The Effect of Sustained Transparency on Electoral Accountability*

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Abstract

While transparency is assumed to strengthen political accountability, initiatives disseminating politician performance information *prior* to elections have reported mixed results. In this paper, we argue that *sustained* transparency—defined as the dissemination of politician performance information early, regularly and predictably throughout the term—is critical. Theoretically, we show that sustained transparency can affect electoral outcomes via constituents' vote choices, but also through incumbents' decisions of running for reelection, party leaders' nominations, and challengers' entry choices. We further show theoretically that transparency's effects on those multiple pathways is conditional on the quality of incumbent performance but also on the relative strength of her party. We test the predictions of our model using a field experiment involving 396 subnational constituencies in Uganda. Our findings are broadly consistent with our pre-registered hypotheses, suggesting that sustained transparency can improve electoral accountability, even in the context of an electoral authoritarian regime.

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Electoral accountability hinges on the availability of information about politicians' performance (Przeworski, Stokes and Manin, 1999). For citizens in developing countries, this information is particularly hard to come by. In these contexts, transparency initiatives led by non government organizations (NGOs) (Boas, Hidalgo and Melo, 2019) and governmental agencies (Ferraz and Finan, 2008; Bobonis, Fuertes and Schwabe, 2016) offer a promising avenue for strengthening electoral institutions. The evidence on the effectiveness of these interventions, however, is mixed (Dunning et al., 2019).[1] Understanding the conditions under which transparency initiatives can improve electoral accountability remains a question of paramount importance.

In this paper, we study theoretically and empirically how *sustained transparency* strengthens electoral accountability. We define sustained transparency as the dissemination of politician performance information early, regularly and predictably throughout the electoral cycle. Theoretically, we show that sustained transparency can affect electoral outcomes via constituents' vote choices, but also through incumbents' decisions of running for reelection, party leaders' nominations, and challengers' entry choices. Previous theoretical scholarship (see Ashworth, 2012, for a review) largely overlooks these pre-election decisions and focuses on the incumbent-citizen interaction. Informed by these theories, performance information is disseminated in many empirical studies *directly prior* to elections (e.g., Chong et al., 2015; Adida et al., 2020)). Conversely, studies focusing on pre-election decisions of party leaders and potential candidates have generally abstracted from performance transparency (Gordon, Huber and Landa, 2007; Gordon and Landa, 2009).

Our theory applies to developing countries with first-past-the-post elections revolving around non-programmatic (valence) issues and featuring meaningful variation in political parties' organizational capacity (e.g., owing to a history of single-party regime). We highlight the key moderating role of an incumbent's *relative party advantage*, which captures a party's baseline electoral appeal and its comparative advantage in candidate recruitment. Higher relative party advantage improves an incumbent's baseline reputation at the start of the electoral term, which is updated based on subsequent performance signals.

[1] For succinct review on the nexus of information and electoral accountability, see International Growth Centre, Brief Series 022 (2019), by Grossman, Humphreys, and Mueller (`https://bit.ly/3du0IRn`).

By improving the accuracy of performance signals early in the cycle, sustained transparency affects not only incumbents' effort and their reputation, but also their running decisions, party leaders' nomination strategies, and potential challengers' entry choices. In existing models of accountability, transparency affects incumbents' reputation, and their re-election hinges on whether their reputation exceeds an exogenous cutoff. In our model, transparency also affects (i) whether the incumbent reaches the general election, and (ii) the (endogenously) determined cutoff to which incumbent reputation is compared based on potential challengers' entry. As a result of these additional channels, the effect of transparency is moderated by incumbents' relative party advantage. Specifically, sustained transparency improves the electoral outcomes of high-performing incumbents and worsen those of low-performing incumbents, especially where party advantage is large.

We test our theory using data from a field experiment conducted with 396 local elected officials (district councilors) in Uganda. We partnered with Advocates Coalition for Development and Environment (ACODE), a non-partisan Ugandan NGO that creates annual performance scorecards for councilors and disseminates them at yearly events attended by district elites. During the 2011-2016 cycle, half of the incumbent councilors were randomly selected to have their scorecards further disseminated directly to constituents through community meetings. Grossman and Michelitch (2018) find that the program improved incumbents' scores, but only outside of deep party strongholds (consistent with the theory presented in this paper). By fielding a politician survey and culling official electoral returns, we assess the "downstream effect" of the program on incumbent running decisions, party nominations, challenger entry, and voter choices.

This study has several strengths. First, the availability of detailed information on local politicians to study their behavior is rather rare, especially in these contexts. Even rarer is it to bring field experiment evidence to a formal model involving *both* voters and political elites. Second, our theoretical framework is predicated on the notion that the transparency initiative represents a meaningful change in the informational environment. It is thus important that the program we study (i) builds on a long-term relationship with a highly reputable local NGO (here dating back to 2010) and (ii) has already been shown to be sufficiently powerful to affect incumbent performance (Grossman and Michelitch, 2018). Due to the deep local roots of ACODE, we are confident that our study's design has a large degree of ecological and construct validity.

However, there are several challenges to evaluating the set of nested hypotheses that comes from our formal model—itself a stylized representation of complex and noisy decision processes. First, because we are examining a string of behavioral responses, we have to consider that each outcome following incumbent performance outcome is endogenous to the prior step(s). For example, voters can only vote for an incumbent who appears on the ballot, which itself is conditional on the party nomination process. Having a formal model allows us to specify hypotheses that account for the nested structure of our outcomes, but, as we discuss later, nested conditional hypotheses produce thorny estimation challenges (e.g., conditioning on post-treatment outcomes).

Second, while successfully executing a multi-year experimental program across 396 constituencies is a herculean effort for a local NGO in a low-income country setting, our sample size yields lower-than-ideal statistical power. For this reason we wish to clarify that we consider the evidence in terms of tendencies and patterns, assessing substantive significance and not only statistical significance. Because this is a rather unique field experiment—requiring long-term cooperation and support of many district officials and elected politicians—the magnitude of the effects represents the "first-best guess of the true average treatment effect," even when not statistically significant (Gerber and Green, 2012).

Our results are broadly consistent with the predictions of our theory. Transparency increases the reelection probability of incumbents with above-median reported performance by over six percentage points and decreases the reelection probability of those with below-median reported performance by over nine percentage points. When conditioning on winning the party nomination, and taking into account incumbents' relative parry advantage, these effects are significantly stronger—in line with the model predictions. Citizens' vote choice, potential challengers' entry decisions and (to a lesser extent) parties' nomination strategies all seem to contribute to these effects. In short, we find that sustained transparency has a genuine potential to improve electoral accountability, *even in an electoral authoritarian setting*.

This study generates important insights. First, joining Izzo, Dewan and Wolton (2020) in addressing conceptual gaps in the empirical accountability literature using formal theoretical reasoning, our model highlights the importance of sustained transparency and relative party advantage for electoral accountability. We also contribute to the empirical scholarship on barriers to effective

transparency initiatives.[2] Specifically, our paper illustrates that in order to contribute to better governance outcomes, transparency initiatives—about job duties (Banerjee et al., 2020) or future election monitoring (Ofosu, 2019)—need to come well in advance of elections so that elite actors can respond to anticipated changes in voter behavior.

Second, we contribute to the literature on candidate entry (for a reviews of this literature, see Dal Bo and Finan, 2018; Gulzar, 2021) by introducing two novel elements—transparency and (relative) party advantage. Past work has largely focused on dynamics that are more relevant to consolidated democracy settings and generally sidestep the role of transparency.[3]

Third, we contribute to the literature on uneven party competition in electoral authoritarian regimes and weakly institutionalized democracies (Morse, 2018; Magaloni, 2006; Weghorst, 2021). In addition to the introduction of debates (Platas and Raffler, 2020; Brierley, Kramon and Ofosu, 2020; Bidwell, Casey and Glennerster, 2020), we suggest that sustained transparency may reduce the dominance of ruling parties and improve the prospects for more even and performance-based party competition.

A Theory of Sustained Transparency and Accountability

In our theory, candidates compete in multi-party first-past-the-post single member district elections. We study how sustained transparency affects four nested outcomes: (i) incumbent effort, (ii) her decision to run for reelection, (ii) her ability to secure her party's (re)nomination, (iii) entry decisions by potential challengers, and (iv) the incumbent's electoral performance.

[2]Other barriers relate to how politicians respond to transparency initiatives: discrediting performance information (Humphreys and Weinstein, 2012), preventing its dissemination (Sircar and Chauchard, 2019) or increasing vote-buying to offset its effect (Cruz, Keefer and Labonne, 2020)—and to whether citizens use the information to inform their vote, owing, for example, to uncertainty over attribution (Martin and Raffler, 2020), to motivated reasoning (Adida et al., 2017), to the salience of the information (Adida et al., 2020), to coordination problems (Arias et al., 2019), or to increased democratic disenchantment (Sexton, 2020).

[3]Scholars have focused theoretically on ideology and competence (Gordon, Huber and Landa, 2007; Gordon and Landa, 2009); campaign finance (Epstein and Zemsky, 1995), and private sector opportunities (Caselli and Morelli, 2004; Messner and Polborn, 2004)). With its focus on rent-seeking, Svolik (2013) represents an exception. Empirical studies of candidacy entry have focused on the role of dynasties (Cruz, Labonne and Querubin, 2017; Chandra, 2016), party leaders' information (Gulzar, Hai and Paudel, 2020), electoral quotas (Hughes et al., 2019), career trajectories (Weghorst, 2021; Vaishnav, 2017), attractiveness of outside options (Grossman and Hanlon, 2014), and gender (Anzia and Berry, 2011).

Model Primitives

Actors. The model features a representative voter, an incumbent I, her party leader L, and n potential general election challengers (indexed by i). L and I's party also includes a non-strategic reservation candidate R.

Each politician can be high-ability ($\theta = 1$) or low-ability ($\theta = 0$), which is privately observed.[4] $\mu_j \in [0,1]$ denotes politician j's *reputation*: the public belief that j is high-ability. The potential general election challengers' reputations are independently drawn from the distribution $F(\cdot)$—a truncated normal with parameters (μ_F, σ) and support $[0,1]$. The incumbent I enters her term in office with a reputation μ_0, and the reputation of the reserve candidate R is drawn from a truncated normal distribution $G(\cdot)$, with (μ_0, σ) and support $[0,1]$. The parameter μ_0 is the baseline reputation of both politicians from L's party, and thus represents its *relative party advantage*. μ_0 captures, in a reduced form, a party's organizational capacity, its ability to recruit candidates, and its local electoral appeal.

Each politician has a net cost of candidacy $\phi \in \{-k, k\}$, capturing the monetary cost of campaigning net of visibility/status. Most politicians' net cost ϕ is positive ($\phi = k \in (0,1)$) and we refer to them as *office-motivated* (share $1-\epsilon$). A share ϵ, conversely, are *visibility-motivated* and have a net negative cost of running ($\phi = -k$) due to the expressive benefits of candidacy.

The game is divided into four stages, summarized in Figure 1: Governance, Incumbent Running Decision, Party Nomination, and General Election.

Governance. I privately observes her ability $\theta_I \in \{0,1\}$, then chooses effort $e \in [0,1]$ at cost $C(e) = \frac{e^{\gamma+1}}{\gamma+1}$. Effort and ability jointly improve the realization of *performance* π, which can be high ($\pi = h$), with probability $\Pr(\pi = h|\theta, e) = e\frac{1+\theta}{2}$, or low ($\pi = l$). I's performance cannot be perfectly monitored. All actors, instead, observe a public signal $\mathsf{s} \in \{l, h\}$ with precision $\tau \in [0,1]$, so that $\Pr(\mathsf{s} = \pi) = \frac{1+\tau}{2}$. NGO transparency initiatives increase the value of τ. Following the performance signal, the public updates I's reputation from μ_0 to $\mu_I(\mathsf{s})$ using Bayes rule.

Incumbent Running Decision. After observing s, I privately observes her running cost $\phi_I \in$

[4] The assumption that party leaders and voters have the same information about candidate ability is for expositional simplicity. Our insights go through as long as leaders cannot credibly transmit their private information to voters, which at least in our context is plausible.

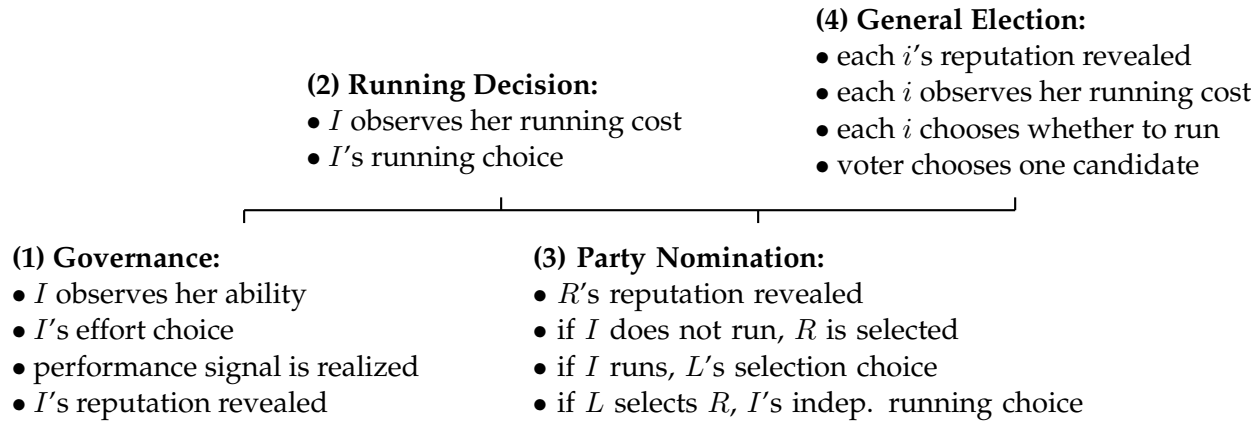

Figure 1: Timeline

$\{-k, k\}$ and decides whether to run for reelection ($r_I = 1$) or not ($r_I = 0$).

Party Nomination. The reserve candidate's reputation μ_R is drawn from G and publicly observed. If I chooses not to run, R becomes the nominee (denoted by N, so $R = N$). If instead I chooses to run, L chooses whether to nominate R and de-select I ($d_L = 1$, resulting in $N = R$) or I ($d_L = 0$, resulting in $N = I$).[5] If L nominates R, I can quit the party ($q_I = 1$) and run as an independent in the general election at an additional net cost $\chi\phi$, with (arbitrarily small) $\chi \in (0, 1]$. Alternatively, I can step down ($q_I = 0$) at no additional cost.

General Election. Each potential general election challenger i observes her own reputation $\mu_i \in [0, 1]$ and cost of running $\phi_i \in \{-k, k\}$ and chooses whether to run for election ($r_i \in \{0, 1\}$). After observing the slate of candidates, the voter elects the candidate with the highest reputation among those running. As a result, the party candidate $N \in \{I, R\}$ wins if and only if she has the highest reputation:[6]

$$\mu_N \geq \max\left\{ \max_i \{\mu_i r_i\}, q_I \mu_I \right\}.$$

Payoffs. We assume incumbent party leader L only cares about keeping the seat, and normalize to one the net payoff from having the party nominee win the election.[7] Let W denote the general election winner and $\mathbb{I}$ the indicator function. We have $u_L = \mathbb{I}_{\{N=W\}}$.

[5] This reduced form party nomination process captures various forms of candidate selection procedures, ranging from a primary election (in which case L should be interpreted as the party selectorate or the median primary voter) to a more informal process led by local party leaders.

[6] Ties in this model are zero probability events, so we do not need to specify how they are resolved.

[7] Our results are unchanged is L cares about the ability of the party nominee.

Each potential general election challenger similarly values being elected and suffers the net cost ϕ if she runs. Hence, i's payoff is given by $u_i = \mathbb{I}_{\{i=W\}} - r_i\phi_i$. The incumbent similarly values winning the election. She can reach it as the party nominee with probability $1 - d_L$; or as an independent with probability $d_L q_I$, net of the cost of running and the cost of effort. Her payoff is then $u_I = r_I\mathbb{I}_{\{I=W\}} - r_I\phi_I(1 + d_L q_I \chi) - C(e)$.

To ensure tractability, we assume that σ (the variance of G and F) is large enough and ϵ is small enough. To ensure that equilibrium effort is interior, we also assume that γ is large enough and that τ is not too large.[8]

Equilibrium Concept. We study sequential equilibria with the restriction that politicians' running decisions can only depend on their reputation (not directly on their ability).[9] An equilibrium includes a strategy profile $\{e_I, r_I, d_L, q_I, r_i\}$ and a belief system $\{\mu_I(l), \mu_I(h)\}$.

Discussion

Our modeling choices reflect well-documented features of electoral competition in many developing countries (and in particular, sub-Saharan Africa). First, citizens have limited information about incumbent performance and challenger quality (Bidwell, Casey and Glennerster, 2020; Platas and Raffler, 2020; Boas and Hidalgo, 2011); and so do party elites (Gulzar, Hai and Paudel, 2020). Nonpartisan organizations can produce and disseminate incumbent performance information (Dunning et al., 2019) that can fill this void.

Second, party competition revolves around valence issues, for example, honesty and competence, rather than position issues on a left-right scale (Bleck and Van de Walle, 2018).[10] Since parties are generally not programmatic, party switching and independent candidates, oftentimes, incumbents who lost their party nomination (Ichino and Nathan, 2013), are frequent.

[8] See SI E for details and formal statements of these assumptions.

[9] This assumption allows us to abstract from situations in which a politician's running decision is itself informative about her ability. A challenger's entry reveals private information in Alexander (2018) about her own ability and in Gordon and Landa (2009) about the incumbent's ability.

[10] Classic models of candidacy (Myerson and Weber, 1993; Osborne and Slivinski, 1996) focus on purely spatial settings. A few combine both positioning and valence (Besley and Coate, 1997, 1998). Banks and Kiewiet (1989) study a valence-based model of candidate entry in the context of the U.S. Congress. Klašnja (2016) also considers competence versus corruption from political experience.

Third, there is geographic variation in the organizational capacity of political parties, owing in part to a history of single-party rule. Our notion of relative party advantage—encompassing baseline appeal, ability to recruit candidates and preferential access to funding and media (Morse, 2018)—captures these asymmetries.[11] These asymmetries also produce differences in candidate nomination procedures, which range from well organized primaries to informal, opaque elite-level discussions (Ichino and Nathan, 2012). Fourth, while candidates derive benefits from holding office, they can also derive visibility or status merely from candidacy (Weghorst, 2021).

Equilibrium Analysis

We proceed by backward induction: first, we begin with the general election, then the party nomination stage, then the incumbent's running decision, and finally the governance stage. Before proceeding, notice that all visibility-motivated potential challengers run in the general election regardless of their reputation. Similarly, all visibility-motivated incumbents run for office and, if they lose the nomination, run as independents. In the analysis below we then focus on office-motivated politicians.

General Election. An (office-motivated) potential challenger runs if and only if her winning probability exceeds the cost of running k. At the time of her entry decision, i only knows the reputations of the party nominee N and of the incumbent I (if running as an independent). Candidate i can only win if her reputation exceeds *both*, that is, only if $\mu_i > \max\{\mu_N, q_I\mu_I\}$. This is the *outsider hurdle*. In addition to the outsider hurdle, i also needs to clear a *contestability hurdle*: her reputation needs to generate a sufficiently large winning probability against the $n-1$ other potential opponents to compensate for the cost k. In SI E, we show that this is equivalent to: $\mu_i \geq F^{-1}\left(k^{\frac{1}{n-1}}\right)$. Combining the two, we obtain our first result:

Lemma 1 *An office-motivated potential challenger runs if and only if her reputation exceeds both outsider and contestability hurdles, i.e., when*

$$\mu_i \geq \widehat{\mu} \equiv \max\left\{F^{-1}\left(k^{\frac{1}{n-1}}\right), \mu_N, q_I\mu_I\right\}. \tag{1}$$

[11] Relative party advantage is similar to what Gordon and Landa (2009) and Prato and Wolton (2018) term, respectively, "partisan bias" and "partisan advantage."

Party nomination. By the same reasoning of Lemma 1, an incumbent who has lost the party nomination quits the party and runs as an independent if and only if her reputation (i) exceeds that of the party nominee (R) and (ii) yields a winning probability large enough relative to the additional cost of running χk. In SI E (Lemma 1), we show that this requires her posterior reputation to exceed a threshold μ^s. Whenever the incumbent chooses to run for reelection, the leader observes the reputation of the replacement candidate R and then chooses I and R. While the winning probability of the party nominee depends on a number of contingencies,[12] in the SI we show that the party leader's nomination strategy reduces to selecting the politician with the highest reputation:

Lemma 2 *The party leader replaces the incumbent if and only if* $\mu_R > \mu_I(\mathsf{s})$.

Incumbent's Running Decision. After observing her performance signal s, an (office-motivated) incumbent runs for reelection if and only if her winning probability exceeds the running cost k. Lemma 2 also implies that, conditional on not being the nominee, her winning probability equals zero. We then conclude that in equilibrium, I wins the election if (i) she is the party nominee and (ii) she has the highest reputation among all the general election candidates. Lemma 2 also implies that her probability of winning the party's nomination equals $\Pr(\mu_I \geq \mu_R) = G(\mu_I)$. In SI E, we also show that the I runs only if her probability of winning the general election (conditional on being the party nominee) equals $F(\mu_I)^n$. We then obtain:

Lemma 3 *An office-motivated incumbent runs for reelection if and only if* $\mu_I \geq \mu^*$, *where* μ^* *is the unique solution of the indifference condition* $G(\mu^*)F(\mu^*)^n = k$.

Combining Lemmas 1-3 , an office-motivated incumbent's expected payoff is given by

$$V_I(\mathsf{s}, k) = \max\{0, G(\mu_I(\mathsf{s}))F(\mu_I(\mathsf{s}))^n - k\}$$

The incumbent's optimal effort choice then solves $e(\theta) = \arg\max_{e\in[0,1]} \mathbf{E}\{V_I(\mathsf{s}, \phi)|e; \theta\} - C(e)$.[13] We can then show that the incumbent's equilibrium running choice crucially depends on relative

[12] If $N = I$, it depends on how μ_I compares with $F^{-1}\left(k^{\frac{1}{n}}\right)$; if $N = R$, it depends on whether I runs as an independent and on how μ_R compares with $F^{-1}\left(k^{\frac{1}{n}}\right)$ and $q_I\mu_I$.

[13] We characterize both $V_I(\mathsf{s}, k)$ and $V_I(\mathsf{s}, -k)$ in the proof of Lemma 4 in SI E.

party advantage (the prior reputation of the incumbent and the expected reputation of her internal challenger). Specifically, we identify two thresholds for relative party advantage (one for each possible signal realization) above which I runs for reelection:

Lemma 4 *There exist thresholds $\underline{\mu}, \overline{\mu}$ for relative party advantage such that an office-motivated incumbent*
(i) never runs for reelection when $\mu_0 < \underline{\mu}$;
(ii) runs for reelection only after a positive performance signal when $\mu_0 \in [\underline{\mu}, \overline{\mu}]$;
(iii) always runs for reelection when $\mu_0 > \overline{\mu}$.

Intuitively, a higher relative party advantage improves the baseline from which the incumbent performance will be evaluated, thereby improving her electoral prospects and deterring potential general election challengers.

Governance. In SI E, we show that equilibrium effort crucially depends on party advantage. It equals zero when $\mu_0 \in (0, \underline{\mu})$, it is positive and strictly increasing in μ_0 when $\mu_0 \in [\underline{\mu}, \overline{\mu})$ and it is strictly quasi-concave in $(\overline{\mu}, 1)$. Intuitively, when relative party advantage is intermediate, effort is most valuable: it increases both the incumbent's probability of running *and* her winning probability conditional on running. Conversely, when relative party advantage is large ($\mu_0 > \overline{\mu}$), effort only increases the incumbent's winning probability. Finally, when relative party advantage is low ($\mu_0 < \underline{\mu}$), incumbents choose zero effort because they anticipate that they will (most likely) not run for reelection.

The Effect of Transparency

How does sustained transparency affect the choices of incumbents, parties, potential opponents, and voters? Since our outcomes of interests are contingent on one another, having a model allows us to formulate hypotheses taking this chain of dependence into account.

Governance. Under a benchmark of no transparency ($\tau = 0$), the public signal s is uninformative about performance. As a result, the reputation of the incumbent does not respond to effort, which is then equal to zero. As transparency increases, the performance signal becomes increasingly more accurate and the incumbent's reputation increasingly sensitive to the signal: a larger

improvement when the signal is high ($\mathsf{s} = h$) and a larger decline when the signal is low ($\mathsf{s} = l$). There is a second, indirect channel through which transparency widens the gap between the two posteriors: as effort increases, so does the difference in performance between types.

Proposition 1 *An increase in transparency*

(i) increases incumbent effort for all abilities and costs of running

(ii) increases the incumbent's reputation conditional on a high performance signal $\mu_I(h)$

(iii) decreases the incumbent's reputation conditional on a low performance signal $\mu_I(l)$*.*

Incumbent's Running Decision. Recall that an office-motivated incumbent never runs when $\mu_0 < \underline{\mu}$, always runs when $\mu_0 > \overline{\mu}$, and only runs after a high-performance signal when μ_0 falls in between. We find that higher transparency widens the gap between the two thresholds.

Proposition 2 *An increase in transparency reduces* $\underline{\mu}$ *and increases* $\overline{\mu}$*.*

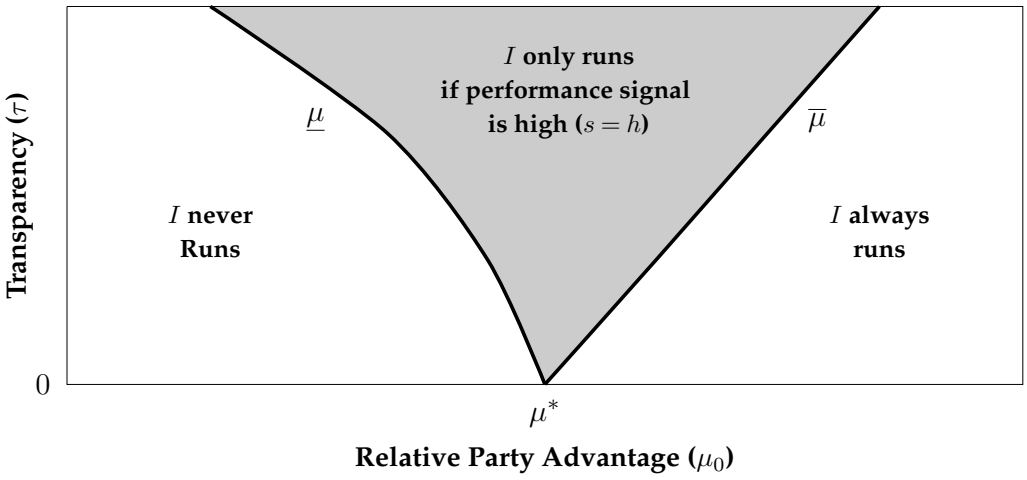

Figure 2: The running decision of incumbents with high- and low-performance public signals as a function of both sustained transparency (τ) and relative party advantage (μ_0).

Proposition 2 implies that sustained transparency changes the set of office-motivated incumbents that choose to run for reelection. Specifically, it increases the range of situations in which performance information is pivotal for the incumbent's running decision, as illustrated in Figure 2.[14]

[14] μ^* is a function of μ_0, but this dependence vanishes as σ, the scale parameter of the distributions F and G, grows.

The incumbent's running decision is the first of several pathways of accountability. Figure 2 illustrates that disregarding the moderating effect of relative party advantage can lead to substantially overstate the effect of transparency on accountability. When the incumbent party has a large organizational advantage, greater sustained transparency may be insufficient to deter low-performance incumbents from running for reelection (even though, by Proposition 1, it causes a drop to their reputation). Similarly, when the incumbent party has a large disadvantage, higher transparency might not be enough to encourage high-performance incumbents to run for reelection (even it improves their reputation).

Importantly, relative party advantage moderates the effect of transparency on the incumbent's running probability. Intuitively, when party advantage is low, transparency primarily encourages high-performers to run; when instead party advantage is high, transparency primarily discourages low-performers from running.

Hypothesis 1 *(a) I's running probability decreases in transparency when the signal is low ($\mathsf{s} = l$) and increases in transparency when the signal is high ($\mathsf{s} = h$);*
(b) the drop in running probability when $\mathsf{s} = l$ is steeper when party advantage is large ($\mu_0 > \mu^*$);
(c) the increase in running probability when $\mathsf{s} = h$ is stronger when party advantage is small ($\mu_0 < \mu^*$).

Party nomination. Since sustained transparency increases the accuracy of the public signal (s), the incumbent's likelihood of winning the nomination conditional on running become more sensitive to her performance. Transparency then enhances high performers' chances to win the party nomination in two ways: by lowering the minimum level of party advantage ($\underline{\mu}$) above which high-performing office-motivated incumbents run (Proposition 2), and, conditional on running, by increasing their reputation and this lowering the chances of a strong internal challenge. By the same logic, it reduces low performers' chances by lowering their likelihood of running and worsening their position in the party conditional on running.

Hypothesis 2 *I's probability of winning the nomination (conditional and unconditional on running) decreases in transparency when the signal is low ($\mathsf{s} = l$) and increases when the signal is high ($\mathsf{s} = h$).*

General Election. In equilibrium, an office-motivated incumbent reaches the general election

when she runs for reelection *and* wins her party nomination. The likelihood of both events increases in transparency for high performers and decreases for low performers. Due to its effect on incumbent reputation, sustained transparency also affects an incumbent's electoral chances directly—i.e., conditional on reaching the general election. Specifically, it increases the likelihood that high performers win and low performers lose the general election.

Equation 1 implies that transparency only affects the expected number of general election candidates when the outsider hurdle (which depends on the incumbent's reputation) exceeds the contestability hurdle (which is driven on the cost of running k)—i.e., when party advantage is large enough. By Lemma 3, office-motivated incumbents only run for reelection in that situation: whenever the contestability hurdle exceeds the outsider hurdle, only visibility-motivated incumbents run. In that case, I's reputation has a negligible effect on her winning probability (in addition to no effect on the expected number of challengers). Hence, conditional on low party advantage, we expect that transparency has no effect on the number of challengers and a small effects on the incumbent's winning probability. Conversely, when party advantage is large transparency should affect both incumbent's winning probability and the expected number of candidates.

Hypothesis 3 *(a) I's winning probability conditional on reaching the general election decreases in transparency when the signal is low ($\mathsf{s} = l$) and increases in transparency when the signal is high ($\mathsf{s} = h$);*
(b) both the drop (when $\mathsf{s} = l$) and the improvement (when $\mathsf{s} = h$) in winning probability are larger when party advantage is large ($\mu \geq \overline{\mu}$ and $\mu \geq \underline{\mu}$, respectively); (c) transparency has the opposite effect on the expected number of candidates.

It is worth noting that an increase in the number of candidates does not necessarily weaken the incumbent. For example, when opposition voters are unable to coordinate on a single candidate, a large number of candidates can help incumbents by splitting the non-incumbent vote (Mvukiyehe and Samii, 2017). Hence, hypothesis 3c should be interpreted carefully: more candidates are not necessarily good for voters' welfare. However, the number of candidates is arguably itself an important feature of representation. We summarize the empirical implications of our model in Table 1.

Relative party advantage μ_0	High signal	Low signal
Probability that I runs:		
small ($< \mu^*$)	+	=
large ($\geq \mu^*$)	=	-
Probability that I wins the nomination:	+	-
Probability that I wins the general election:		
small ($< \underline{\mu}$ if $\mathsf{s} = h$, $< \overline{\mu}$ if $\mathsf{s} = l$)	=	=
large ($\geq \underline{\mu}$ if $\mathsf{s} = h$, $\geq \overline{\mu}$ if $\mathsf{s} = l$)	+	-
Number of candidates:		
small ($< \underline{\mu}$ if $\mathsf{s} = h$, $< \overline{\mu}$ if $\mathsf{s} = l$)	=	=
large ($\geq \underline{\mu}$ if $\mathsf{s} = h$, $\geq \overline{\mu}$ if $\mathsf{s} = l$)	-	+

Table 1: Empirical Implications: The effect of higher sustained transparency

Research Design

We test the model's predictions using data from 20 district governments (LC5 - highest subnational tier below the central government) in Uganda, where a local NGO assembled and disseminated incumbent performance information throughout the 2011-2016 term. As per our model, we examine incumbents' choice of running for reelection, parties' nomination decision, potential challengers' entry choice, and constituents' vote choices in the 2016 elections.

Study Context

Uganda offers an ideal setting to test our model. First, Uganda is an electoral authoritarian regime, the modal regime type in sub-Saharan Africa. Leading up to the 2016 election, the National Resistance Movement (NRM), which has been in power since 1986, controlled the presidency, as well as both the national parliament (70% of the seats having won about 50% of votes across constituencies) and most district governments (with 77% of district chairperson and 70% of councilors). Though the NRM enjoys pockets of popular support, it also resorts to intimidation of opposition members and manipulation of state resources to maintain its power. And while elections are not free and fair, the NRM does not seem to engage in widespread election rigging (Ferree et al., 2018). In short, Ugandan elections, especially at the subnational level, are consequential.

Second, consistent with our framework, political parties in Uganda are neither programmatic nor ethnic-based — they compete over valence issues (Platas and Raffler, 2020). In 2016, Uganda's main opposition party was the Forum for Democratic Change (FDC), founded in 2004 by disaffected NRM members. Other notable opposition parties include the Uganda People's Congress (UPC) and the Democratic Party (DP), whose power base is regional. While the dominant NRM party enjoys overall advantage in terms of capacity, resources, candidate recruitment and voter appeal, opposition parties can be locally competitive (for example, the DP in Acholi and Baganda areas, or UPC in parts of the north). Thus, Uganda exhibits meaningful variation in relative party advantage within and across districts.[15]

Third, at the district level (LC5), citizens have limited information about the performance of incumbents: national politics attracts media attention and citizens tend to have more first-hand knowledge of political affairs at lower tiers of subnational government (LC3, the subcounty, and especially LC1, the village level).[16] Interviews with the Uganda Local Government Association and public opinion data collected in the study area suggest that politicians' performance at the district level is especially opaque (Grossman and Michelitch, 2018).

Fourth, Uganda's subnational electoral system is consistent with our model. Ugandans are represented in the district council by (and votes for) two councilors who are elected via first-past-the-post single member elections. The first is a subcounty representative, whose seat is open to both male and female candidates. The second is a female representative elected through "special woman" constituencies, overlaid on top of 1-3 contiguous subcounties. District councilors have four areas of legally defined job duties, as stipulated in the Local Government Act (1997): *legislative* (e.g., passing motions in plenary, committee work), *lower local government participation* (e.g., attending LC3 meetings), *contact with the electorate* (e.g., meeting with constituents), and *monitoring public service provision* (e.g., visiting schools to verify that service delivery standards are met).

[15]There is also substantial variation in parties' nomination procedures, ranging from primary elections to informal discussions among party leaders.

[16]In 2016, Uganda was made up of 112 districts, which were further divided into 932 subcounties. Subcounties are further divided into parishes, each comprising of one or more villages.

Field Experiment: Transparency Initiative

In 2011, ACODE, a local civil society organization, launched the Local Government Councilor Scorecard program in 20 Ugandan districts, with the explicit goal of improving politicians' performance and electoral accountability. As part of this initiative, ACODE produces an annual scorecard, in which it reports the performance of every district councilors (on a 0–100 scale), in his or her legally-defined job duties (listed above). Scorecards cover a fiscal year period: the first scorecard covered the period of July 2011 to June 2012, and the last scorecard covered the period of July 2014 to June 2015. Data is collected throughout the fiscal year, vetted, analyzed and visualized every summer, and then disseminated every fall. See SI B for additional detail.

ACODE disseminates incumbents' individualized scores to local politicians, party elites, district civil servants, and (at times) local media at an event that takes place at the district government headquarters. At these annual public events, ACODE representatives go over the district councilors' legally-defined job duties, explain the scorecard methodology, and announce the scores.[17] Thus, the scorecard initiative fits neatly with our definition of sustained transparency: incumbent performance information is publicized both early (in fact throughout the term) and predictably. As such, it offers a real potential to change the electoral incentive structure that stakeholders—incumbents, party elites, potential challengers and voters—face.

Sharing incumbent performance information with district elites in this context hardly reaches voters. In our baseline survey, which took place in the summer of 2012 and covered a random sample of citizens from each constituency in our study area, only 9% of respondents had heard "at least something" about the scorecard initiative. Strikingly, the correlation between politicians' actual 2011-2012 scores and citizens' assessment of their representative's score was zero.

In order to test whether directly informing voters about their politician performance can improve electoral accountability, ACODE, in collaboration with the research team, randomly selected half of the district councilors in the study area to take part in an "Intense Dissemination" (ID) program.[18] As part of the ID program, ACODE held two rounds of parish-level community events.

[17] Incumbents' scores are further summarized in reports that ACODE hands out to event participants and posts online.

[18] Randomization was blocked at the district level. As we document in the SI, the randomization achieved good covariate balance.

Politicians selected to the program were informed in advance about these meetings and invited to attend them. The first set of community meetings took place in late 2013 (354 meetings, 12,949 attendees, 2012-2013 scores) and the second in late 2014 (339 meetings, 14,520 attendees, 2013-2014 scores). In those meetings, ACODE representatives shared information on councilors' absolute scores, their ranking within the district and the scores of all other district councilors. Exit polling we conducted show that these events were effective in having attendees both understand and internalize the disseminated information. Further, calendars, posters, and flyers were distributed to be hung in prominent places and constituents were encouraged to opt into receiving text messages about future scores. The ID treatment thus captures the effect of making incumbent performance information available to *voters* (and making politicians aware that their constituents are aware of their performance), above and beyond the availability of this information to local elites.

Grossman and Michelitch (2018) find that the ID program led to a substantial increase in politicians' performance over the term, provided that the seat was not an extreme party stronghold (a margin of victory less than 0.22). Thus, we know that the intervention was at least powerful to change incumbent behavior and that politicians took the initiative seriously. In this study, we assess the "downstream effect" of sustained transparency on electoral accountability. Specifically, we assess our model prediction by studying how ID affects incumbents' running decisions, party nomination choices, candidate entry, and the incumbent's electoral performance.

Data and Empirical Strategy

Below we describe, following our study's pre-analysis plan, the data sources, measurement of core variables, and our empirical strategy.[19] We merged three primary types of data. First, we gather information about politicians' covariates and their choice of running again in 2016, using an in-person survey with all district councilors in the study area in the fall of 2015, a few months prior to the February 2016 elections ($N = 375$). Second, we use publicly available data from Uganda's Electoral Commission (UEC) to construct core outcome measures (e.g., win probability, vote share) as well as incumbents' relative party advantage. Third, we use ACODE's scorecard to measure the signal of incumbent performance.

[19] We note and justify deviations from our PAP in SI F.

Electoral Outcomes: We examine a range of 2016 general election outcomes highlighted in the theory. Our primary outcome of interest is **Won again** and the other outcomes are secondary:

- **Won again**, an indicator variable of whether the incumbent won reelection.
- **Vote Share**, a continuous variable [0-1] measuring incumbent's share of total valid votes.
- **Number of Candidates**, a continuous measure of the number of challengers.
- **Effective N. of Candidates**, a continuous measure that augments the number of candidates outcome by weighting candidates' count measure by their relative strength. This outcome operationalizes how concentrated (or fragmented) support for the incumbent is. Following Laakso and Taagepera (1979), the measure is computed as $N = \frac{1}{\sum_{i=1}^{n} p_i^2}$, where n is the number of candidates with at least one vote and p_i^2 is the square of their vote share.

As for pre-election outcomes we measure the following:

- **Won nomination**, an indicator of whether an incumbent won (again) her party's nomination.
- **Ran again**, an indicator of whether an incumbent chose to run for reelection.[20]

Treatment: Our key treatment variable is **Intense Dissemination (ID)**, an indicator variable. When ID equals zero, ACODE shared the incumbent's performance scores only at district-level events, as discussed above. When ID equals one, ACODE *additionally* disseminated the incumbent's scores at community meetings in late 2013 and 2014.

Moderators: As per our model, we construct measures of two key moderating variables:

- **Signal**, an indicator variable (high/low) of whether the incumbent had above district median performance using the 2013-2014 scorecard. This scorecard was disseminated to the public in October-November 2014, and was the last scorecard before mid 2015, when incumbents and potential challengers had to decide on running and party leaders had to choose

[20]While all other outcomes are derived from official electoral returns, *Ran again* is self-reported, and is thus more susceptible to misreporting and missingness.

their party nominee. One drawback is that 2013-2014 scores are post-treatment, which means that conditioning on those scores should be done with care. We follow here Bobonis, Fuertes and Schwabe (2016), which similarly condition on mayors' behavior that changed in response to prior knowledge of the timing of the release of municipal accounts audits. For robustness, we also report results using the 2011-2012 scores, which are pre-treatment but suffer from two major drawbacks. First, the 2011-2012 scores were not disseminated at the community level; and second, being realized years in advance of the election those scores are less relevant as a performance signal. Indeed, the correlation between citizen assessment of their councilors' performance and the actual 2012 score was effectively zero. The correlation between the 2013-2014 and the 2011-2012 performance scores is 0.39. To the extent that incumbents, potential challengers party elites and voters incorporated performance information in their decision-making, we believe that the 2013-2014 scores should receive more weight than the 2011-2012 scorecard.

- **Party advantage** is calculated as the median vote margin for the incumbent party in eight previous elections (in 2006 and 2011) for (i) president, (ii) member of parliament, (iii) district chairperson, and (iv) district councilor. For independents in 2011, we take the additive inverse of the largest median margin among rival parties. Since our predictions are in terms of high/low party advantage, we dichotomize party advantage in 2011 using district medians. In the SI, we report the robustness of our results to alternative cutoffs.

Empirical Strategy

To examine the effect of the intense dissemination (ID) treatment, conditional on the performance signal, we run the following OLS models for incumbent i in district j:

$$y_{ij} = \alpha_0 + \beta_0 + \beta_1 ID_{ij} + \beta_2 Signal_{ij} + \beta_3 ID_{ij} \times Signal_{ij} + \zeta + \epsilon \tag{2}$$

where y_{ij} is an outcome of interest, α_0 are district indicators, since randomization used districts as blocks, ζ is a vector of politician and constituency covariates, and ϵ is the error term. When the outcome is binary, the model is a linear probability model to ease interpretation.

In some models, we adjust for a set of pre-specified politician and constituency covariates.[21] Politician covariates include: **SWC mandate** (i.e., special women councilor indicator); **Education** (a three-category variable); **Age** (continuous); **Motor vehicle** (binary, indicating ownership of motor vehicle—a proxy for wealth); **NRM** (binary, indicating whether the politician caucuses with the NRM); **Terms in office** (number of terms served as district politician). Constituency-level covariates (from the 2014 census) include: **Population (log)**; **ELF** (Ethnic-linguistic fractionalization); **Literacy rate**, **Share agriculture employment** and **Poverty index**.[22]

Since our theory views outcomes are nested (e.g., parties can only nominate incumbents choosing to run), we report three estimates for each outcome. One specification uses the full sample (well-identified reduced-form regression); in our second specification, we report equivalent results for a restricted samples (e.g., winning elections among those winning their party nomination). We also report conditional results that exclude incumbents who won as independents in 2011, since outcomes such as winning one's party nomination, is irrelevant for independents.

Our sample includes 396 incumbent politicians from 20 ACODE districts. While such sample size gives us sufficient statistical power for testing some of the above hypotheses, power does become an issue when we condition on both party advantage and incumbent performance signal. For this reason, we focus on the magnitude of treatment effects (i.e., substantive significance) more so than a limited focus on statistical significance. We take the view of Gerber and Green (2012, p. 63) that "a parameter falling short of the 0.05 threshold might nevertheless be important and interesting" especially if it is the "first experiment of its kind and we had no prior knowledge of the treatment effect, the estimate...would still be our best guess."

Results

We first assess the core question of whether sustained transparency—in the form of disseminating incumbent performance information directly to voters in predictable intervals—improves

[21] When we adjust for pre-treatment covariates, we set missing covariate values to the mean values of the covariates in one's treatment groups, and include an indicator variable that equals one for imputed values. Following Lin (2013) (and our PAP), the covariates are demeaned and interacted with a treatment indicator.

[22] These variables help alleviate possible concerns stemming from the fact that party advantage is not randomly assigned.

electoral accountability. Specifically, does transparency improve the electoral prospects of high-performing incumbents and worsens those of low-performing incumbents?

Figure 3 plots the raw data on **Won Again**, our main outcome of interest (Hypothesis H3a). The raw data points to the potential efficacy of sustained transparency to strengthen electoral accountability. The winning probability of incumbents with low-performance signals is 7 pp. lower for incumbents in the ID program in the full sample (left panel). For the restricted sample of incumbents, excluding independents, who won their party nomination, the winning probability is 16 pp. lower for low-performers in ID program (right panel). The winning probability of incumbents with a high-performance signal is larger for incumbent in the ID treatment program, though the magnitude of the effect is somewhat smaller: 2-5 pp.

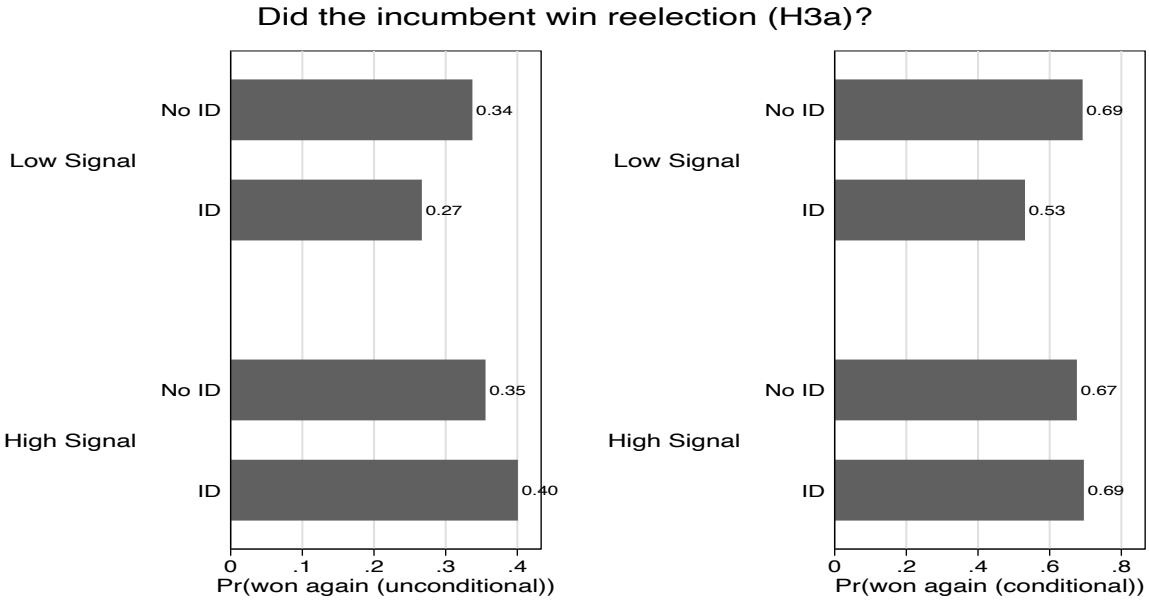

Figure 3: **Relationship between sustained transparency and incumbents' winning probability by performance signal**. Incumbent's performance signal s is proxied by the 2013-2014 score, dichotomized (s $\in \{l, h\}$) using within-district medians. Left panel sample includes all incumbents whether or not they stood for reelection ($n = 396$), while the sample in the right panel is restricted to incumbents who won their party nomination, excluding independents ($n = 168$).

Moving to a more formal analysis, in Table 2, we report test for both H3a (where *win again* is conditional only on incumbent's performance signal) and H3b (where we further conditional by relative strength of the incumbent party). The table's three panels correspond to three different samples: in Panel A, the sample includes all 396 incumbents, irrespective of whether they chose

to run for reelection; in Panel B, the sample is restricted to incumbents who won their party nomination and independents running again as independents; in Panel C, we only include incumbents who secured their party nomination.

Panel A: unconditional (full) sample

	Full				Low PA		High PA	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ID	-0.017	-0.011	-0.082	-0.094	-0.134	-0.149	-0.045	-0.094
	(0.047)	(0.046)	(0.075)	(0.069)	(0.113)	(0.108)	(0.099)	(0.090)
Signal			0.018	0.014	0.085	0.058	-0.039	-0.056
			(0.073)	(0.073)	(0.122)	(0.126)	(0.086)	(0.093)
ID × Signal			0.122	0.157	0.229	0.300*	0.065	0.158
			(0.113)	(0.115)	(0.148)	(0.150)	(0.141)	(0.138)
Covariates	no	yes	no	yes	no	yes	no	yes
N	396	396	396	396	199	199	197	197
R^2	0.06	0.09	0.07	0.10	0.12	0.20	0.13	0.19

Panel B: sample is conditional of winning party nomination

	Full				Low PA		High PA	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ID	-0.043	-0.048	-0.157	-0.194	-0.236	-0.294*	-0.002	-0.130
	(0.063)	(0.060)	(0.127)	(0.114)	(0.194)	(0.153)	(0.131)	(0.145)
Signal			-0.057	-0.071	0.031	-0.000	-0.114	-0.129
			(0.112)	(0.114)	(0.189)	(0.193)	(0.111)	(0.129)
ID × Signal			0.204	0.259	0.304	0.414*	0.174	0.449
			(0.181)	(0.171)	(0.246)	(0.214)	(0.214)	(0.267)
Covariates	no	yes	no	yes	no	yes	no	yes
N	192	192	192	192	112	112	80	80
R^2	0.15	0.20	0.17	0.22	0.29	0.37	0.26	0.35

Panel C: conditional of winning party nomination (but dropping independents)

	Full				Low PA		High PA	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ID	-0.087	-0.091	-0.250**	-0.315**	-0.339*	-0.358*	-0.112	-0.259
	(0.065)	(0.067)	(0.117)	(0.120)	(0.166)	(0.175)	(0.115)	(0.152)
Signal			-0.072	-0.086	0.070	0.074	-0.167	-0.173
			(0.115)	(0.121)	(0.203)	(0.228)	(0.126)	(0.142)
ID × Signal			0.298	0.396*	0.346	0.362	0.257	0.559**
			(0.195)	(0.196)	(0.263)	(0.265)	(0.211)	(0.254)
Covariates	no	yes	no	yes	no	yes	no	yes
N	168	168	168	168	92	92	76	76
R^2	0.16	0.19	0.18	0.23	0.37	0.39	0.26	0.34

Table 2: **DV: Won again**. Table reports a series of OLS models in which an indicator of whether the incumbent won reelection in 2016 is regressed on a treatment indicator interacted with a proxy measure of the signal of incumbent performance (s). This signal is measured with the 2013-2014 scorecard, which is further dichotomized ($\mathsf{s} \in \{l, h\}$) using within-district median value. In columns 5-8 we split the sample by relative party advantage (PA), which is dichotomized using district median values. Models include district fixed effects; standard errors are clustered at the district level. * $p < .10$ ** $p < .05$ *** $p < .01$

Reduced-form tests of H3a indicate that in the full sample of incumbents (Panel A, column 4), sustained transparency reduced the winning probability of incumbents with a low-performance signal by 9.4 pp., and increases the winning probability of those with a high-performance signal by 6.3 pp. ($0.157 - 0.94$). These effects are large and in line with H3a, though they fall somewhat below standard statistical significance levels.

Results are statistically and substantively stronger when we include only incumbents who won their party nomination—excluding independents (Panel C, column 4). Here transparency (ID) reduced the winning probability of low-performance by more than 31 pp. (significant at the 5% level), and increases the winning probability of high-performance incumbents by 8.1 pp. ($0.396 - 0.315$). These are substantively large effects sizes that strongly suggest that transparency has a genuine potential to improve electoral accountability. Notably, as theory would suggest, without conditioning on the sign of the public performance signal, the effect of greater transparency on incumbents' winning probability is effectively zero (Panel A, columns 1-2)—since low-and high-performance signals push reelection probabilities in opposite directions.

In Table 2 columns 5-8, we distinguish between high- and low-party advantage. The results in Panel A (columns 6 and 8) indicate that the reduced form negative effect of sustained transparency on the reelection probability of incumbents with low-performance signal is substantially larger in the low-party advantage subsample (14.9 pp.) compared to the high-party advantage subsample (9.4 pp.). For high-performing incumbents, the reduced form positive effect of transparency on reelection probability is 15.1 pp. in the low-party advantage subsample and 6.3 pp. in the high-party advantage sample. These results are only partially consistent with H3b, which predicts larger effect sizes when party advantage is relatively high, compared to when it is low.

However, when (following our model more precisely) we restrict the sample to incumbents who won their party nomination (Table 2, Panel C), the evidence in favor of H3b becomes stronger. The effect of sustained transparency on the winning probability of high-performing incumbents is effectively zero when party advantage is low and 30 pp. (p-value = 0.036) when party advantage in high-party. Among low-performing incumbents, instead, the effect of sustained transparency is large, negative and significant irrespective of the level of party advantage—which is only partially consistent with H3b.

To ease comparison of regression results that are conditional on both performance signal and relatively party advantage, and estimated over different samples (full vs. winners of their party nomination), we plot the estimated effects in Figure 4. In addition to tests of H3b, Figure 4 underscores two important findings. First, across the board, treatment effects are larger for those winning their party nomination as compared to the full sample (which includes independents and switchers). This is, of course, consistent with our theoretical framework, given that independents do not face a party nomination hurdle and party switchers may be visibility-motivated (seeing a visibility benefit from running and losing). Second, the raw data (Figure 3) seem to suggest that transparency hurts low-performing incumbents more than it benefits high-performing incumbents. However, the regressions results—which adjust for pre-treatment covariates, weight by treatment assignment probabilities, and force a within-district comparison—are less clear-cut about this asymmetry.

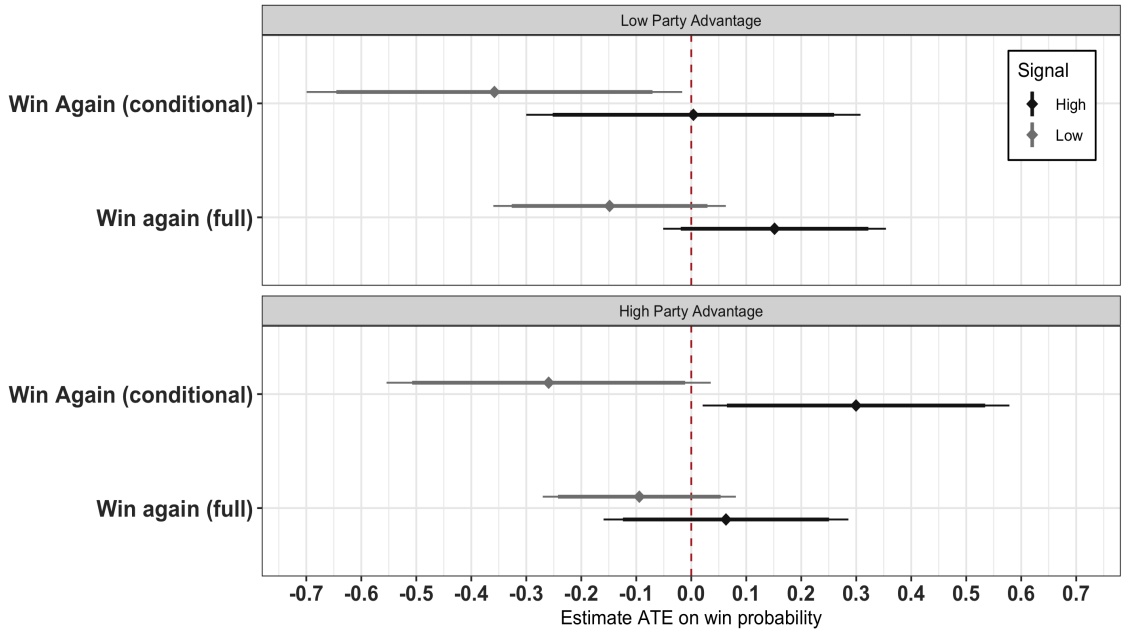

Figure 4: **DV: Win again**. Results are based on Table 2 columns 6 and 8 of both Panel A (Full sample; reduced form regressions), and Panel C (non-independent incumbents who won their party nomination.)

The comparison between Table 2 Panels A and C helps shed light on the relative role of party leaders and voters in the nexus of transparency and accountability. For example, for low-performing incumbents who nonetheless won their party nomination, the decrease in reelection

probability due to greater transparency is estimated to be 31.5 pp. (Panel C, column 4), but it is only 9.4 pp. in the full sample (Panel A, column 4). This suggests that voters punish low-performing incumbents above and beyond the potential weeding out via party nomination processes. We further explore these mechanisms and evaluate hypotheses 1 (H1) and 2 (H2) below.

Robustness

We test the robustness of our results by using alternative measures of both signal and party advantage. As for the performance signal, we test robustness to conditioning the effect of the ID program on the pre-treatment (2011-2012) scorecard. Results reported in SI, Table 3 are consistent with our model predictions, though understandably they are somewhat weaker than those reported in Table 2, arguably since the signal is weaker and many years prior to the election. Since our theory is agnostic about what is considered high or low relative party advantage, we also test the robustness of our results to an alternative cutoff (defining low party advantage as the bottom 60 percentile of our continuous measure, and high party advantage as the top 40 percentile). This cutoff is somewhat more intuitive, yet not pre-specified in our PAP. Results reported in SI, Table 4, are in fact stronger than those reported in Table 2. Finally, in SI figures 4-5 we report results in which the party advantage moderator is continuous. These results too are consistent with H3.

Mechanisms

Thus far we have seen that even in the context of a dominant-party that has been in power for over 30 years, sustained transparency can strengthen electoral accountability by increasing the reelection probability of high-performing incumbents and reducing the reelection probability of low performers. In this section, we explore some of the mechanisms that underlie this key finding. Specifically, our goal is to explore the extent to which the strengthening of electoral accountability is due to incumbents (via their running choices), party elites (via their nomination choices), potential challengers (via their entry choices), or citizens (via their vote choice).[23]

[23]Out of the 396 incumbents that won elections in 2011, only 250 were on the ballot in the 2016 elections, out of which 192 won their party nomination and the rest run again on a different party ticket or as independents.

A key advantage of the current study is that we are able to track the effect of an exogenous shock to transparency throughout the accountability chain. Even before constituents cast their vote, sustained transparency can affect (i) incumbents' decision to run for reelection, (ii) parties' nomination, and (iii) potential challengers' entry. Such analysis, however, does not come without challenges. While the reduced-form effect of greater transparency on incumbent 2016 win probability is causally identified, assessing the relative contribution of other actors to that outcome—party elites, potential challengers and voters—requires additional assumptions. This is because this entails incorporating the endogenous response of other actors along the accountability chain. We thus treat conditional results in this section as informative, but suggestive.

Incumbents' Running Decision

Our theory (H1) predicts that sustained transparency should decrease low-performing incumbents' propensity to run again, especially when party advantage is high (H1b), and increase high-performing incumbents' propensity to run again, especially when party advantage is low (H1c). Table 3 offers evidence that broadly consistent with H1a, especially when removing independents: Panel B, column 4 suggests that transparency reduces the running choice of a low-performing incumbent by 7.7 pp. (p-value 0.041), while leaving the running probability of high performers virtually unchanged. Disaggregating by party advantage, we do not see much difference in running choice of low performers in low-party and high-party advantage constituencies. This is not consistent with H1b. Estimates for high-party advantage (Panel B, column 8) suggest that transparency encourages running by high performers (an increase of 5 pp.) and discourages running by low performers (a drop of 6.2 pp.), the effects are quite noisy. In the SI, we show that adopting a more agnostic approach about what constitute high and low-party advantage brings the estimates closer to our theory's prediction.

Nevertheless, both magnitude and statistical significance of our estimates suggest that incumbents' running decisions are at best a secondary pathway of accountability and cannot account of the large effects on win probability reported in Table 2. The main reason seems to be that low-performing incumbents still run (often as independents after losing their party nomination), highlighting the role of non-electoral motivations (e.g., visibility) in incumbent decision-making.

Panel A: full sample

	Full				Low PA		High PA	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ID	0.002	0.001	-0.025	-0.036	-0.038	-0.026	-0.004	-0.051
	(0.027)	(0.027)	(0.041)	(0.044)	(0.034)	(0.030)	(0.078)	(0.086)
Signal			0.021	0.022	0.027	0.030	0.006	-0.009
			(0.037)	(0.039)	(0.033)	(0.032)	(0.082)	(0.092)
ID × Signal			0.049	0.070	0.058	0.050	0.015	0.112
			(0.050)	(0.050)	(0.051)	(0.047)	(0.099)	(0.113)
Covariates	no	yes	no	yes	no	yes	no	yes
N	374	374	374	374	190	190	184	184
R^2	0.07	0.08	0.07	0.09	0.14	0.17	0.10	0.15

Panel B: dropping independents

	Remove independent				Low PA		High PA	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ID	-0.035*	-0.036	-0.060	-0.077*	-0.101**	-0.093**	-0.014	-0.062
	(0.020)	(0.023)	(0.037)	(0.041)	(0.048)	(0.044)	(0.080)	(0.086)
Signal			0.001	-0.002	-0.011	-0.012	0.008	-0.009
			(0.035)	(0.035)	(0.030)	(0.030)	(0.077)	(0.087)
ID × Signal			0.049	0.079	0.085	0.082	0.014	0.112
			(0.052)	(0.050)	(0.066)	(0.060)	(0.093)	(0.106)
Covariates	no	yes	no	yes	no	yes	no	yes
N	335	335	335	335	159	159	176	176
R^2	0.09	0.11	0.09	0.12	0.13	0.19	0.12	0.17

Table 3: **DV: Ran again**. Table reports a series of OLS models in which an indicator of whether the incumbent reported running for reelection in 2016 is regressed on a binary proxy measure of the signal of incumbent performance (s), as defined in Table 2. In columns 5-8 we split the sample by relative party advantage (PA), which is dichotomized using district median values. All models include district fixed effects; standard errors are clustered at the district level. * $p < .10$ ** $p < .05$ *** $p < .01$

Party Elites' Behavior

We now test whether party elites (via the nomination process) played a role in improving accountability, and whether their behavior is consistent with our model. As summarized in Table 1, we expect that transparency encourages parties to replace poor performers and renominate high performers, irrespective of relative party advantage (H2). In Table 4, we show results both for the full sample of politicians in the study area (Panel A), and for the restricted sample of incumbents who run for reelection (Panel B). Since **Ran again** is self-reported and given that running for reelection can be endogenous to signal by political elites, results from Panel B should be taken cautiously. While we report results for partisan and independents in columns 1–4, columns 5–8 (where we remove independents) are more appropriate for testing a theory on the behavior of party elites.

It is important to recall that ACODE disseminates the scorecard in an annual event at each district's headquarters. Party elites thus have access to incumbents' scores in both treatment and control conditions. To the extent that party elites use an NGO generated performance scorecard (signal) as a metric for effectiveness in advancing the party's agenda, this should not vary by treatment status in our setting. Instead, the ID treatment should change party elites' expectations of voters' behavior due to the widespread dissemination of the same performance signal that elites have already had access to.

Panel A: unconditional (full) sample

	Full				**Dropping independents**			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ID	-0.005	-0.001	-0.031	-0.049	-0.005	-0.031	-0.051	-0.083
	(0.054)	(0.050)	(0.062)	(0.065)	(0.054)	(0.058)	(0.076)	(0.079)
Signal			0.104	0.098			0.088	0.082
			(0.062)	(0.064)			(0.068)	(0.068)
ID × Signal			0.041	0.082			0.040	0.091
			(0.105)	(0.119)			(0.117)	(0.125)
Covariates	no	yes	no	yes	no	yes	no	yes
N	394	394	394	394	394	352	352	352
R^2	0.07	0.11	0.09	0.13	0.07	0.11	0.09	0.13

Panel B: sample is conditional of running for reelection

	Full				**Dropping independents**			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ID	-0.008	-0.005	-0.045	-0.070	-0.021	-0.032	-0.060	-0.106
	(0.066)	(0.062)	(0.088)	(0.089)	(0.072)	(0.069)	(0.099)	(0.101)
Signal			0.087	0.069			0.076	0.059
			(0.070)	(0.074)			(0.083)	(0.086)
ID × Signal			0.064	0.113			0.070	0.133
			(0.117)	(0.138)			(0.135)	(0.151)
Covariates	no	yes	no	yes	no	yes	no	yes
N	334	334	334	334	305	305	305	305
R^2	0.06	0.11	0.07	0.12	0.07	0.10	0.08	0.11

Table 4: **DV: Won nomination**. Table reports a series of OLS models in which an indicator of whether the incumbent won her party nomination in 2015 is regressed on a treatment indicator interacted with a binary proxy measure of incumbent performance signal (s), as defined in Table 2. In columns 5-8 we remove independents for which party nomination is irrelevant. Models include district fixed effects; standard errors are clustered at the district level. * $p < .10$ ** $p < .05$ *** $p < .01$

We find some evidence that transparency encourages party elites to remove low-performing incumbents. Transparency, however, is less consequential for high-performing incumbents. The ID treatment reduces party renomination by 10.6 pp. for low-performing incumbents, and in-

creases it by 2.7 pp. for high-performing incumbents (Table 4, Panel B, column 8). While the signs of the effects are consistent with our theory, their magnitudes are smaller relative to the estimated overall effect of sustained transparency on incumbent winning probability. Considering that the majority of constituencies in Uganda are safe seats (as in sub-Saharan Africa more generally (Warren, 2019)), our results suggests that party elites' nomination decisions are only partially responsive to incumbent performance information.

The Behavior of Potential Challengers

We now turn to explore how sustained transparency affects the strategic choice of *potential* challengers. We assume that the number of potential challengers (an unobserved population) is equal across treatment (ID=1) and control constituencies (ID=0). As summarized in Table 1, we expect that transparency will have no effect on candidates' entry choice when incumbents' party advantage is relatively low. Conversely, when incumbents' party advantage is sufficiently high, we expect sustained transparency to encourage the entry of potential challengers when the signal of incumbent's performance is low, and discourage their entry when the signal of incumbent's performance is high. Our findings are broadly consistent with those expectations.

We report results for both number of candidates and effective number of candidates, using both tabular form (Table 5, where election outcomes are in their original scale), as well as in graphical form (Figure 5, where outcomes are re-scaled to reflect changes in standard deviations from the control group mean). First, as hypothesized, when party advantage is low, transparency does not encourage the entry of potential challengers, irrespective of performance signal (Table 5, Panel C, column 1). Second, when party advantage is high, sustained transparency increases the number of candidates challenging a low-performing incumbent by 1.08 (p-value = 0.014, Panel C, Column 2), a 0.901 standard deviations increase compared to the control group mean. Conversely, the number of candidates challenging a high-performing incumbent drops by only 0.12 (p-value = 0.823), or 0.103 standard deviations. In sum, we have strong evidence that when relative party advantage is sufficiently high, some of the negative effect of sustained transparency on the winning probability of incumbents with a low performance signal, operates through the strategic entry response of potential challengers.

Panel A: unconditional (full) sample

	Number of candidates		Incumbent vote share		Effective N. candidates	
	(1)	(2)	(3)	(4)	(5)	(6)
ID	-0.006	0.423	-0.020	-0.051	-0.078	0.162
	(0.326)	(0.266)	(0.055)	(0.054)	(0.200)	(0.133)
Signal	-0.329	0.169	0.060	-0.070	0.012	0.041
	(0.280)	(0.341)	(0.051)	(0.073)	(0.092)	(0.202)
ID × Signal	-0.317	-0.659	0.114	0.108	-0.360	-0.341
	(0.413)	(0.510)	(0.079)	(0.106)	(0.218)	(0.314)
Party advantage	Low	High	Low	High	Low	High
Covariates	yes	yes	yes	yes	yes	yes
N	134	116	134	116	134	116
R^2	0.39	0.45	0.30	0.44	0.44	0.51

Panel B: sample is conditional of winning party nomination

	Number of candidates		Incumbent vote share		Effective N. candidates	
	(1)	(2)	(3)	(4)	(5)	(6)
ID	-0.044	1.074**	-0.048	-0.085	-0.123	0.574**
	(0.353)	(0.394)	(0.059)	(0.072)	(0.259)	(0.203)
Signal	-0.416	0.406	0.056	-0.040	-0.051	0.099
	(0.374)	(0.310)	(0.051)	(0.056)	(0.145)	(0.188)
ID × Signal	-0.180	-1.136	0.125	0.110	-0.269	-0.549
	(0.514)	(0.720)	(0.076)	(0.098)	(0.302)	(0.361)
Party advantage	Low	High	Low	High	Low	High
Covariates	yes	yes	yes	yes	yes	yes
N	112	80	112	80	112	80
R^2	0.40	0.55	0.41	0.54	0.42	0.60

Panel C: conditional of winning party nomination (dropping independents)

	Number of candidates		Incumbent vote share		Effective N. candidates	
	(1)	(2)	(3)	(4)	(5)	(6)
ID	-0.136	1.080**	-0.029	-0.126	-0.220	0.563**
	(0.427)	(0.441)	(0.086)	(0.084)	(0.338)	(0.234)
Signal	-0.393	0.539	0.077	-0.071	-0.094	0.224
	(0.415)	(0.344)	(0.045)	(0.058)	(0.147)	(0.172)
ID × Signal	-0.074	-1.204	0.102	0.157	-0.220	-0.605
	(0.598)	(0.745)	(0.072)	(0.095)	(0.336)	(0.379)
Party advantage	Low	High	Low	High	Low	High
Covariates	yes	yes	yes	yes	yes	yes
N	92	76	92	76	92	76
R^2	0.54	0.52	0.48	0.53	0.46	0.58

Table 5: Table reports a series of OLS models for three general election outcomes: number of candidates (columns 1-2); incumbent vote share (columns 3-4); and effective number of candidates (columns 5-6). Outcomes are regressed on a treatment indicator interacted with a binary proxy measure of incumbent performance (s), as described above. All models include district fixed effects; standard errors are clustered at the district level. In odd (even) columns, we subset the sample such that relative party advantage is low (high). All models adjust for a pre-specified set of politician and constituency-level covariates as discussed above. * $p < .10$ ** $p < .05$ *** $p < .01$

Voter Behavior

As a final step, we explore the relationship between greater transparency and citizen's vote choice. Consistent with our model, we find suggestive evidence that sustained transparency reduces the vote share of low-performing incumbents when party advantage is sufficiently high (Table 5, Panel C, column 2)—when voters are faced with a larger choice of candidates. The estimated drop in vote share is rather large (12.6 pp. or 0.58 standard deviations), though falling slightly below significance level (p-value=0.129). The increase in vote share for high-performing incumbents is smaller, but not meaningless (3.1 pp. or 0.141 standard deviations), also due to the possibility of ceiling effects.

When party advantage is relatively low (Panel C, column 3), the effect of greater transparency on the vote share of low-performing incumbents is again modest (2.9 points), while the effect on high-performing incumbents is larger (7.3 pp. or 0.33 standard deviations), though again, not statistically significant (p-value=0.238). While suggestive, the evidence seems to indicate that voters have been responsive to the information they received regrading the performance of their elected representative in the district government.

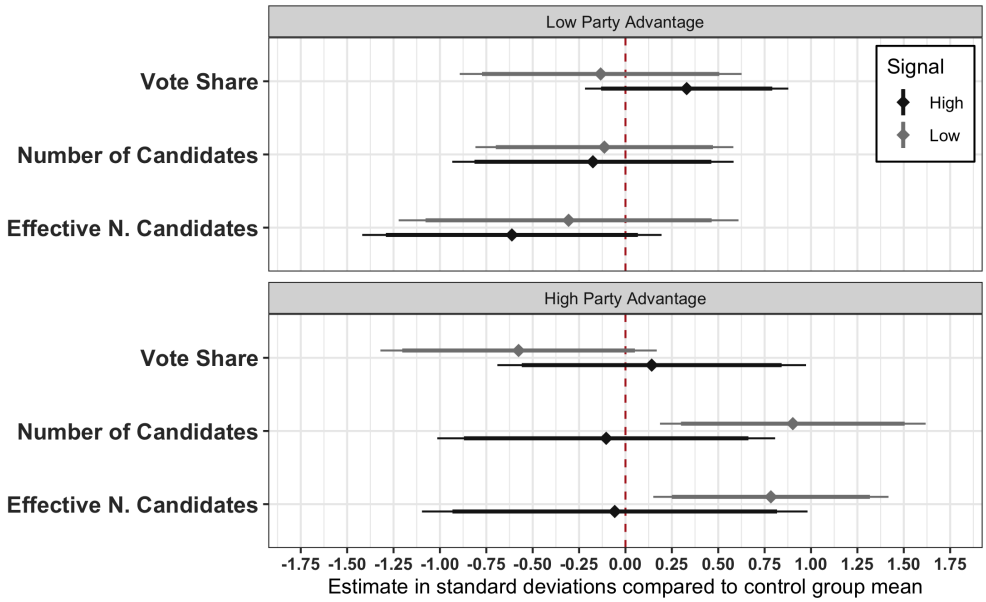

Figure 5: **DV: Election outcomes**. The sample (n=168) includes incumbents who won their party nomination and appear on the general election ballot, excluding independents. Estimates replicate results reported in Table 5, using standardized coefficients to enable comparison across outcomes in different scales.

Discussion

Building on existing theoretical and empirical research on political accountability, we provide a novel theory of how transparency of incumbent performance improves political accountability through a series of decisions by incumbents, party leaders, potential challengers, and citizens. We empirically evaluate the implications of this theory using data from a field experiment conducted at the subnational level in Uganda—a low-transparency electoral authoritarian setting. The analysis suggests that greater transparency improves accountability and that its effect is conditioned by both relative party advantage and incumbent performance: the transparency initiative reduced the winning probability of low-performing incumbents in both high- and low-party advantage constituencies, and increased the winning probability of high-performing incumbents in high- but not low-party advantage constituencies.

Importantly, the strength of the mechanisms at play are different across high- and low-party advantage constituencies. Consistent with our model, the effect of transparency on accountability via general election pressures from challenger entry is stronger when relative party advantage is high. Here, the "outsider hurdle" of a challenger beating the incumbent exceeds the "contestability hurdle" of beating other potential challengers. By triggering a reaction from both voters and potential challengers, transparency decrease the electoral security of a low-performing incumbent. We also show that transparency improves accountability through party nominations (in line with the theory) and incumbents' running decisions.

Combined, our study's model and suggestive empirical findings offer important lessons for both theory and research design considerations. Below, we discuss four key contributions.

First, existing models of electoral accountability overstate the ability of transparency to discipline incumbents. Our theory highlights the important role that (relative) party advantage plays in moderating the effects of transparency. Without transparency, party advantage largely determines electoral fortunes. By increasing transparency, performance becomes pivotal for a growing range of intermediate party advantage levels. Indeed, increasing transparency weeds out poor performers at increasingly higher levels of party advantage. Consistently, the data show that potential challengers enter at significantly higher rates against poor-performing incumbents under

increased transparency (versus the control). This result, even in an electoral authoritarian regime setting, suggests that sustained transparency can help reduce the power of local political monopolies. However, our results point to a limited role for party nomination procedures in this context—internal party nominations are no substitute for voter response.

Second, our study expands existing models of transparency and accountability, that focus only on the incumbent-voter interaction, to include a series of important pre-election decisions by the incumbent, party leaders, and potential challengers. In a standard accountability model, prospective voters compare their posterior about the incumbent with an exogenous retention cutoff, and credible challengers are assumed present. In our model, transparency affects not only voters' posteriors about the incumbent, but also the (endogenously determined) cutoff against which they compare it — such cutoffs are determined by endogenous challenger entry and party nomination decisions. The moderating effect of party advantage comes from this second, and under-theorized channel. Previous empirical studies disseminated performance information directly prior to elections, and, by design, inhibit important pre-election mechanisms through which electoral accountability can additionally operate.

Third, our study underscores the importance of not simply "putting out politically relevant information in the public domain," but also making sure to encourage common knowledge of the transparency among citizens and political elites. Recall, in our study, the control condition is the dissemination of incumbents' scores to district elites. The transparency treatment therefore represents the marginal effect of informing voters, and elites' anticipation that such voters are informed. Such common knowledge enables voters to indirectly shape the slate of candidates on the ballot through anticipatory behavior by potential challengers, parties, and incumbents.

Fourth, this study expands our knowledge of incumbent behavior. Incumbents respond to sustained transparency in two ways that strengthen accountability. Transparency forces some (office seeking) low-performing incumbents to increase effort (Grossman and Michelitch, 2018). In addition, low-performing incumbents that are reluctant to increase effort, are less likely to run again for reelection. We note however, that transparency does not deter all low-performers from seeking reelection: some were further weeded out by party elites, and others (but not all) were voted out by their constituents. Our study thus points to the role of non-electoral motivations

in candidacy: for many incumbents, visibility and status may be as important as retaining office despite anticipation that they will very likely lose (Weghorst, 2021). The data reveal that the share of visibility-motivated incumbents may be larger than the model suggests—and an important omission from existing theories.[24]

Finally, too often researchers overlook the key role of party advantage—especially in new democracies where it takes time for oppositional parties to build organizational capacity to compete with dominant parties following the introduction of multi-party elections. We hope that our study's insights can usher in a new wave of research that will further clarify the relationship between, party advantage, transparency and political accountability.

[24]Our model also neglects the availability of outside options (Grossman and Hanlon, 2014). In our study, incumbents sometimes drop out to run for parliament, other local government positions, or bureaucratic or private sector positions. While these occurrences are rare in our data, their availability might nevertheless affect our results.

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