation and binary measures of protest (Brancati 2016; Harvey and Mukherjee 2020; Hyde and Marinov 2014). A study of African elections from 1997 to 2009 shows that election fraud is associated with an increased number of post-election conflicts (Daxecker 2012). Similar results are found by Rød (2019), using a different measure of manipulation. Using an alternative measure of manipulation from the NELDA dataset, however, Hafner-Burton et al (2016) find that the association between election fraud and post-election protest falls short of conventional statistical significance. Studies of one archetypal example, the 2011 election and protest cycle in Russia, have found a positive relationship between fraud and protest by some measures (Lankina and Skovoroda 2017), and no relationship by others (Ananyev and Poyker 2022). As noted earlier, Simpser finds a negative relationship between the severity of election manipulation and the likelihood of protest (Simpser 2013) and a positive relationship between ‘excessive manipulation’ (i.e. extensive manipulation and a large incumbent vote-share) and regime tenure.

Because this paper attempts to systematize and test two competing models of electoral manipulation and protest, it is worth spelling out each expectation and its mechanisms in

detail. To do so, I will describe each theory’s expectations under two worlds: one where the incumbent’s genuine popularity is low, and one where it is high. For each of these notional worlds, expectations for protest initiation and duration are explored under both sets of assumptions about the nature of protest and electoral manipulation.

First, consider the a world in which the incumbent’s true popularity is low; this is presumed to be the case for most authoritarian regimes by their nature. Next, let us assume that the regime-weakness model is correct: election manipulation indicates weakness (or obscures information about strength). Finally, assume that protest is elite-led and instrumental. This is the world of the classic regime-weakness framework: we should expect to see protest initiation become more likely as the severity of electoral manipulation increases.

The same prediction holds if we assume that protest is largely multi-purpose, while maintaining the assumptions that true popularity is low and manipulation indicates weakness. This is the classic focal point example ([Tucker 2007](#)). Here, the incumbent’s low genuine popularity implies high levels of grievance among the population, which are increasingly likely to be focused into mass protest as manipulation increases (i.e. as the election becomes more likely to appear ‘stolen’).

Now, while maintaining the assumption that the incumbent’s popularity is low, let us assume that increasing electoral manipulation indicates an otherwise stronger incumbent. In this case, if protest is primarily instrumental, we should expect opposition groups to shy away from protest initiation as electoral manipulation increases. An unpopular incumbent who manipulates extensively is stronger, in this framework, than an unpopular incumbent who does not. As a result, we should expect the opposite prediction of the classic regime-weakness model.

However, if the incumbent’s popularity is low, manipulation indicates underlying strength, and protest is largely dispersed and multi-purpose, the expectation is reversed. Just as in the regime-weakness case, low popularity indicates high grievances. Increasing electoral manipulation helps focus those grievances and drives protest initiation.

The key takeaway, then, is that for most authoritarian regimes (where genuine incumbent popularity is likely low), an examination of protest initiation alone cannot distinguish between three out of four possible data-generating processes. A pattern in which higher levels of manipulation are associated with increasing risk of protest initiation can be explained either by the regime-weakness model, or by a world in which manipulation indicates incumbent staying-power but protest is non-instrumental.

There are considerable theoretical and substantive stakes in knowing which of these four possible data-generating processes is most likely; in only one does increasing protest risk actually improve electoral integrity. Since the empirical record is mixed, and three of the four possible models make similar predictions with regard to protest initiation, it is necessary to generate new hypotheses. In particular, the remainder of this manuscript will attempt to distinguish between regime-strength and regime-weakness models of manipulation by developing hypotheses about protest *duration* under each framework.

## **Theory: electoral manipulation, incumbent strength, and protest duration**

Theories in the ‘regime-weakness’ view of electoral manipulation are built on several assumptions about the nature of protest and the information conveyed by the incumbent’s vote-share and manipulation efforts. Updating some of these assumptions, I argue, provides a model that more accurately reflects contemporary research on manipulation *and* makes distinct empirical predictions. Each of these assumptions, and how they are adjusted in the ‘regime-strength’ model of manipulation, is discussed below.

Mass protest is one of the two primary threats to authoritarian regimes ([Svolik 2012](#)), and as such they often go to great lengths to prevent mass protest. These efforts include costly (and risky) investments in the repressive apparatus ([Dragu and Przeworski 2019](#); [Escribà-Folch 2013](#)), co-optation of opposition parties ([Reuter and Robertson 2015](#)), and

large-scale monitoring and censorship schemes (King, Pan, and Roberts 2013). And they often relentlessly hound would-be protest entrepreneurs to deter such behavior (Mehrl and Choulis 2024; Xu 2021). Mass protest then, is clearly undesirable from the authoritarian incumbent’s point of view, and we can plausibly assume that once an electoral protest movement begins, the incumbent will exert considerable effort to quash it. Governments that are stronger, relative to the protesting opposition, will defeat protest movements faster than will weaker governments.<sup>1</sup> As argued below, electoral manipulation can be demonstrative of capacities that may also be used to defeat protest movements.

An important objection could be raised here. Might not a stronger incumbent, feeling secure in their power, be willing to tolerate opposition protest longer than a weak incumbent? It is true that incumbents do sometimes tolerate protest movements (Yuen and Cheng 2017). However, there are two reasons this is unlikely to be the case systematically for the circumstances studied here. First, authoritarian governments are more likely to tolerate protests aimed at low-salience, local issues (Lorentzen 2013), and more likely to clamp down on protests that have higher concession costs (Klein and Regan 2018). As electoral protests challenge the incumbent’s ostensible victory and right to remain in office, they are directly threatening to the regime; the concession costs of stepping down or holding new elections are very high. Second, authoritarian leaders are working in an information-poor environment (Guriev and Treisman 2020), in which mass protests can unexpectedly grow from small sparks to wildfires that quickly sweep away the regime (Kuran 1991). “Ignoring” protests can lead to further mobilization against authoritarian regimes (Bishara 2015), as can concessions in the absence of durable political reform (Leuschner and Hellmeier 2024). We should thus expect incumbents to work to defuse electoral protests as quickly as possible.

The central argument of this manuscript is that, in authoritarian regimes, incumbents who develop the tools necessary to manipulate elections extensively will also have the tools

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<sup>1</sup>In both cases, this assume that incumbent survives the protest movement, by far the modal outcome. When the opposition wins, an outcome considered in some of the empirical models below, the assumption is reversed: a quicker opposition victory indicates a weaker incumbent.

necessary to quickly prevail over protest movements. This proposition builds off Simpser’s foundational argument that manipulated elections can send costly signals of the incumbent’s “capacities, resources, [and] dispositions” that will help it retain power in the future (Simpser 2013, 80)—that is, of its political strength. However, I depart from Simpser in two ways. First, by incorporating more recent research on the principal-agent dynamics inherent in election manipulation, I argue that incumbents who can produce large amounts of election manipulation necessarily have “capacities, resources and dispositions” helpful for defeating protests. This research trend emphasizes the degree to which political principals require the cooperation of large numbers of front-line agents in order to generate extensive election fraud, agents who may shirk if their perceived interests are not aligned with the incumbent (Rundlett and Svolik 2016). Second, mine is not a signalling argument; good manipulators are likely to have deeper wells of strength than weaker manipulators, whether those resources are successfully signaled to opposition actors or no.

Electoral manipulation has been shown to be more extensive under conditions that minimize principal-agent problems between low-level agents and the incumbent. These include: greater local popularity for the incumbent (Rundlett and Svolik 2016), greater incumbent control over patronage resources (Hale 2014; Harvey 2019), and lower risk of punishment for pro-regime lawbreaking (Harvey 2022). Lastly, extensive manipulation also indicates that large number of agents assess that the incumbent will remain in power in the future (Simpser 2013), which itself becomes a self-reinforcing equilibrium (Hale 2014).

These resources and capacities improve the incumbent’s ability to respond to a nascent protest movement through repression or concessions (Bishara 2015; Frantz and Kendall-Taylor 2014; Hummel 2019; Lipsky 1968; Rasler 1996; Tilly 1978). Concessions may be aimed at protesting parties themselves (Hafner-Burton, Hyde, and Jablonski 2016; Moore 2000; Piven and Cloward 1979; Reuter and Robertson 2015) or the more moderate public, in order to keep them on the sidelines of the conflict (Hummel 2019). In either case, large-scale election manipulation indicates control over considerable patronage resources (Greene 2007; Hale

2014; Harvey 2019), which in turn indicates the capacity to engage in such payments (or withhold them from clients in exchange for passive support (Rosenfeld 2017)).

Ruling parties may also lean on repression, calling upon the security services to disperse protests, arrest leaders, and perhaps employ harsher methods including disappearance, torture, and execution (Davenport 2007; Escribà-Folch 2013). Though such crackdowns risk provoking a backlash, they are aimed at demobilizing the opposition by increasing the costs of participation in overt dissent (Vogel 2022). The ability to protect regime agents from any legal consequences for carrying out orders, a condition which helps enable illegal election manipulation (Harvey 2022), is also an asset when asking law enforcement agents to carry out possibly violent repression (Abouharb, Moyer, and Schmidt 2013; Magaloni and Rodriguez 2020; Stavro and Welch 2023). Additionally, more consolidated control over patronage resources can help incentivize elite unity (Arriola 2009; Hale 2014; Reuter and Szakonyi 2019), which can enable repression by the security forces (Albrecht and Ohl 2016; Frugé 2019; Hendrix and Salehyan 2017).

In addition, as Gehlbach and Simpser (2015) argue, effective electoral manipulation can induce regime agents to exert effort on behalf of the incumbent. Elite defections, which can presage real challenges for the incumbent during a crisis, are also rarer in less democratic regions, where election manipulation is likely more severe (Reuter and Szakonyi 2019). Just as election manipulation has been held to solve a coordination problem for regime opponents, it may also solve a coordination problem for regime agents: when successful, a campaign to manufacture votes signals to agents that other agents are likely to stick with the incumbent due to its revealed capacities (Hale 2014).

This argument—that successful, large-scale election manipulation draws on the same resources a state may use to suppress protest—turns the deterrent logic on its head. Instead of signalling weakness, large-scale fraud indicates a well of resilience: control over resources, impunity for pro-regime lawbreaking, and loyal agents. As a result, governments that build and deploy an electoral manipulation apparatus are simultaneously inoculating themselves

Incumbent's genuine popularity:		Low	
Protest is assumed to be:		Instrumental	Multipurpose
Manipulation...			
...obscures strength / indicates weakness		Increasing	Increasing
...reflects strength		Decreasing	Decreasing

Expected relationship between protest duration and increasing election manipulation against the expected cost of protest.

How, then, would this view of electoral manipulation map onto the instrumental vs. multipurpose views of protest discussed above? While regime-weakness models have exclusively (to my knowledge) been framed around protest initiation, it is straightforward to extend their predictions to protest duration. Regime-weakness models of electoral manipulation treat election manipulation and genuine votes as substitute goods. For any given vote-share, an increase in manufactured votes reduces the number of genuine votes; that is, the higher the number of manufactured votes for any given vote total, the lower the incumbent's genuine popularity is and the less likely they are to survive a challenge. In an instrumental mode of protest, strategic opposition actors perceive the incumbent's relative lack of popularity, and count on the majority of the public to back their challenge. Increasing manipulation indicates deeper unpopularity (holding vote-share constant), so we should expect a less popular incumbent to fail more quickly. The same logic holds, with slightly different mechanisms, if protests are assumed to be multipurpose. Here, greater manipulation is used to overcome deeper unpopularity (i.e. widespread grievances); more manipulation indicates an incumbent facing an increasingly powerful challenger. Thus, the regime-weakness model of manipulation should predict that the duration of unsuccessful protests will be increasing in election manipulation: more manipulation indicates a stronger challenger, which will take longer to defeat on average.

For the regime-strength model of manipulation, the opposite relationship is expected, as laid out above. Comparing Table @ref(tab:duration) and @ref(tab:initiation) shows that the hypotheses generated by the preferred model—one in which manipulation indicates strength



and protest is multipurpose are distinct from those in other quadrants.

## **Empirical implications: vote-share vs. genuine popularity**

Both models of election manipulation consider genuine popularity to be a source of regime strength, and assume that increasing electoral manipulation either distorts or weakens this indicator by mingling genuine votes with manufactured ones. The distinction between the two models is over whether or not manipulation simultaneously indicates additional sources of strength other than popularity.

Of course, in most authoritarian cases, the incumbent's true popularity is unknown due to censorship, repression of opposition candidates, and preference falsification by citizens. As a result, scholars (and political actors in real time) are left to use the incumbent's vote-share and perceived level of manipulation as imperfect indicators of the incumbent's true popularity. Since genuine popularity is indicated by the mix of incumbent vote-share and level of manipulation, both indicators must be included in our hypotheses. Table @ref(tab:durations) summarizes how both models of electoral manipulation characterize incumbent strength under varying conditions, each of which is laid out in more detail below.

The upper left cell in Table @ref(tab:durations) illustrates a scenario where the incumbent's vote-share is high and manipulation is low. This combination indicates a relatively popular incumbent, meaning it should be characterized as 'strong' under the regime-weakness model of manipulation. However, cases in this cell are less informative about 'manipulation strength,' those capacities and resources that electoral manipulation draws on. This cell could include regimes that lack the capacity to manipulation, *or* regimes which have such capacities but choose not to employ them in a particular election. As a result, from the regime-strength perspective, this cell would likely include a mix of weaker and stronger regimes. There is thus no clear expected tendency for this group under that model.

Moving to the right in Table @ref(tab:durations), incumbent vote-share remains high but manipulation is also elevated. For the regime-weakness model, cases in this cell are

		Manipulation		Duration
		Low	High	
Vote-share	High	Popularity: High MS: Mixed	Popularity: Low (RW) or mixed (RS) MS: High	RW: Dur RS: No s
		Predicted strength (RW): Strong Predicted strength (RS): Unclear Popularity: Low MS: Low	Predicted strength (RW): Weak Predicted strength (RS): Moderate Popularity: Very low MS: High	
	Low			RW: Dur RS: Dura
		Predicted strength (RW): Weak Predicted strength (RS): Weak	Predicted strength (RW): Very weak Predicted strength (RS): Moderate	

Predicted incumbent strength, and associated hypotheses for protest duration, under regime-weakness (RW) and regime-strength (RS) models of manipulation as incumbent vote-share and level of electoral manipulation vary. 'MS' indicates incumbent's underlying strength associated with manipulation under regime-strength model (i.e. 'manipulation strength'). Duration predictions for protests which the government ultimately defeats.

clearly expected to be weaker than those in the top left; one's high vote-share mostly reflects genuine popularity, while the other's is largely manufactured. In the regime-weakness model, regimes should unambiguously become weaker as we move to the right in this row. As a result, holding vote-share constant at a high level, increasing manipulation should lead to longer-lasting protests under the regime-weakness model.

A different prediction emerges from the regime-strength framework. Here, too, increasing manipulation may indicate broadly lower popularity (holding vote-share constant). But it may also indicate a popular incumbent relying on manipulation tools to boost turnout in a low-competition election ([Martinez i Coma and Morgenbesser 2020](#); [Smyth and Turovsky 2018](#)). In any event, a decrease in genuine popularity is expected to be offset by increased strength indicated by the ability to manipulate the election severely. As a result, overall strength is expected to be moderate. Where the regime-weakness model predicts a sharp decline in incumbent strength moving from the top left to the top right of Table @ref(tab:durations), the regime-strength model suggests there should be no consistent effect on protest duration as

manipulation increases, since decreases in popularity are offset by increases in other sources of power.

Moving to the lower left, the incumbent’s vote-share is now assumed to be low, as is the level of electoral manipulation. Both models of manipulation agree here: such incumbents are weak. They lack both genuine popularity, and the ability to produce significant manipulation. Under the regime-strength framework, such an incumbent would have had strong incentives to produce more manipulation if he could have; the low level of manipulation is thus an indicator of low capacity.

Finally, moving to the lower right, the level of manipulation increases while vote-share remains low. This is the weakest of all incumbents in the regime-weakness framework. Holding vote-share constant at a low value, increasing manipulation indicates the incumbent’s genuine popularity—and thus strength—is exceedingly low. For the regime-strength model, cases in this cell are expected to be stronger than those to the left, as their increasing capacity to manipulate elections indicates sources of strength beyond their (declining) popularity.

Moving left-to-right along Table @ref(tab:durations) shows two clear hypotheses; one direct hypothesis under the regime-weakness model and one interaction effect under the regime-strength model. First, the regime-weakness model should predict that protest duration will increase with manipulation when incumbent at any vote-share (as ‘cheap-talk’ manufactured votes displace genuine popularity in the vote-share). The first hypothesis is straightforward.

H1 (Regime-weakness): Increases in electoral manipulation will be associated with increasing duration of unsuccessful electoral protest.

Second, the regime-strength model predicts that protest duration will *decrease* as electoral manipulation increases, but only when the incumbent’s vote-share is relatively low. At higher vote-shares, the model predicts ambiguous relationships between vote-share, manipulation, and overall regime strength, suggesting that statistical correlations should weaken.

H2 (Regime-weakness): Increases in electoral manipulation will be associated with

decreasing duration of unsuccessful electoral protest when incumbent vote-share is low.

The argument can be summarized as follows. Incumbents will generally seek to manipulate elections as much as they can, to capitalize on both the direct and indirect benefits of electoral manipulation (Simpser 2013). To do so, they must solve principal-agent problems by consolidating control over patronage resources and shielding agents from negative consequences of their actions. The same resources that can be used to manipulate elections on a wide scale—including natural popularity, resource control, and control over the legal apparatus—also better enable incumbents to dismantle protest movements when they do emerge. As a result, more extensive manipulation should be associated with shorter-lived protest movements against incumbents.<sup>2</sup>

One challenge to this theory is the prospect that incumbents may choose to tolerate protests, rather than attempting to repress them or co-opt their participants. This concern should be modest for the cases being considered here. First, toleration is most likely when protests impose few costs on the regime and make only targeted demands (Klein and Regan 2018). National elections are highly politically salient, and challenging their validity gets to the core of electoral authoritarian incumbent’s claim to authority. As such, tolerating or ignoring protest is unlikely in this setting. In such cases, we should expect to see apparent ‘toleration’ displaced by ‘attrition’—efforts by the incumbent to increase the cost of protest while avoiding open repression (Yuen and Cheng 2017). In other words, even in the absence of explicit repression or concessions, we should still expect incumbents to attempt to defuse protest movements aimed at challenging the most recent election. As a further control, however, I include a measure of average protest size in one model of protest duration.

Testing H1 and H2 together will help to evaluate the regime-weakness model of electoral manipulation. It is important to note that the theories make contradictory predictions. H1

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<sup>2</sup>In the appendix, I check the separate prediction that manipulation should be positively associated with incumbents being ousted by protest movements.

predicts an unconditional *positive* relationship between manipulation and protest duration, while H2 predicts a *negative* relationship, conditional on vote-share.

[Note that the type of protest that happens (instrumental vs. multipurpose) will be examined in the discussion / appendix. Consider also coming up with names for ‘manipulative strength’]

## Data and methods

These hypotheses are tested using data from three datasets: NELDA ([Hyde and Marinov 2012](#)), V-Dem version 11.1 ([Coppedge et al. 2021](#)), and the Electoral Contention and Violence dataset ([Daxecker, Amicarelli, and Jung 2019](#)). The unit of observation for this study is an election period as recorded in NELDA. This prevents selecting on the dependent variable, by capturing both protested and non-protested elections. I limit the sample to authoritarian regimes which hold multiparty national elections. This excludes fully closed autocracies (where no national elections are held), as well as electoral and liberal democracies. I limit the sample to those regime-years coded 1 (electoral authoritarian) on the V-Dem variable ‘v2x\_regime’ for the election year, or coded 2 (electoral democracy) for the election year but 1 for the lagged year.<sup>3</sup> This sample includes a range of electoral authoritarian cases, including those that might be labeled as ‘hegemonic’ and ‘competitive’ ([Donno 2013](#)).<sup>4</sup> For instance, the dataset includes election years from Egypt and Belarus, but also from Ukraine, and Mexico in the 1990s.

It is likely that the theoretical mechanisms described above weaken as regimes become more liberal-democratic; in liberal democracies, patronage consolidation should decline and

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<sup>3</sup>This coding rule will capture cases that are coded as electoral democratic after an election but electoral authoritarian before, in order to ensure that cases which experience a liberalization after the election are included.

<sup>4</sup>According to the V-Dem codebook, the coding scheme includes cases where multiparty elections were manipulated to the extent that “irregularities... affected the outcome of the election,” and ones in which it is “hard to determine whether the irregularities affected the outcome or not.” Only when irregularities definitively did not affect the outcome would election-years be categorized as electoral democracy, and excluded from the main analysis.

rule of law should increase by definition. These changes should make it more difficult for incumbents to manipulate elections, irrespective of protest risk. At the same time, the more liberal-democratic a state becomes, the more alternatives there are to protest as a means to check the executive. More independent courts and more active executive constraints have been shown to be associated with improved election integrity ([Bishop and Hoeffler 2016](#); [Harvey 2022](#)); it is where these factors are weakest—the electoral authoritarian regimes—where we should expect the deterrence logic to operate under a regime-weakness model. Finally, as a matter of measurement, protest duration is likely to be an increasingly imperfect measure of incumbent strength in more liberal-democratic settings, where protest is more commonplace and less immediately threatening to the regime. The case selection strategy here, excluding electoral and liberal democracies, is thus one that both fits the theory and makes for a stronger test of the regime-weakness model. Nevertheless, an expanded sample that includes electoral democracies provides similar results in the appendix. In total, there are 659 elections included in the dataset, across 100 countries. The date range is limited by the availability of data on protest from ECAV, which ranges from 1989 to 2012.

For models of protest-wave duration, as discussed in more detail below, I include only observations where a positive number of protests occurred. Only 156 observations fall into this more limited dataset.

## Dependent variables and modeling strategies

ECAV records protests and other events related to an election, ranging from six months before to three months after the vote (or three months after the final round of a multi-round election). To qualify, an action must be contentious; rallies in support of the incumbent are excluded. I only include events labeled as protests, occupations, or blockades, excluding acts like shootings, bombings, and coups. If any post-election protests are recorded in the ECAV data for a particular election, the binary variable *protest initiation* is marked as 1. ECAV data is in event-day format; to capture *protest duration* I take the number of days between

the last protest recorded in ECAV and the first, for each election.<sup>5</sup> For the survival models, protest movements that were ultimately defeated by the incumbent are considered ‘dead’ after the last day of protest. Protest movements that prevailed in unseating the incumbent are included, and are marked as ‘alive.’

The large majority of elections experience no post-election protest: in 448 of the 659 elections, no protests are recorded. Figure @ref(fig:ellex-hist) reports the distribution of election fraud across the dataset, as well as protest duration. As the figure shows, while election fraud is common among this set of regimes, protests are rare, and, when they do occur, are usually short in duration. These distributions—extensive election fraud combined with large numbers of non-protest—provides some early indication that the regime-weakness model has limited support. Still, approximately one-third of elections experienced some protest, and so protest initiation is modeled using standard logistic regression. Protest wave duration is modeled using Cox proportional hazards models.

## Explanatory variables

To capture the severity of *election fraud*, I use the V-Dem measure of intentional election irregularities, a category which includes “double IDs, intentional lack of voting materials, ballot-stuffing, misreporting of votes, and false collation of votes.” It is important to note that this measure captures illegal election-day manipulation broadly, and is not confined simply to falsification.

I operationalize electoral manipulation using this variable, rather than alternative measures of election integrity, because fraud of this kind is thought to be most likely to trigger protest (Linebarger and Salehyan 2020)—it is often incumbents’ tool of last resort (Sjoberg 2016), may not mobilize real voters (Harvey and Mukherjee 2020), and can be more damaging to legitimacy than pre-election manipulation (Birch 2011; Szakonyi 2021). This measure of election integrity should thus serve as a strong test of the protest-oriented model. It

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<sup>5</sup>The duration of a protest wave with only one protest is taken to be one day.

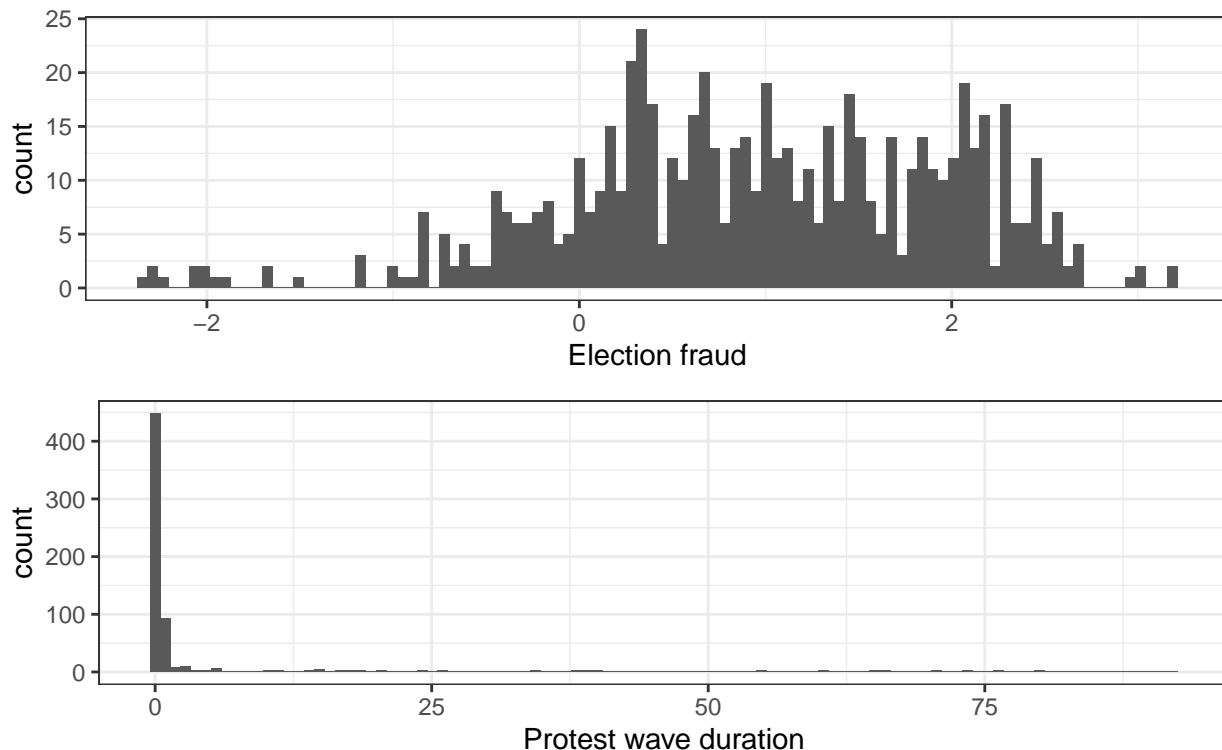


Figure 1: Histograms of election fraud and protest duration

also matches the conception of election manipulation used in much of the relevant formal literature.<sup>6</sup> An alternative measure is used as a robustness check in the appendix.

## Control variables

It is necessary to condition the models on whether or not the incumbent party claimed victory in the election, due to the structure of the vote-share data in V-Dem. Vote-share data is provided for the winning party without reference to its position as incumbent or challenger. From the point of view of those considering anti-incumbent protest, for instance, the information conveyed by a large opposition vote-share is much different from that conveyed by a large winning vote-share. Consequently, in all models, I condition for whether the incumbent party lost, based on coding in NELDA. In the binary models of Hypothesis 1, I control for incumbent loss as a standalone variable or in interaction with the main explanatory

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<sup>6</sup>For example, election manipulation is treated as post-hoc adjustment of the results in Little et al (2015), Little (2012), Magaloni (2010), and Fearon (2011), among others.



variables.

For the models of protest duration, I exclude all cases where the incumbent lost the election outright. This limits the observations to those that fit the population of interest: protest following an election in which the incumbent claimed victory, possibly through reliance on election fraud.<sup>7</sup>

The models incorporate several potential confounding variables, in addition to the *election fraud* variable described above. The *lagged GDP growth rate*, taken from V-Dem, is used to capture economic grievances: lower GDP growth rates, especially negative ones, should be expected to increase citizens' sense of grievance. The winning party's *vote-share* is also taken from the V-Dem dataset.<sup>8</sup>

As identified in prior research, other factors that may influence both fraud and protest are included as controls variables. The repressive capacity of the government (Davenport et al. 2019) is measured using the physical integrity index from V-Dem (*v2x\_clphy*), and its square term. Indicators of government *control over civil society* (the '*v2cseeorgs*' variable from V-Dem), the proportion of national political parties with *permanent party organizations* (V-Dem's '*v2psorgs*'), de facto *judicial independence* (Linzer and Staton 2015) and the availability of *alternative sources of information* ('*v2x\_freexp\_altinf*' from V-Dem) are also employed. Since urban areas can make electoral manipulation more difficult (Larreguy, Marshall, and Querubin 2016; Ziblatt 2009) while also making protest more likely (Wallace 2013), I also include data on *urbanization* taken from the United Nations (Department of Economic and Social Affairs (Population Division) 2019). All models include *legislative constraints* on the executive, a V-Dem variable which captures the extent to which the legislative body in the

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<sup>7</sup>Excluding cases where incumbents stepped down after losing an election avoids introducing measurement error in the dependent variable, due to a quirk of the ECAV dataset, which codes the 'side' of the protest (pro- or anti-government) as missing during the period between an election and the swearing in of a new government in cases where the incumbent loses. Including these cases thus runs the risk of conflating pro- and anti-incumbent protest, along with cases where protesters goals are genuinely unknown. However, excluding them also influences the interpretation of the results from these models. Threats to inference from this section are evaluated in more detail in the discussion section.

<sup>8</sup>This variable has considerable missingness, which I reduced in part by updating missing values in V-Dem using data from Wikipedia, where links to official sources were available, and Psephos.

country acts independently in practice to limit executive power.

In addition, the literature on the diffusion of electoral protest holds that successful electoral protest in one country increases the likelihood of electoral protest in similar countries nearby (Beissinger 2007; Bunce and Wolchik 2010). Such a dynamic could plausibly increase the likelihood of protest in a nearby country, while also reducing the incumbent’s use of fraud. I control for this using each country’s geopolitical region as coded in Teorell et al (2019), in conjunction with binary variables indicating a successful protest movement from NELDA. A ‘successful protest’ is recorded if a protest movement resulted in either a new election being run or the incumbent stepping down. The *regional diffusion* dummy variable takes on a value of one for all countries in the same region as a successful protest, for elections within one calendar year of the successfully overturned election.<sup>9</sup>

Several other binary control variables are also included. First, a variable from NELDA is used to indicate *presidential* elections, since these may include both higher levels of manipulation (Simpser 2013) and a greater risk of protest. Another NELDA variable indicates if the incumbent executive is not running due to *term limits* (Hale 2014). I include dummy variables that provide a categorical evaluation of state capacity. These are taken from the ordinal version of the V-Dem variable “state source of fiscal revenue” (v2stfiscap). If the V-Dem data codes a state as not capable of raising revenue or primarily relying on loans and foreign aid, I code it as a *weak state*. If the state is described as primarily relying on resource rents and expropriation, I code it is a *rentier state*. States that rely primarily on taxes on property or economic transactions are coded as *tax states*. This distinction is relevant since access to natural resource rents may both make protest less likely and repression more effective (Girod, Stewart, and Walters 2018). Since strong non-democratic governments may be able to adjust the electoral calendar strategically (to affecting both election manipulation

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<sup>9</sup>For example, the variable takes on a positive value for elections held in the post-communist region, within one year of the September 24, 2000 election in Serbia that sparked the ‘Bulldozer Revolution’. All told there are 14 successful electoral protests in the dataset: Bulgaria 1990, Burkina Faso 1997, Lesotho 1998, Cote d’Ivoire 2000 and 2010, Peru 2000, Serbia 2000, Mali 2002, Georgia 2003, Ukraine 2004, Azerbaijan 2005, Kyrgyzstan 2005, Haiti 2006, and Cameroon 2007.

and protest risk), I include a variable from NELDA that indicates *off-schedule elections*.

I include the *number of pre-election protests* counted in the ECAV dataset, which is likely to be an important possible confounder; more numerous pre-election protest may affect the level of election fraud (as the deterrence logic predicts) as well as being directly tied to the likelihood of post-election protest. Finally, in the models of protest duration, I also include a measure of the *median size of protest*, calculated using ECAV data.<sup>10</sup> This is important as a control for the possibility that incumbents could tolerate smaller protests, as discussed above.

Summary statistics for all of these variables are shown in the appendix. To address concerns about multicollinearity, I also present models in the appendix that exclude control variables associated with pre-election protest.

## Results

### Fraud and the likelihood of protest

Table @ref(tab:logit-table) shows the results for Hypothesis 1. Model 1 is a base model, where incumbent loss, winner vote-share, and *election fraud* are standalone variables. In keeping with the general (though inconsistent) findings in the prior literature, there is a significant positive relationship between fraud severity and the likelihood of protest initiation. The winner's claimed margin of victory is negatively associated with protest initiation. Model 2 includes the three-way interaction between *election fraud*, incumbent loss, and winning vote-share, with no controls other than a dummy variable for *presidential elections*. This allows for the largest possible sample size, and shows that the coefficient signs are consistent with those of the full Model 3.

Model 3 is the main model, which includes the full set of controls. Given the complexity of the model, Figure @ref(fig:margin-prob-fig) illustrates the effects of election fraud on protest

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<sup>10</sup>ECAV data codes protest size as a categorical variable, ranging from 1 (< 10 participants) to 5 (> 10,000). I take the median size category of all the events in the protest wave as a measure of average protest size.

Table 3: Logit models of protest occurrence

	Model 1	Model 2	Model 3
(Intercept)	−0.264 (0.307)	−1.750** (0.622)	−6.168*** (1.773)
Incumbent loss	−0.256 (0.254)	1.062 (0.869)	4.523** (1.701)
Election fraud	0.239* (0.101)	1.335** (0.421)	2.771*** (0.788)
Winner vote-share	−1.040* (0.468)	0.636 (0.986)	4.447* (1.923)
Winner vote-share:Election fraud		−1.768** (0.635)	−4.345*** (1.206)
Winner vote-share:Inc. loss		−2.383 (1.707)	−10.222** (3.912)
Election fraud:Inc. loss		−1.140 (0.695)	−3.985** (1.225)
Judical independence (lag)			2.443 (1.748)
Leg. constraints (lag)			0.243 (1.003)
GDP growth rate (lag)			−0.020 (0.609)
Alternative info. (lag)			−1.255 (1.531)
Civil soc. openness (lag)			0.507+ (0.290)
Incumbent term-limited			−1.151 (0.747)
Urbanization			0.007 (0.011)
Rentier state			0.484 (0.540)
Tax state			0.633 (0.541)
Presidential		1.008*** (0.205)	1.933*** (0.408)
Off-schedule election			−0.285 (0.380)
Number of pre-election protests			21.160 (1152.840)
Phys. integrity index (lag)			1.079 (4.046)
Phys. int. lag squared			−3.264 (3.960)
Regional protest diffusion			0.594 (0.456)
Num.Obs.	522	522	442
AIC	667.1	645.5	284.5

risk across various levels of winning vote-share and incumbent loss<sup>11</sup>. The values for election fraud represent one standard deviation above and below the mean value, or about the 15th and 85th percentiles, respectively.

The direction of the effect supports Hypothesis 1. When an incumbent claims victory (left panel) and their vote-share is low, electoral protest is significantly likelier when fraud is elevated than when the election is relatively clean. Furthermore, protest against winning incumbents is significantly likelier when fraud is high and vote-shares are low, compared to an election with an equivalent level of fraud but high claimed vote-shares. As noted above, such a finding could be consistent with either the regime-weakness or regime-strength models of manipulation, under different conceptualizations of protest. To distinguish between the two, we turn to the models of protest duration.

## Protest wave duration

Table @ref(tab:cox-models-tab) reports the results of Cox proportional hazard models of protest duration. In these models, positive coefficients indicate factors that are associated with shorter-lived protests; those with a negative sign indicate factors associated longer-lasting protest. Models 4 and 6 do not include interactions, while the remaining models interact *intentional irregularities* with incumbent vote-share. One threat to inference in this design derives from the 90-day post-election window considered by ECAV. It is possible that some protest movements considered ‘dead’ in the baseline models 4 and 5 are, in fact, ‘alive,’ if subsequent protests occurred after 90 days and are unobserved. To address this, observations are assumed to be right-censored if a protest occurred within three-weeks of the 90-day cutoff in Models 6, 7, and 8. This amounts to 15 of the 156 observations in the sample. Model 8 is the most restrictive model, which includes right censoring as well as a control variable for the median number of participants during the protest wave. There is considerable missingness in this variable. Lastly, in order to intepret these findings, it is important to recall that these

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<sup>11</sup>All other variables constant at their means (continuous variables) or modes (categorical variables).

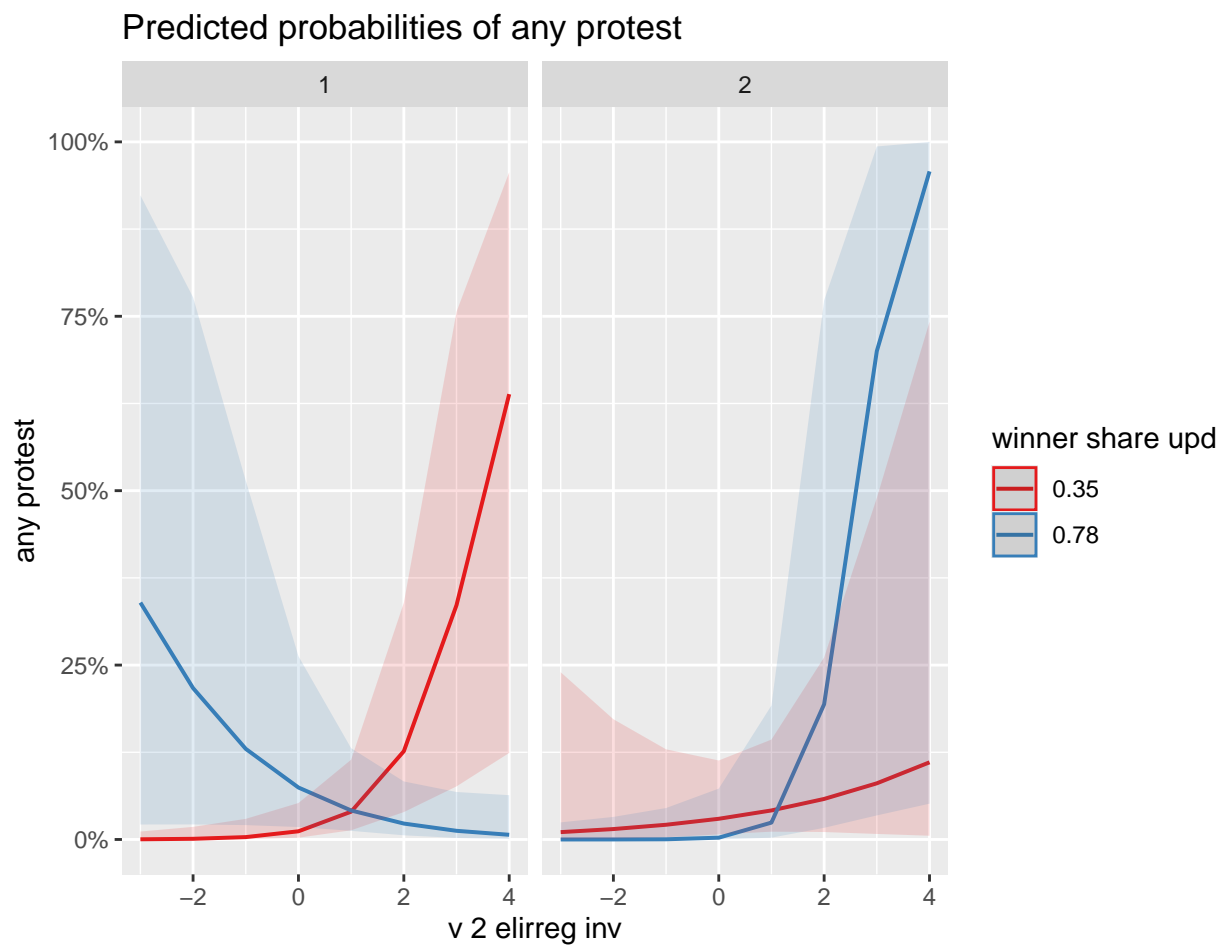


Figure 2: Fraud, winning vote-share, and probability of protest initiation

models include only cases where incumbents claimed victory and electoral protest occurred.

The coefficient for *election fraud* is positive and significant in Model 4, indicating that more fraudulent elections are associated with less resilient protest movements. Exponentiation of the coefficient for election fraud gives a hazard ratio of 1.3, indicating that for each one-unit increase in fraud, a protest movement becomes thirty percent more likely to end at any given time. This supports H2, suggesting that incumbents with the capacity to manipulate extensively are also able to draw on their resources to curtail post-election protest.

Further investigation of the relationship between fraud and protest duration yields additional insights. In Model 5, incumbent vote-share is interacted with *election fraud*. Figure @ref(fig:margin-dur-fig) shows the predicted hazard ratios. As shown in the figure, for all incumbent vote-shares near and below fifty percent, large-scale fraud significantly increases the likelihood that a protest movement will end. This result also supports the regime-strength model, and shows that only as vote-share increases above fifty percent—creating a stronger signal of popularity—does a government in a low-fraud election have the same likelihood of defeating a protest movement at a given time. In effect, either high genuine popularity *or* the ability to produce high levels of fraud enables governments to more quickly end protests.

The results of the baseline models are consistent with those models which incorporate censoring. The coefficient for *election fraud* retains the same size, sign, and level of significance as in Model 4. The interaction effect in Model 7 increases in size, while retaining its direction and statistical significance. This suggests that the main models are not drawing overly incorrect inferences through censoring of longer-lasting protest movements. Model 8, adds the median number of participants at events in the protest wave as a control for the potential perceived threat of the protest movement by the incumbent. Including this control variable reduces the sample size due to missingness, but the interaction coefficient retains its direction and statistical significance.

The relationship between the level of fraud and the survival of protest movements can also be demonstrated non-parametrically using Kaplan-Meier curves for varying levels of fraud. In

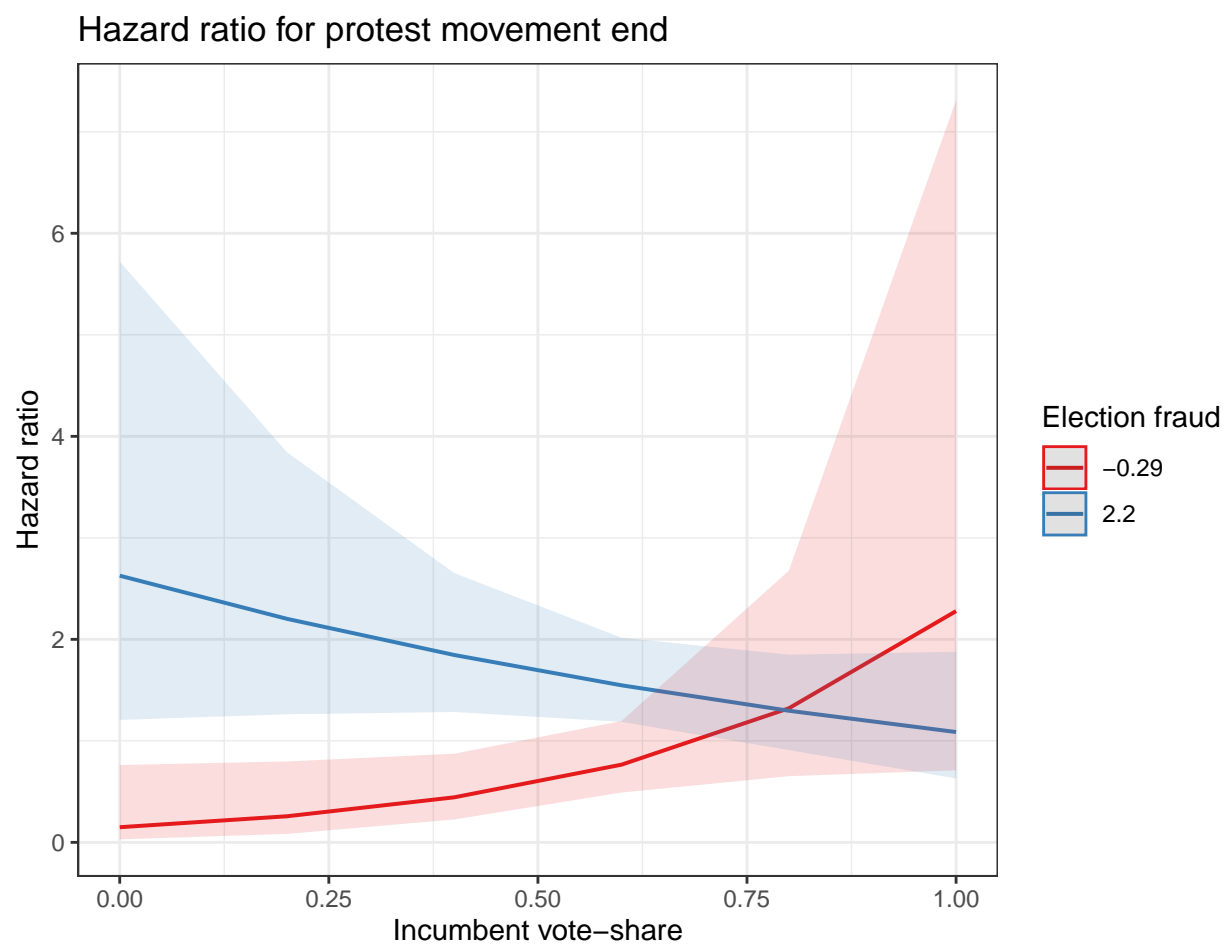


Figure 3: Fraud, winning vote-share, and duration of protest



Figure @ref(fig:km-fig), observations are divided into three groups. High fraud observations are those where *election fraud* is one standard deviation above the mean or more, low fraud observations are those one standard deviation below the mean or less, with moderate levels in between. The figure shows a clear difference between the low-fraud group and the other two. Low-fraud cases are much more likely to see their protest movements survive past the first day than their counterparts. For much of the range of the data, they remain roughly twice as likely to survive at any given date than protest movements in medium- or high-fraud cases. This is evidence in favor of the idea that high levels of fraud is an indication of regime resilience, and contradicts the claim that fraud indicates weakness or galvanizes political opposition, as it is the low-fraud cases where governments struggle to put an end to protest movements on average.

## Discussion

The duration analysis consistently shows that more election manipulation is associated with quicker incumbent victories over protest movements, both independently and in conjunction with low incumbent vote-share. This is a strong indication that governments which can deliver large-scale election manipulation have the resources and capabilities to put down protest more quickly; that is, such manipulation covaries with sources of regime durability. In real contests in which opposition and incumbent strengths are tested against each other, better manipulators reveal themselves to be stronger rather than weaker. This is consistent with Hypothesis 2.

This finding supports and extends the line of research initiated by Simpson ([Simpser 2013](#)), which I have called the regime-strength model of election manipulation. While Simpson’s original argument holds that electoral manipulation in conjunction with a large margin of victory for the incumbent can induce pro-regime behavior in society, this paper shows that even when such cooperation fails—when post-election protests occur—governments that

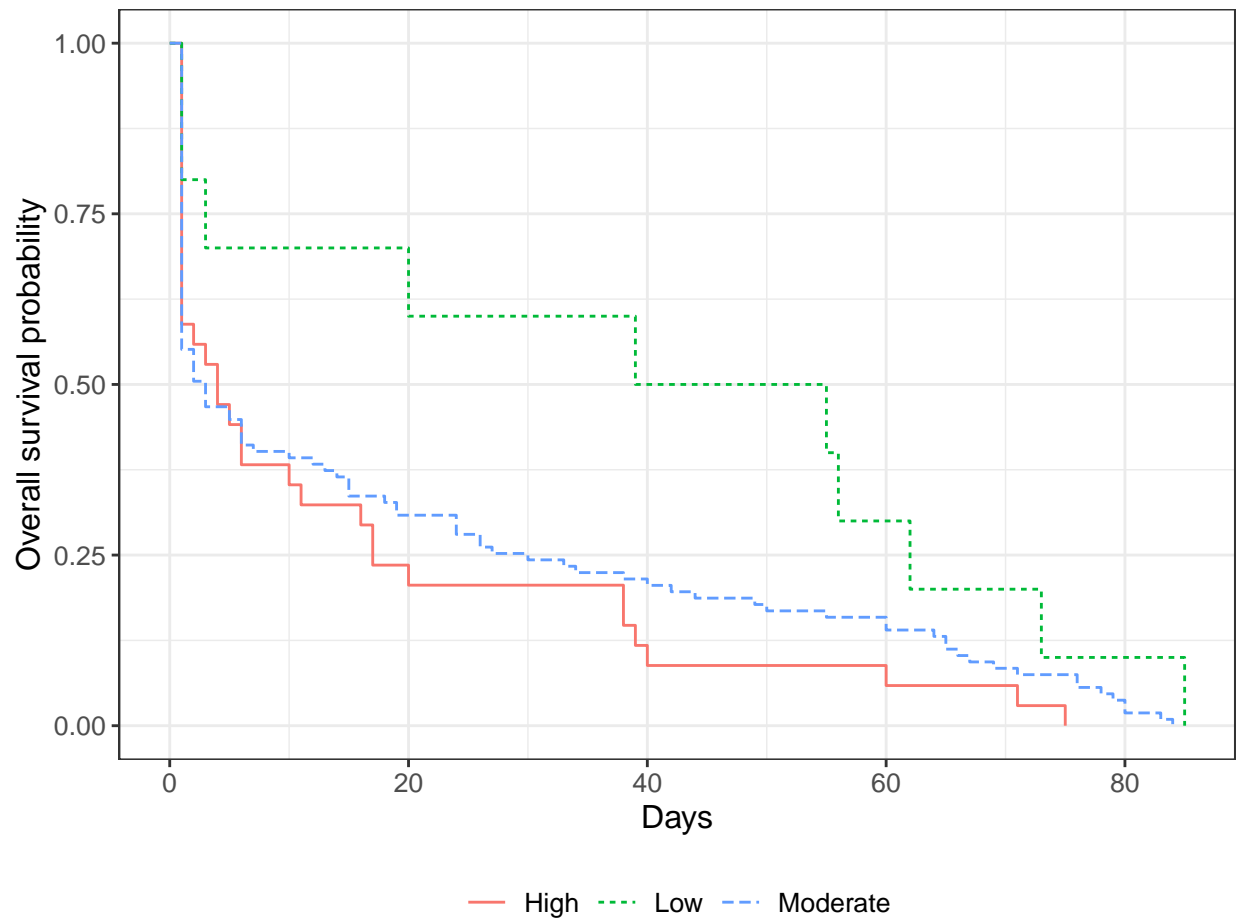


Figure 4: Kaplan-Meier curves for protest duration across levels of fraud

Table 4: Cox proportional hazard models of protest duration

	Model 4	Model 5	Model 6	Model 7	Model 8
Leg. constraints (lag)	−0.775 (0.570)	−0.807 (0.562)	−0.901 (0.589)	−0.950+ (0.576)	−1.950* (0.930)
GDP growth rate (lag)	0.131 (0.179)	0.141 (0.182)	0.135 (0.179)	0.148 (0.181)	1.288 (1.990)
Alternative info. (lag)	1.263 (0.924)	1.819+ (0.947)	1.386 (0.978)	2.238* (1.004)	1.530 (1.542)
Civil soc. openness (lag)	−0.247 (0.180)	−0.275 (0.173)	−0.176 (0.186)	−0.250 (0.178)	−0.032 (0.228)
Presidential election	−0.159 (0.222)	−0.213 (0.227)	−0.207 (0.226)	−0.254 (0.233)	−0.152 (0.331)
Incumbent term-limited	−0.408 (0.336)	−0.426 (0.333)	−0.323 (0.357)	−0.372 (0.354)	−0.730 (0.450)
Urbanization	0.003 (0.006)	0.004 (0.006)	0.0008 (0.006)	0.001 (0.006)	−0.003 (0.009)
Rentier state	−0.249 (0.318)	−0.492 (0.337)	−0.223 (0.320)	−0.511 (0.339)	−1.025* (0.517)
Tax state	−0.136 (0.293)	−0.311 (0.303)	−0.078 (0.300)	−0.283 (0.309)	−1.055* (0.460)
N. of post-election protests	−0.051*** (0.013)	−0.053*** (0.013)	−0.067*** (0.016)	−0.071*** (0.017)	−0.054*** (0.016)
Off-schedule election	0.469+ (0.245)	0.501* (0.245)	0.487* (0.245)	0.524* (0.246)	0.364 (0.372)
Phys. integrity index (lag)	1.671 (2.116)	0.954 (2.137)	1.443 (2.150)	0.634 (2.177)	4.097 (2.919)
Phys. int. lag squared	−1.629 (2.312)	−0.991 (2.327)	−1.455 (2.318)	−0.705 (2.337)	−4.042 (3.126)
Regional protest diffusion	−0.048 (0.221)	−0.026 (0.222)	0.046 (0.231)	0.066 (0.231)	−0.139 (0.302)
Median protest size					0.040 (0.144)
Incumbent vote-share	−0.155 (0.571)	2.306+ (1.190)	−0.069 (0.590)	3.213* (1.279)	1.542 (1.572)
Election fraud	0.279* (0.135)	1.152** (0.394)	0.278* (0.141)	1.428*** (0.424)	1.060* (0.501)
Election fraud:Inc. vote-share		−1.450* (0.615)		−1.916** (0.664)	−1.434+ (0.786)
Num.Obs.	129	129	129	129	90
RMSE	0.96	0.97	0.90	0.90	0.88

+ p &lt; 0.1, \* p &lt; 0.05, \*\* p &lt; 0.01, \*\*\* p &lt; 0.001

manipulate more are more likely to successfully weather the challenge. That is, even when ruling party vote-shares are low (perhaps especially when this is so), incumbents which show themselves capable of large-scale fraud are more capable of quickly ending protest movements than low-fraud incumbents. This holds true despite controlling for indicators of other possible explanations of the relationship between low fraud and long-lived protest: civil society strength, media openness, and median protest size.

Adopting this interpretation of election manipulation as a reflection of effective sources of regime strength comports with a growing literature on the principal-agent dynamics of manipulation (Harvey 2019; Rundlett and Svolik 2016) and the importance of patronage resources and electoral processes in sustaining authoritarian regimes (Hale 2014). It also helps us make sense of secular patterns that are puzzling if election fraud indicates regime weakness, as others have held. The pattern depicted in Figure @ref(fig:elex-hist) for example, which shows high levels of manipulation and low levels of protest is sensible in a world where the more powerful and durable incumbents produce greater levels of manipulation, and where incumbents who struggle to produce high levels of manipulation are ones who face resource scarcity, institutional barriers to impunity for their agents, and defections among erstwhile allies. It also helps explain why some incumbents manufacture their way to highly implausible margins of victory, reasoning that a demonstration of their extra-electoral power may suggest to allies and bystanders that the incumbent may survive protest despite a low natural popularity. Scenarios where incumbents use massive fraud to post margins of victory in the eighty and ninety percentage point range are harder to explain under a worldview where more manipulation indicates deeper regime weakness.

This study finds support for Hypothesis 1—that protest will be most likely to begin when fraud is high and incumbent vote-shares low—and for the notion that governments that manipulate more effectively will more quickly quash protests. In other words, protest is most likely to be initiated under the same circumstances when it is likely to be defeated quickly. This combination of findings is a blow to the regime-weakness model, and the associated

idea that protest risk can effectively deter election manipulation. I suggests, instead, that 1) large-scale election manipulation indicates regime strength in most cases, and 2) electoral protest behavior involves a mix of actors with broadly strategic motives that go beyond ousting the government. Such motives are discussed in more detail in the theory section.

What does all this tell us? First, these results may inform how researchers think about the causes of election manipulation. They suggest that factors like the opposition’s capacity to organize street protest in limiting election fraud have been overestimated. Consequently, theories of electoral manipulation that emphasize other factors—such as resource availability (Greene 2007), principal-agent problems (Rundlett and Svolik 2016), and legal risks to manipulators (Harvey 2022)—should be further developed, and may yield new policy interventions. In particular, it may change some current understandings of the role of election monitors, courts, and other third parties in upholding election integrity. As noted earlier, prior studies argue that these actors restrain manipulation by revealing information about fraud and intensifying protest risk. However, if more extensive manipulation is associated with more quickly subduing protest movements, it may be that other mechanisms are at work. For instance, it may be that election observation makes it harder for front-line agents to avoid personal consequences for engaging in manipulation (Harvey 2022).

By showing that the infrastructure of fraud can actually reduce the cost of post-election protest to the regime, this result poses a challenge to theory of democratization by election (Edgell et al. 2018; Morgenbesser and Pepinsky 2019; Schedler 2013). If the capacity to engage in widespread manipulation makes it easier to both tolerate the existence of an opposition and to suppress it during periods of contestation (Dahl 1971), electoral authoritarianism is something of an institutional cul-de-sac: the capacity to generate severe election fraud makes it appealing for closed authoritarian regimes to introduce elections, while the manageable risk of protest makes it unappealing to further democratize.

One key prediction of the strategic protest model is not tested here directly, because the research design focuses on the strength of incumbents against protest movements as

revealed by actual protest. However, several additional tests are presented in the appendix which suggest that the limits on election manipulation are largely structural (e.g. state capacity, judicial independence) rather than narrowly strategic. In fact, these additional checks indicate that, if anything, incumbents tend to respond to elevated protest risk by *increasing* production of electoral manipulation.

Finally, this paper does not examine the role of protest risk in insulating established democracies from democratic backsliding (Fearon 2011). This question deserves further investigation, but it is possible to draw a few implications from this study. First, even if protest risk fails to serve as a deterrent in non-democracies, it may still do so in more democratic settings. In non-democracies, protest initiation is most likely when fraud is very high and incumbent vote-shares very low. The likelihood of protest initiation in a democracy may well be higher, triggering at lower levels of fraud and higher incumbent vote-shares, since opposition actors are likely to be better resourced in a liberal democracy (and the government more constrained). At the same time, if the theory described here is accurate, liberal democracies would be constrained against using large-scale election fraud even in the absence of protest risk: they lack the patronage resources and arbitrary enforcement of laws needed for such a scenario.

These results are consistent with different specifications presented in an online appendix. In particular, the main results are supported when alternative measures of election integrity are used in place of the measure of election fraud. They are also supported when electoral democracies are included in the dataset. The relationship between fraud levels and incumbent defeat is also tested (along with incumbent ouster by protest). Additional robustness checks include models with data from election observer reports, with country fixed-effects, alternative specifications for selected control variables.

In sum, the results indicate that we should be cautious when building and interpreting theories that emphasize the risk of mass protest as a trip-wire to be avoided in non-democracies, and add empirical evidence to Przeworski’s (2022) critique of such models. The rarity of post-

election protest, especially successful protest, suggests that such events are highly contingent; they hinge on a multitude of factors that go beyond the regime's efforts to bias election outcomes. These findings indicate that, while incumbents do seek to contain protest, more effective manipulators are also more capable of defeating protest movements.

## Conclusion

There are competing views on the relationship between election fraud and protest. In one family of models, which I have called the regime-weakness model, incumbent's may hold cleaner elections when the risk of post-election protest is higher. Other models contend that election fraud can indicate incumbent strength. Building on the principal-agent literature of election fraud, I argue that large-scale fraud draws on the same resources that make incumbents resilient to protest, even when regime popularity (and thus vote-shares) are low. Conducting election fraud is made easier when incumbents have control over patronage resources and the ability to protect front-line agents from the consequences of illegal behavior; this capacity also helps insulate incumbents from the effects of mass protest. Resolving the tension between these views in the literature has important implications for the study of election fraud and authoritarian stability.

This paper attempts to test the assumptions of these two models by investigating the relationship between election fraud and two protest variables: initiation and duration. Specifically, both the regime-weakness and regime-strength models may make the same predictions regarding protest onset; their predictions differ with regard to protest duration. Drawing on data from the V-Dem, NELDA, and ECAV datasets, it uses cross-national data on 659 elections in electoral authoritarian regimes to show that protest occurrence is most likely when incumbent vote-shares are very low and election fraud is high, as both models predict. However, and most importantly, incumbents that engage in larger-scale election fraud are able to more quickly defeat protest movements.

All together, these results suggest that protest risk is unlikely to serve as a constraint on election manipulation in authoritarian regimes in the way that the regime-weakness model predicts—the most effective election manipulators are also the most well-prepared to defeat protest movements. The frailty of protest risk as a guardrail suggests that electoral authoritarianism as a regime-type is a stubborn equilibrium. This is a gloomy picture for supporters of democratization, and suggests that researchers should further consider other mechanisms beyond mass protest in their models of electoral manipulation.

## **Data availability statement**

The data analyzed in this study will be made available at the Dataverse upon acceptance of the paper.



## References

## TEst stuff

```
# Step 1: Create a composite measure of regime strength from protests
# (for country-years with protests)

nelda2.sub <- nelda2.sub %>%

  mutate(
    # Composite indicator (you can refine this)
    strength_indicator = case_when(
      any.ecav.protest == 0 ~ NA_real_, # Missing for no protests
      any.ecav.protest == 1 ~ -log(d.events.num) # Lower duration = higher strength
    )
  )

# Step 2: SEM with measurement error correction

sem_spec <- '

  # Latent variable with single indicator
  # (need to fix measurement error variance)
  regime_strength =~ 1*strength_indicator

  # Estimate measurement error (you can set this based on reliability)
  strength_indicator ~~ error_var*strength_indicator

  # Structural model
  regime_strength ~ v2elirreg.inv + gdpgro.1lag + physinteg.1lag
```

```

'

# Fit model
fit2 <- sem(sem_spec,
            data = nelda2.sub,
            missing = "fiml")

summary(fit2, standardized = TRUE)

```

```

# This is cleaner and avoids identification issues
path_model <- '

# Protest occurrence predicted by covariates
any.ecav.protest ~ v2elirreg.inv + gdpgro.1lag + physinteg.1lag

# Protest duration (inverse) predicted by same covariates
# Only estimated for observations with protests
protest_duration_inverse ~ v2elirreg.inv + gdpgro.1lag + physinteg.1lag

# Allow correlation between equations
any.ecav.protest ~~ protest_duration_inverse

'

fit_path <- sem(path_model,
               data = nelda2.sub,
               missing = "fiml")

summary(fit_path, standardized = TRUE, fit.measures = TRUE)

```

```

# Use only country-years WITH protests
data_protests_only <- nelda2.sub %>%
  filter(any.ecav.protest == 1)

# Simple regression path model
protest_model <- '
  # Duration as function of covariates
  protest_duration_inverse ~ legcon.1lag + altinf.1lag + osorg.1lag + gdpgro.1lag + wi

  # If you have multiple protests per country-year,
  # you might want to include number of protests as control
  protest_duration_inverse ~ n.events.post
'

fit_protests <- sem(protest_model,
  data = data_protests_only)

summary(fit_protests, standardized = TRUE, rsquare = TRUE)

# This tells you:
# 1. Which covariates predict shorter duration (stronger regimes)
# 2. How much variance in duration is explained
# 3. Specific effect of election fraud on regime strength

```

Structural equation modelling doesn't seem the way to go

```

df <- nelda2.sub %>% filter(inc.replaced.prot == 0) %>% dplyr::select(legcon.1lag, altin

df <- df %>% filter(complete.cases(.))

CFA.model <- ' regime_strength =~ v2elirreg.inv + physinteg.1lag + physintlag.sq + altin

fit <- cfa(CFA.model, data = df, std.lv=TRUE)
summary(fit)

regime_scores <- lavPredict(fit)

df <- df %>% mutate(rgm_st = regime_scores[,1])

df <- df %>% left_join(nelda2.sub, by = "NeldaID")

init_probit <- glm(any.ecav.protest ~ rgm_st*winner.share.upd + presidential, binomial(1)
df_probit <- init_probit$data
df_probit <- df_probit %>% dplyr::select(legcon.1lag.x, altinf.1lag.x, osorg.1lag.x, g
df_probit <- df_probit %>% filter(complete.cases(.))

df_probit$IMR <- sampleSelection::invMillsRatio( init_probit )$IMR1

library(survival)
library(ggsurvfit)

```

Protest is assumed to be:	Instrumental protest		Multipl
Incumbent's genuine popularity:	Low	High	Low
Manipulation...			
...obscures strength or indicates weakness	(I) High and increasing	(I): Low and increasing	(I): Hig
...reflects strength	(I): High and decreasing	(I): Low and decreasing	(I): Hig

```

df <- df %>% mutate(surv_status = ifelse(d.events.num > 0, 1, NA))
df_probit <- df_probit %>% mutate(surv_status = ifelse(inc.replaced.prot == 1, 0, surv_s
df_probit <- df_probit %>% mutate(surv_status_censor_assume = ifelse(d.events.num == 0,
                                                                    ifelse(d.events.n

cox1 <- coxph(Surv(d.events.num, surv_status) ~ rgm_st*winner.share.upd + median.part
summary(cox1)

## Unclear what's going on here. But the general idea is that election fraud negativel

```

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