Strategic ballot removal: an unexplored form of electoral manipulation in hybrid regimes

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ABSTRACT
The literatures on electoral manipulation and rejected ballots have yet to engage one another in a compelling manner. This article provides the theoretical foundations for rejected ballots as electoral manipulation by exploring incidents of suspicious rejected ballot rates and practices around the world with a special focus on Zambia. Not only did the rate of rejected ballots in Zambia double between the 2015 and 2016 presidential elections, but a disproportionate increase was observed in president’s home province. Leveraging an original dataset, the article models a largely unnoticed form of electoral manipulation: the strategic rejection of opposition ballots by biased polling officials. Analysis reveals that more rejected ballots were associated with increased vote shares for the ruling party in the president’s home province, indicating probable electoral manipulation. Raising awareness around this difficult to detect, but likely pervasive, form of manipulation should help to improve electoral quality in hybrid regimes.

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Introduction

During the 1936 provincial election in Quebec, Canada, party-appointed polling officials were caught supplying suspected opposition voters with pens containing slow-drying ink that would smudge their ballots when folded during submission. The biased polling officials could then reject ballots that appeared with extra markings during the counting process. A similar practice re-emerged in the 1950s when biased polling officials purposefully initialed some completed ballots incorrectly prior to counting, in order to justify removing them. During a 1995 referendum, polling officials received training from party representatives on a range of ballot removal strategies resulting in rejected rates between 3.6% and 11.6% within these areas, compared to an average of 1.7% elsewhere in the province.

The Quebec example of strategic ballot removal presents an interesting case of electoral fraud. Not only did this form of manipulation continue to manifest over a span of 70 years, but it also appears to have been geographically isolated. If secret trainings had...
not been made public or the ballots not been carefully scrutinized, the strategic rejection of opposition ballots appears arduous to observe and even more challenging to prove intentional wrongdoing. The difficulty of detecting this type of administrative fraud raises the question: in how many other elections has similar fraud occurred, and how might researchers identify it?

In their book on electoral fraud, Alvarez, Hall, and Hyde present a central question for the future of electoral studies: what types of electoral fraud exist? Despite close attention to the study of electoral fraud by political scientists for many decades, this question continues to remain relevant because incumbents of hybrid political regimes are entrepreneurs of electoral manipulation, some forms of fraud are inherently difficult to detect, and electoral manipulation trends continue to react to changing global democratic norms and election observer practices. The increase of hybrid political regimes worldwide has drawn increasing attention to how the leaders of such countries combine actual electoral support and legitimate democratic institutions with more subtle forms of electoral fraud and incumbency advantage.

Since the end of the Cold War, electoral manipulation strategies have increasingly shifted from blatant election-day fraud to longer-term and more discrete efforts of veiled manipulation and general harassment. Research points to authoritarian-leaning hybrid regimes as more commonly engaging in high-visibility strategies such as exclusion and repression, while democratic-leaning hybrids are more likely to engage in censorship and fraud. Leaders of hybrid regimes must act strategically by taking into account the potential risks and legitimacy costs when determining whether and how to engage in electoral manipulation.

Across Africa, once easier and more visible forms of manipulation such as intimidation and blatant fraudulence become untenable, incumbents have shifted to new forms of manipulation such as vote buying, which are financially costly but less disruptive. In recent years, even the governments of authoritarian-leaning polities such as Cameroon and Zimbabwe have moved away from ballot stuffing and widespread electoral violence to maintain power, replacing these tools with lower-visibility strategies such as legally-based disenfranchisement, changing electoral boundaries, and tampering with the voter’s role. As hybrid regime rulers respond to rising electoral standards by working through more concealed avenues of electoral manipulation, scholars too must adapt in order to uncover and monitoring new trends and strategies. This article explores a largely untested and barely detectable type of electoral fraud by providing an in-depth examination of recent elections in Zambia: the strategic rejection, and thus removal, of select ballots from the vote tally by politically-biased election officials.

**Zambia 2016 elections: the puzzle of rejected ballots**

Elections in Zambia present a curious case of rejected ballots. During the first two elections in the most recent multi-party era (1991 and 1995), the rate of rejected ballots was quite high but has been steadily declining to approximately 1.0% of the total vote share in the 2015 presidential by-election. During the regularly scheduled 2016 elections, however, the rate jumped back up to 2.3% or 85,795 rejected ballots. In Zambia, overall levels of development, education, and electoral experience have all steadily increased, and thus a sudden rebound in the rate of rejected ballots is not readily explained.
Even more perplexing was the sub-national variation of rejected ballots. In Eastern Province, home to the Nyanja ethno-linguistic group, rejected ballot rates were noticeably higher compared to the rest of the county. Figure 1 presents the difference between the rate of rejected ballots in 2016 presidential election compared to 2015 by the majority ethnolinguistic group of each constituency. While each category contains a few outliers, the groups Bemba, Tonga, Other, and None average close to 1.0%. The category of Not Official is higher than these other groups, though this can be explained by lower literacy rates, as the majority of individuals in these constituencies did not complete a ballot in their first language. Nyanja-speaking constituencies exhibit a much greater increase than any other category, and notably, these areas represent the political stronghold of the President Edgar Lungu.

Compared to elections around the continent, a rejected ballot rate of 2.3%, as observed in the 2016 Zambian presidential election, is relatively modest. Media and observer groups largely dismissed any suspicions around the rate of rejected ballots. A leading electoral monitoring group, Christian Churches Monitoring Group (CCMG), found no correlation between the overall percent of rejected ballots and incumbent vote. Measuring these variables in the aggregate, however, overlooks the important sub-national variation observed in Figure 1. Furthermore, the 2015 election, which had the lowest rejected rate in electoral history, featured essentially the exact same set of candidates and parties.

**Strategic ballot removal**

The politically-motivated removal of select ballots from the vote count is not a new phenomenon, but because it is inherently difficult to monitor, should also prove to be an increasingly attractive option for distressed incumbents in non-consolidated democracies. The rate of rejected ballots in elections has been previously tied to institutional, social, and protest explanations, but has yet to be thoroughly studied.
as an electoral manipulation strategy in the literature. *Strategic Ballot Removal* occurs when polling station officials systematically leverage political motives to determine how they categorize what counts as a valid or invalid ballot. Strategic ballot removal is more likely to ensue in the political strongholds of particular parties or social groups, when the legal definition of a rejected ballot is ambiguous or not enforced, and when paper ballots are used resulting in a review-by-hand counting procedure.

The specific methods and flavours of strategic ballot removal are legion. For instance, polling officials may simply maintain higher standards for challenger ballots by harnessing the ambiguity of the legal definition of an invalid ballot. This is exceedingly difficult to detect as often the legal definition of an invalid ballot leaves room for discretion on the part of polling station officials. One example of leveraging discretion in an opportunistic fashion comes from the 2004 Mozambique elections, where biased polling official allegedly used poor lighting during the counting process to reject a higher number of opposition ballots.

The more visible, and therefore observable, class of strategic ballot removal involves direct actions undertaken by polling officials that result in the inevitable invalidation of challenger ballots. The most common action is to damage an otherwise valid ballot through a physical act such as marking, smudging or ripping. Examples of this have been alleged during elections in Honduras and Mozambique. Another infamous example is the deployment of pens with invisible ink. During the 2004 Ukrainian elections, opposition voters were handed pens with ink that disappeared after four minutes in order to later invalidate them. This strategy was again deployed during the 2012 Ukrainian elections, rumoured about in South Africa and Zimbabwe, and caused a panic ahead of the 2013 Maldivian election culminating in the country’s electoral commission suggesting that voters bring their own pens from home. What unifies all of these examples is that biased polling officials systematically treat incumbent and opposition ballots differently with the goal of advantaging one party.

In order for widespread and systematic ballots removal to occur, polling station officials require the presence of two conditions: *signal* and *knowledge*. Signal refers to the clarity of candidate preference within an official’s politically-mobilizing group. When recruited, trained or paid by party officials, recognizing the preferred candidate is obvious. The situation is more complex, however, when core political constituencies are based around social or ethnic groups, and the signal must travel through local political brokers. If ethnic brokers or local leaders have not aligned themselves with a political party, their constituents will not receive a clear signal.

Knowledge refers to the awareness of and confidence in a particular manipulation strategy. While some polling station officials may opportunistically engage in strategic ballot rejection without any guidance, the presence of systematic manipulation implies premeditation, coordination, and specific knowledge around which methods are feasible in a given environment. In both Quebec and Honduras, partisans provided polling station workers with trainings on ballot rejection methods before the elections. In the case of Zambia, historical elections data show that the same region of the country has regularly demonstrated higher average rejected ballot rates, suggesting a long-standing knowledge of strategical ballot removal.

Thus, there are two scenarios in which the systematic manipulation is blocked: officials do not receive a clear partisan signal or the officials lack knowledge of the
manipulation practice. Though the deployment of election observers may be widespread, several scholars argue that biased polling officials typically demonstrate a shrewd understanding of their environment, and that the presence of observers may cause election officials to shift their manipulation strategy depending on what is feasible.24 Furthermore, if observers have no awareness of the practice of strategic ballot removal, then they lack the ability to identify and report it. While strategic ballot removal may seem obvious in hindsight, the difficulty of clearly differentiating administrative malfeasance from a lack of capacity, training, or unintentional error should not be underestimated.25

**Hypotheses**

This section first examines the scholarly literature on rejected ballots in order to provide controls for electoral manipulation testing. Next, the section establishes three hypotheses consistent with strategic ballot removal to be assessed using Zambian elections data. The current literature classifies three categories of explanations for rejected (also referred to as “spoiled” or “invalid”) ballots: institutional, social, and protest factors.26 The approach examining how electoral institutions affect the rejected ballot rate centres on legal frameworks (including compulsory voting laws), electoral system type, the number of political parties, ballot design, and district magnitude.27 Institutional explanations, however, are not tested below as they are unable to account for the variation of rejected ballots within a unified national electoral system.

The second category of explanations includes a variety of social factors such as electoral experience, education, literacy and access to information often proxied by urban areas.28 These social characteristics are directly related to the likelihood that a citizen will complete the balloting process correctly, and because individuals with similar social characteristics are more likely to be concentrated within particular geographic areas, subnational rejected ballot rates should vary along with them. For example, areas with lower education and English literacy rates in Australia have been tied to higher proportions of rejected ballots.29 Thus, areas with more experienced, educated, literate, and knowledgeable voters should have lower rates of rejected ballots.

The third group of explanations concerns rejected ballots as a form of protest. If voters from an area are frustrated with their conditions and apathetic about the electoral process, then a significant number of citizens may purposely submit faulty ballots in protest. Power and Robert find that in Brazil, rejected ballots have served as a means of protesting political and economic conditions, and Buxton posits a similar story in Venezuela during the 1980s and 1990s.30 In the context of Zambia, this article first tests for economic-motivated protesting within areas affected by significant mining job loss leading up to the 2016 elections. Secondly, the most obvious cause for localized political protest would be where a high concentration of opposition supporters lose faith in the electoral process.31 According to this theory, areas associated with high mining job loss and/or political opposition strongholds may have higher rates of rejected ballots as a form of protest.

In order to assess the likelihood of strategic ballot removal using election returns, this article tests for three specific patterns. First, rejected ballots should be higher in incumbent stronghold areas due to political capture.32 Manipulation by polling officials should be more likely to occur in areas of incumbent political capture where the independence of electoral workers is readily compromised. An analysis of Turkey’s 2014
mayoral elections by Meyersson finds an overall positive correlation between incumbent (AKP) vote share and rejected ballot rates across major cities.\textsuperscript{33} In Benton’s examination of electoral manipulation in Mexico, the author finds that strategies are more likely to be delegated to local or regional agents in areas of greater political support, as opposed to a more top-down approach in areas with less support.\textsuperscript{34} In the event of strategic ballot removal, the rate of rejected ballot should differ depending on the level political capture.

- Hypothesis 1: Incumbent stronghold areas will have higher rates of rejected ballots (Political Capture).

Second, the exploratory works on strategic ballot removal in Turkey and Mozambique suggest that within political strongholds, the rate of rejected ballots is influenced by the supply of opposition ballots at the polling station level.\textsuperscript{35} For example, elections data from Turkey reveal that at the polling station level within Ankara and Istanbul, opposition vote share is positively correlated with rejected ballots rates. While initially counterintuitive, this observation is logically consistent with strategic ballot removal. The relationship between incumbent vote share and rejected ballot rates reverses at the polling station level because the number of rejected ballots is contingent upon the supply of opposition ballots within the partisan stronghold. Figure 2 presents the theoretical formulation of this dynamic, where strategic ballot removal cannot occur without political capture, but once the electoral officials are captured, the degree of removal is dependent on the supply of opposition ballots.

- Hypothesis 2: Within Incumbent strongholds, polling stations with more opposition ballots will have higher rejected ballot rates (Ballot Supply).

Finally, if manipulation does occur through strategic ballot removal, incumbent vote share should be higher than otherwise expected. This is simply caused by opposition ballots being removed at a higher rate than incumbent ballots. The challenge of

\begin{figure}[h]
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\includegraphics[width=\textwidth]{figure2.png}
\caption{Strategic ballot removal capacity by incumbent vote share.}
\end{figure}
testing this proposition is finding a reasonable counterfactual for an election count where manipulation did not occur. As discussed below, this article takes advantage of the closely held presidential elections to construct a difference-in-difference model at both the constituency and polling station levels.

- **Hypothesis 3**: An increase in rejected ballot rates leads to an increase in incumbent vote share.

**Ethnicity and elections in Zambia**

In order to interpret variations in rejected ballot rates, this section provides some essential background regarding ethnicity and mobilization around the 2015 and 2016 Zambian Presidential elections. In Zambia, tribal affiliations and language are often considered key ethnic markers, though the more politicized in recent elections has been language. Zambia’s official languages are English and seven national languages: Bemba (33.5%), Nyanja (14.8%), Tonga (11.4%), Lozi (5.5%), Kaonde (1.9%), Luanda (1.9%), and Luvale (1.5%). These language groups form the basis of the most relevant ethnic-political factions, though generalization must be executed with care, as for example the meaning of “Bemba” can refer to a language, region, or tribe depending on the context.

Due to their lower-information environments, ethnic voting has been observed as a common feature of political behaviour across many African countries. While most Zambians do not support the leveraging of ethnicity for political purposes and claim to prize nationality over ethnic affiliations, many also believe that politicians favour their own ethnic constituents and will treat non-coethnics unfairly. In the early 1990s, parties began engaging in ethnic targeting along language lines, motivated primarily by fears of discrimination at the hands of other groups. Despite their efforts, every major party in Zambia at different points in time has been identified with a particular ethnic group, often signalled by the ethnic identity of the party’s leadership.

**Comparing the 2015 and 2016 Zambian elections**

Empirical testing in this article takes advantage of the similar nature of the 2015 and 2016 presidential elections in Zambia to better understand changes in rejected ballot rates. During the 2011 elections, the three largest ethnolinguistic groups were individually aligned to each of the three largest political parties: Bemba with the Patriotic Front (PF), Nyanja with the Movement for Multi-party Democracy (MMD), and Tonga with the United Party for National Development (UPND). Then in October 2014, President Michael Sata of the PF passed away, triggering a presidential by-election to be held within 90 days. The PF was left without a clear successor and then Minister of Defence, Edgar Lungu, emerged as the party’s official candidate only weeks ahead of the election following significant party infighting.

Unlike Sata who was identified as Bemba, Lungu is identified as belonging to the Nyanja ethnolinguistic group. Due to its own leadership struggle, former President Rupiah Banda of MMD, also from the Nyanja group, decided to support Lungu instead of his own party’s candidate. This new alliance resulted in the PF moving from a Bemba-dominated party to a Bemba-Nyanja coalition party, and Banda’s...
support was thought to have been vital to Lungu’s narrow victory over UPND rival Hakainde Hichilema in January 2015. The regularly scheduled 2016 presidential contest again featured Lungu (PF) and Hichelima (UPND) in a close race. Table 1 highlights the similar features between these two elections.

Though the candidates, party platforms, and results of the 2015 and 2016 elections were highly analogous, there were some key differences that affected the voting process. Perceptions of Lungu shifted in two notable ways. First, having been in office for nearly a year and a half, the president was able to make cabinet appointments, meet with local leaders, and initiate new government projects, thus becoming more of a known entity. Since Lungu has come to power, ethnic group voting has closely tracked the ethnic composition of Lungu’s cabinet, with the PF moving from a Bemba-dominant party, to a Bemba-Nyanja coalition. Furthermore, Lungu made a priority of meeting with traditional leaders and even promising the construction on new palaces for chiefs across the country. During a meeting in January 2016 with Lungu, prominent Eastern Province traditional leaders assured the President that government’s investment in the region would be “reciprocated by the people of Eastern Province,” during the coming election.

Another major development following the 2015 election was a rapid downturn in the copper mining sector. An estimated 10,000 mining jobs were lost in 2015 and 2016 across Copperbelt province. Election results confirm that Lungu experienced a noticeable decline in support in 2016 compared to 2015 in Copperbelt Province. Thus in the time between the 2015 and 2016 elections, President Lungu engaged in ethnic brokering, particularly within Eastern Province, and lost support in one of PF’s strongholds – Copperbelt Province – due to mining job losses.

The electoral conduct of the two elections was also different in a few aspects, as highlighted in Table 2. In addition to having an incumbent on the ballot and a longer campaign period, the composition of voting population also changed. Most prominently, over 1.5 million Zambians were added to the voters roll leading up to the 2016 election, which did not take place ahead of the 2015 election. The overall turnout in 2016 was also much higher than the previous year. The increase

Table 1. Similarities between the 2015 and 2016 Zambian elections.

| Feature          | 2015 (%) | 2016 (%) |
|------------------|----------|----------|
| Lungu results    | 48.3     | 50.4     |
| Hichilema result | 46.7     | 47.6     |
| Number of candidates | 11       | 9        |
| Ballot type      | Paper    | Paper    |

Table 2. Differences between the 2015 and 2016 Zambian elections.

| Feature                    | 2015     | 2016      |
|----------------------------|----------|-----------|
| Incumbent candidate        | No       | Yes       |
| Campaigning window         | 2 months | 7 months  |
| Recent mining downturn     | No       | Yes       |
| New registered voters      | 0        | 1,532,284 |
| Turnout                    | 32.4%    | 56.5%     |
| Rejected ballot rate       | 1.0%     | 2.3%      |
in new voters implies that the average level of voting experience within the voting population was much lower in 2016, and thus likely contributed to the overall increase in the rate of rejected ballots.

Testing

The article now turns to assessing the validity of the three hypotheses outlined above in order to assess the likelihood of strategic ballot removal during the 2016 election. The section first provides information on data collection prior to quantitative analyses at multiple electoral administrative levels.

Data collection and methods

Presidential elections data from 2011, 2015 and 2016, including the voting percentages for the PF, UPND, and MMD as well as the rejected ballot and turnout rates, were gathered from the Electoral Commission of Zambia’s (ECZ) website. The primary units of analysis are constituencies, which depending on the election, numbers around 150. Polling station level data from Eastern province were also collected for the 2015 and 2016 elections.

In order to assemble information on the nature of voters within each constituency, the author used geo-coded data from the 2013 Zambia Demographic and Health Survey (DHS) in which the language of respondents and other socioeconomic data were collected including rural, education, and wealth indices. Generalized GPS coordinates bearing the location of survey households were sorted manually into the appropriate constituencies and aggregated into individual data points. Data clustering in this manner is argued to be superior to applying untransformed data points in regression analysis, which has been found to bias standard errors downwards. Across all constituencies, the minimum number of households aggregated was 20, the maximum was 436, and the median was 88.

Evaluating the effects of rejected ballot rates is based on a difference-in-difference model, an identification strategy that leverages the approach of fixed effects on observational data. Using the same constituency in two different elections helps to control for a variety of potential cofounders. Keele argues that the key assumptions for such models are that outcomes would have been the same for both treated and controlled groups in the absence of treatment, and that no additional events affect the outcomes of either group between measurements. Identifying and controlling for major events that occurred between the 2015 and 2016 elections that may have impacted voting is thus key. These potential confounders, highlighted above, can be summarized as a longer campaigning period and greater familiarity with the candidates, higher number of newly registered voters, as well as major economic and political shocks such as the mining layoffs and growing frustration by opposition party supporters.

Based upon this difference-in-difference approach, the first dependent variable of interest is Reject Difference, measured by subtracting the 2015 rate of rejected ballots at a given electoral administrative level from the 2016 rate. To control for the impact of social factors, the model includes six variables. First, Turnout 2016 is simply the overall turnout rate in the 2016 election and serves as a proxy for the level of voter experience and political engagement. In contrast, the change in turnout rates
(Turnout Difference) between the two elections is indicative of the proportion of inexperienced voters.

As many previous studies hail the importance of education and literacy in reducing rejected ballots, an Education Index and dummy variable capturing whether a constituency has a majority population that speaks a distinctive non-official language (Non-Official Language) are included. Finally, political knowledge and information networks are captured through affluence using the variables Wealth Index and Rural Index for each constituency. According to the literature, areas with lower average educational attainment, more non-official language speakers, higher poverty rates, and more rural settings should be associated with a higher rate of rejected ballots.

Two variables measuring potential subnational grievances are also included to control for potential protesting. First, Mining Job Loss is a dummy variable representing six constituencies where local media reported significant mining job losses between 2015 and 2016.53 Secondly, because the Tonga ethnolinguistic group serves as the central support base for the primary opposition party, any protest due to frustration with the regime should be captured by the Tonga % variable. In areas with high job loss, or a higher percentage of frustrated ethnic identifiers, higher rejected ballot rates may signal the submission of faulty ballots as a form of protest.

Hypothesis 1 is tested by assessing whether an increase in rejected ballot rates (Reject Difference) can be observed within incumbent strongholds (Bemba and Nyanja). Hypothesis 2 is tested by examining whether Reject Difference is negatively correlated with PF Vote within stronghold areas. Finally, if strategic ballot removal did occur, this should result in Reject Difference being positively correlated with PF Difference as stated in hypothesis 3.

### National-level rejected ballot rates and PF vote share

Table 3 models the determinants of rejected ballots in 2016 as well as the difference between the 2016 and 2015 election using OLS linear regression at the constituency level.54 Because rejected rates were fairly evenly distributed in 2015, many

![Table 3. Determinants of rejected ballot rates (constituency level).](image-url)

| Variables               | Rejected ballots 2016 (1) | Rejected ballots difference (2) |
|-------------------------|---------------------------|---------------------------------|
| Turnout 2016            | -0.049*** (0.009)         | -0.038*** (0.008)               |
| Turnout difference      | 0.047*** (0.015)          | 0.028** (0.014)                 |
| Education index         | -0.003 (0.002)            | -0.001 (0.002)                  |
| Non-official language   | 0.003 (0.002)             | 0.002 (0.002)                   |
| Wealth index            | -0.0002 (0.002)           | -0.0003 (0.002)                 |
| Rural index             | 0.006* (0.003)            | 0.006** (0.003)                 |
| Mining job loss         | 0.0002 (0.002)            | -0.0005 (0.002)                 |
| Tonga %                 | 0.002 (0.003)             | 0.001 (0.003)                   |
| Nyanja %                | 0.008*** (0.002)          | 0.008*** (0.002)                |
| Bemba %                 | -0.004* (0.002)           | -0.003 (0.002)                  |
| Constant                | 0.042*** (0.011)          | 0.027*** (0.008)                |
| Observations            | 147                       | 147                             |
| $R^2$ adjusted          | 0.625                     | 0.540                           |

Note: Standard errors reported in parentheses; *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$. 

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coefficients bear a similar result in each model. Both models highlight the importance of social factors in determining rejected ballot rates such as greater political participation as measured by Turnout 2016 negatively correlated with rejected ballot rates, while inexperience as measured by Turnout Difference is associated with higher rejected rates.\textsuperscript{55} The models also point to higher expected rejected ballot rates in more rural areas. Variables tested as potential drivers of protest, Mining Job Loss and Tonga %, are non-significant and appear unrelated to rejected ballot rates in this context.

Hypothesis 1 is tested using the two ethnic group variables strongly associated with the ruling party: Bemba % and Nyanja %. Interestingly, Nyanja % is strongly and positively correlated with both higher rejected ballots in 2016 as well as an increase in rejected ballots between elections, while Bemba bears a small and negative coefficient. To better understand why the Nyanja but not Bemba ethnic base is positively associated with rejected ballot rates, Figure 3 presents the correlations across recent elections between rejected ballots rates and both ethnic group percentages as well as political party support along with 95% confidence intervals. The first nine coefficients show

\begin{figure}[h]
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\includegraphics[width=\textwidth]{figure3.png}
\caption{Correlations between rejected ballots and political constituencies: 2011–2016.}
\end{figure}
the correlations between rejected rates and ethnicity, revealing a distinct pattern. Bemba and Tonga-dominated areas are either not associated with rejected ballots or bear a small negative coefficient, while Nyanja is positive in all three elections, and particularly strong in 2016.

The consistency of the ethnic variables is contrasted by the divergent patterns between party support levels and rejected ballots. Following the 2011 election, PF took power from MMD and has remained the ruling party since. When the PF was out of power in 2011, it exhibited a negative correlation with rejected ballot rates, while in the most recent 2016 elections, it was positively correlated, though right on the edge of statistical significance. The main opposition party during this time, UPND, has not exhibited a positive relationship with rejected rates. The correlation results for MMD provide the key piece to the puzzle. In 2011, MMD votes were strongly correlated with rejected ballots, but the relationship disappeared in 2015 when the Nyanja political base began shifting its support from MMD to PF once Lungu became the PF candidate. Whether a political party bears a positive correlation to rejected rates is therefore dependent on its level of support from Nyanja-speaking areas.

Table 4 evaluates hypothesis 3, seeking whether rejected ballots rates can be tied to an increase in PF vote shares. If strategic ballot removal occurred in 2016 but not 2015, then using the 2015 PF vote share as a baseline should help point to whether a change in rejected ballot rates subsequently led to an increase in PF vote share. This approach thus relies on difference-in-difference for both the dependent and primary independent variable using OLS linear regression.

Model 1 points to how ethnic support shifted between the elections, with Nyanja % increasingly tied to PF vote share and Bemba % moving in a negative direction. Model 1 also shows that the PF lost support in areas affected by Mining Job Loss, but were able to gain additional support in more rural areas. Rejected Ballot Difference, however, is not significant in model 1. In model 2, an interaction between Rejected Ballot Difference and Nyanja % is included in order to account for political capture. The interaction term bears a robust and positive coefficient, while at the same time minimizing the positive effect of the Nyanja % observed in model 1. This finding strongly suggests that a change in the rejected ballot rate led to an increase in the incumbent vote share, but only within Nyanja-dominated areas. Causal mediation analysis also confirms Nyanja as the only positive and statistically significant mediator between rejected ballots and the PF vote difference.

Table 4. PF vote difference between the 2016 and 2015 elections (constituency level).

| Variables                         | Dependent variable: PF Vote Difference |
|----------------------------------|---------------------------------------|
|                                  | (1)                                   | (2)                                   |
| Rejected ballot difference       | 0.616 (0.752)                         | −0.402 (0.829)                        |
| Nyanja %                         | 0.10*** (0.02)                        | −0.029 (0.052)                        |
| Bemba %                          | −0.052*** (0.017)                     | −0.054*** (0.017)                     |
| Mining job loss                  | −0.057*** (0.024)                     | −0.060*** (0.024)                     |
| Rural index                      | 0.057*** (0.015)                      | 0.059*** (0.015)                      |
| Reject ballot difference*Nyanja %|                                       | 5.35*** (2.00)                        |
| Constant                         | −0.039*** (0.013)                     | −0.024* (0.014)                       |
| Observations                     | 147                                   | 147                                   |
| $R^2$ adjusted                   | 0.427                                 | 0.451                                 |

Note: Standard errors in parentheses; *$p < 0.1$; **$p < 0.05$; ***$p < 0.01$. 

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Polling station-level results from Eastern Province

Hypothesis 2 posits that within a political stronghold area, rejected ballot rates and incumbent vote share will be negatively correlated at the polling station level due to the restricted supply of opposition ballots. When the share of votes for the incumbent reaches 100% in polling stations where manipulation is primed to take place, the opportunity for removing opposition-intended ballots from circulation is also zero. This section examines polling station returns from Eastern province where Nyanja-speakers are most highly concentrated in order to test this premise.

Figure 4 plots the predicted estimates for rejected ballot rates in Eastern province in both the 2015 and 2016 elections by holding control variables constant (Turnout, Polling Station Size, Nyanja %, Non-Official Language Majority %, Education Index, Rural Index, and Wealth Index), but allowing PF Vote and PF Vote^2 to vary. If strategic ballot removal took place in Eastern Province in 2016, we would expect a negative relation between PF vote share and the rate of rejected ballots as specified in hypothesis 2.

The 2015 rejected ballot rate prediction in Eastern Province indicates a very small negative relationship between rejected ballots and PF vote share. In contrast, the relationship in 2016 is strongly negative and curvilinear as PF vote share increases. Notably, predicted rejected ballot rates in 2016 approach zero as PF vote share reaches 100% for a given polling station. This is consistent with the theory of strategic ballot removal as posited by hypothesis 2, where the capacity for manipulation depends on both the degree of both political capture as well as the supply of opposition ballots.

Figure 5 investigates the relationship between changes in rejected ballot rates and PF vote share at the polling station level as indicated in hypothesis 3. Here the dependent variable again becomes the difference in PF vote share between the two elections. The predictions are based on a model that includes: Turnout, Turnout Difference, PF Vote, PF Vote^2, Reject Difference, Polling Station Size and PF Vote* Reject Difference. In Figure 5, the y-axis represents changes in the conditional coefficient (Reject Difference) on PF Vote Difference. The figure also subsets the data from Eastern Province into

Figure 4. Predicted rejected ballots rates for the 2015 and 2016 election by PF vote in Eastern Province.
thirteen Nyanja-dominated (>80%) constituencies on the left and the four remaining “ethnically-diverse” constituencies on the right to better account for political capture. These plots indicate that an increase in rejected ballot rates leads to an increase in PF vote share, but only within Nyanja-dominated areas, and only in polling stations with medium levels of 2016 PF vote share. Again, this is consistent with manipulation depending upon both political capture (Nyanja-dominated) and opposition ballot supply (lower PF vote share) in line with hypothesis 2.

Assessing the plausibility of strategic ballot removal

The statistical results above demonstrate patterns consistent with strategic ballot removal in Eastern province. This section further probes the likelihood of manipulation by examining the broader political context. First, why might strategic ballot removal have occurred in just one incumbent stronghold in 2016, but not at all in 2015? Referencing the theoretical model developed above, polling officials require a signal to know which candidate to benefit. Due to the realignment of Nyanja-speaking areas immediately prior to the 2015 election from MMD to PF as well as the short campaigning period, political signal was much weaker than in 2011 or 2016. Nyanja ethnic brokers had little time to build relationships with Lungu, and party-switching confused and frustrated many party supporters. Second, polling officials require knowledge of a ballot removal process. The findings presented here seem to indicate that only Nyanja identifiers have the knowledge and organization to engage in systematic rejected ballot removal.

Strategic ballot removal requires that parties or politicized ethnic constituencies have some control over electoral administration positions, and thus the recruitment process of polling staff becomes a linchpin. Critically, the ECZ does not have a decentralized organizational scheme and has been reliant on local government officials to recruit staff ahead of elections. The localized recruitment and deployment of mid- and lower-level ECZ staff opens the door for localized manipulation. Allegations that district commissioners were recruiting polling officials partisan to the ruling party were reported in an opposition-friendly media outlet ahead of both the 2015 and 2016
Following the announcement of 2016 election results, the main opposition UPND submitted a petition to the constitutional court, which among other things requested: “An order that the rejected ballots be recounted, scrutinized and verified.” The EU election observation report also noted that accusations were levelled between parties that they “would commit electoral fraud by encouraging ECZ staff to deliberately invalidate ballots.”

Because Zambian elections are largely respected and closely watched, it would also make sense for partisans to engage in a more covert form of electoral manipulation. In addition, the level of incumbent insecurity via electoral threat has been shown to increase the likelihood of electoral misconduct in non-consolidated democracies. Across a total of 7,001 polling stations in 2016, several local civil society organizations oversaw robust observation efforts in addition to at least eight international observation missions. UPND party observers were also present at an estimated 98% of polling stations for at least part of election day.

The mere presence of observers, however, does not automatically preclude electoral manipulation. Simpser argues that even in the presence of high-quality monitors, some forms of fraud are virtually undetectable. Administrative actions taken by election officials, particularly within the realm of legal ambiguity, are quite difficult to label as deliberate manipulation. Furthermore, the quality of many polling station-level observers was assessed as low by international experts. The EU report stated that party observers, while present at the vast majority of polling stations, were “usually assessed as passive or unfamiliar with counting procedures.” Based upon observer reporting instructions, there appears to have been a widespread lack of knowledge around monitoring strategic ballot removal. Taken together, polling station officials in Eastern Province should have been able to engage in strategic ballot removal through the presence of knowledge and signal, with minimal threat from observers.

**Conclusion**

This article explores a difficult to detect, but likely pervasive, form of electoral manipulation. By tracking party support and rejected rates across elections, the article finds evidence that such manipulation can be orchestrated not only through political party structures, but also ethnic-based mobilization networks. The findings point to the strategic rejection and removal of opposition ballots in the president’s home province during the Zambian 2016 elections, based upon three hypotheses tested above. First, constituency-level data highlight that one of the ethnic constituencies aligned with the ruling PF party experienced much higher rejected ballot rates than other regions. Next, polling station level data show that the rejected ballot rates within Eastern Province is dependent on the balance between opposition and ruling party vote shares, consistent with the ballot supply hypothesis. Finally, the statistical models provide evidence that at both the constituency and polling station levels, an increase in rejected ballot rate is positively associated with an increase in PF vote share within Nyanja-dominated areas.

President Lungu avoided a run-off election in 2016 by receiving just 50.35% of the total vote. A total of 26,042 opposition ballots (compared to total of 85,795 rejected ballots) would need to have been strategically removed in order for Lungu’s share to fall below the 50% run-off threshold. Speculative estimates using the statistical model presented here and concentrating just on rejected rates in
Eastern Province, however, suggest the removal of closer to 6,000 ballots. Rather than attempting to establish a definitive position on the exact number of ballots that may have been removed, a more fruitful lesson may be the need for election observers and analysts to pay closer attention to patterns of rejected ballot rates in future elections.

The removal of ballots from circulation is more covert than most other forms of electoral fraud, but also less efficient. The cases references within from Honduras, Turkey, Quebec, Mozambique, Ukraine and Zambia suggest a potentially widespread phenomenon through a variety of ad hoc strategies. One would expect manipulation that is both low-risk and low-efficiency to occur in countries with medium electoral standards. Using the V-Dem Clean Elections Index, the cases examined here exhibit a range of electoral quality, though most centre on middling values. On a scale from zero to one, the score for Zambia in 2015 was 0.59, but fell to 0.34 in 2016. Likewise, Honduras in 2016 was 0.46, Turkey in 2014 was 0.68, Mozambique in 2004 was 0.38 and Ukraine in 2004 was 0.24.

Any paper-ballot election where polling station officials personally review and hand count ballots is subject to potential manipulation. This article recommends that election watchdogs should be especially weary of localized recruitment of electoral staff in highly politicized regions. Further research could leverage sub-national data from other young democracies or hybrid regimes to check the robustness and generalizability of a theory of strategic ballot removal. Such findings could also prove critical in close elections.

The union between the electoral manipulation and rejected ballot literatures through the development of a theory of strategic ballot removal presents a worthwhile contribution to each. Strategical ballot removal requires strong signals of shared voting intentions often associated with party organizations and politicized social identities. Though it is less efficient than stealing votes, this method is among the hardest types of manipulation to detect. In the future, researchers analysing the rates of rejected ballots should take into account, not just social, institutional, and protest explanations but also the possibility of manipulation.

Notes

1. Schaffer, *The Hidden Costs of Clean Election Reform*.
2. Alvarez et al., *Election Fraud*.
3. Birch, *Electoral Malpractice*; Sipser, “Unintended Consequences of Election Monitoring.”
4. Schedler, “The Menu of Manipulation”; Levitsky and Way, *Competitive Authoritarianism*.
5. Bermeo, “On Democratic Backsliding.”
6. Schedler, *The Politics of Uncertainty*.
7. Birch, *Electoral Malpractice*; Cox, “Authoritarian Elections and Leadership Succession, 1975–2004”; Cheeseman and Klaus, *How to Rig an Election*.
8. Van Ham and Lindberg, “From Sticks to Carrots.”
9. Albaugh, “An Autocrat’s Toolkit”; Raftopoulos, “The 2013 Elections in Zimbabwe.”
10. Zambian law defines a rejected ballot as:

one which: does not bear the official mark; is marked more than once; has the identity of the voter; is not marked by the voter; is not clear for whom the voter has voted for; or is not the official ballot paper issued for that election. (ECZ Voter Education Facilitator’s Handbook, 41)

11. Rejected ballot rates during the second multi-party era: 1991 – 3.1%; 1996 – 5.0%; 2001 – 1.6%; 2006 – 1.7%; 2008 – 1.3%; 2011 – 1.4%; 2015 – 1.0%; 2016 – 2.3%.
12. The 2016 ballot meets 15 of the 16 criteria set out by Norden et al., Better Ballots, indicating a strong design (See online Appendix I).
13. CCMG, "2016 Election Report," 43.
14. BBC notes that, "high numbers of invalid votes can mean that officials are disqualifying ballots for the slightest imperfection, even when the voter’s intention is perfectly clear."
15. Hanlon and Fox, "Identifying Fraud in Democratic Elections."
16. Economist, "Suspicion of Vote Rigging in Honduras’s Election"; Hanlon and Fox, "Identifying Fraud in Democratic Elections."
17. Cheeseman and Klaus, How to Rig an Election.
18. Danilova, "Ukraine Votes."
19. Masinga, "IEC Dismisses 'Vanishing Ink' Conspiracy."
20. Naahie, "JP, PPM Warn of Disappearing Ink Pens."
21. One reviewer rightly pointed out that a lack of signal might include polling station officials either not engaging in strategical ballot removal at all or continuing to engage in the practice but based upon personal preferences rather than group-leader preferences. While the data cannot easily confirm one position over the other, the overall change in rejected rates would suggest that when polling station officials lack a clear signal, engagement in any form of ballot removal declines.
22. Economist, "Suspicion of Vote Rigging in Honduras’s Election."
23. In online Appendix II, historical rates of rejected ballots are tracked across several elections. In every election since 1991, Nyanja percentage is positively correlated with higher rejected ballot rates and statistically significant at p < 0.05 in five out of nine elections.
24. Hyde, "The Observer Effect in International Politics"; Asuka et al., "Electoral Fraud or Violence"; Ichino and Schüdeln, "Deterring or Displacing Electoral Irregularities?"
25. Birch, Electoral Malpractice.
26. McAllister and Makkai, "Institutions, Society or Protest?"
27. Power and Garand, "Determinants of Invalid Voting in Latin America"; Jackman, "Political Institutions and Voter Turnout in the Industrial Democracies"; Uggla, "Incompetence, Alienation, or Calculation?"; Denver et al., "Rejected Ballot Papers in the 2007 Scottish Parliament Election"; Pachon et al., "Ballot Design and Invalid Votes."
28. Power and Garand, "Determinants of Invalid Voting in Latin America."
29. McAllister and Makkai, "Institutions, Society or Protest?"
30. Power and Roberts, "Compulsory Voting, Invalid Ballots, and Abstention in Brazil"; Buxton, "Venezuela: Degenerative Democracy."
31. Bratton et al., "Zambia at a Crossroads."
32. Kriegler, "Report of the Independent Review Commission."
33. Meyersson, "Is Something Rotten in Ankara’s Mayoral Election?"
34. Benton, "Configuring Authority over Electoral Manipulation."
35. Meyersson, "Is Something Rotten in Ankara’s Mayoral Election?"; Hanlon and Fox, "Identifying Fraud in Democratic Elections."
36. Posner, Institutions and Ethnic Politics in Africa.
37. According to the 2010 Zambian census, the primary languages are combined with similar linguistic variations are Bemba (41%), Nyanja (23.3%), Tonga (14.5%), Northwestern (6.6%), Barotse (6.3%), Mambwe (3.2%), Tumbuka (3.3%), English (1.7%), and Others (0.3%). Mambwe and Tumbuka are not officially recognized.
38. Posner, Institutions and Ethnic Politics in Africa.
39. Eifert et al., "Political Competition and Ethnic Identification in Africa"; Bratton et al., "Voting Intentions in Africa."
40. Posner, Institutions and Ethnic Politics in Africa.
41. African Confidential, "PF Picks Two Candidates."
42. According to Africa Confidential, Banda would support Lungu’s campaign financially, facilitate businesses connections, and campaign for Lungu in Eastern Province, while Lungu, should he win the election, would then clear Banda’s son of corruption charges, replace the current Attorney General and Public Prosecutor, and reinstate Banda’s presidential immunity (Africa Confidential, "PF Set for Victory.")
43. Under President Sata in 2011, the cabinet was composed of approximately 63% Bemba, 11% Nyanja, 5% Tonga, and 21% from all other ethnic groups. As of 2017, Lungu rebalanced the
cabinet to 57% Bemba, 29% Nyanja, 0% Tonga, and 14% from other ethnic groups (Coded by author, four ministers left unassigned).

44. Breeze FM, "President Edgar Lungu Warns to Fire Lazy Workers"; Baldwin, "Why Vote with the Chief?"

45. Zambian Eye, "Chief Mpezani Assures Lungu of Victory."

46. Other institutional differences included having casting one ballot in 2015 compared to five ballots in 2016, though boxes and ballots were colour coded (Commonwealth, "Zambia General Elections"). Also, although a constitutional amendment passed changing Zambia’s electoral framework from a one-round to two-round system, this legal change had no impact on the 2016 elections as a second round was not required.

47. While an influx of new voters ahead of the 2016 elections seems an obvious source of increased rejected ballot rates, ahead of the 2011 elections, 1.5 million voters were also registered for the first time and again the rejected ballot rate was lower (Creative, "Electoral Peacebuilding in Zambia").

48. ECZ, "General Elections 2016."

49. Central Statistical Office, "Zambia Demographic and Health Survey 2013–2014." The language categories included Bemba, Nyanja, Tonga, Lozi, Luvale, Kaonde, Luanda, and Other. For the Other category, constituencies were marked as having either a variant of one of the official national languages, or a distinctive language marked as "non-official" using the 2010 Zambian census data and the University of Leiden’s "Tribal and Linguistics Map of Zambia."

50. Green and Vavreck, "Analysis of Cluster-Randomized Experiments."

51. Angrist and Pischke, Mostly Harmless Econometrics.

52. Keele, "The Statistics of Causal Inference."

53. The constituencies coded as 1 include: Chingola, Kalulushi, Luanshya, Mufulira, Nkana, and Solwezi West. Lusaka Times, "Mopani Lays off over 4,000 Workers"; Lusaka Times, "More Miners on the Copperbelt are to Lose their Jobs."

54. See online Appendix III for determinants of PF support in both 2015 and 2016.

55. Lindberg, Democracy and Elections in Africa.

56. Not only did voters from Nyanja areas move en masse from MMD to PF following the Banda-back Lungu election campaign, but many local and national MMD politicians left party for PF, thus integrating the MMD-brokerage network.

57. See online Appendix IV for a replication of Table 4 using the absolute rejected ballot rates instead of the difference in rejected ballot rates. The models are extremely similar due to the relatively level distribution of rejected ballot rates in 2015.

58. See online Appendix V for causal mediation analyses for all ethnic groups.

59. See online Appendix VI for models used to estimate Figure 4.

60. See online Appendix VII for supplementary models comparing the different subsets of polling stations data with and without interaction effects. The interaction plots in Figure 5 were produced using the estimands from models 4 and 6.

61. The mean Nyanja percentage in the “dominant” constituencies is 95.6%, while the percentage is 28.6% in “diverse” constituencies.

62. 77,000 polling station staff were recruited to cover 7,001 polling stations (EU, "Final Report").

63. Zambian Watchdog, "District Commissioners Imposing Cadres on ECZ Director."; Zambian Watchdog, "Kafue Polling Agents are all PF Cadres."; Zambian Watchdog, "Mulobezi DC Takes Over Recruitment of Election Officers."

64. Daily Nation, "Remove Lungu, UPND begs Court."

65. EU, "Final Report."

66. Ruiz-Rufino, "When do Electoral Institutions Trigger Electoral Misconduct?"

67. See online Appendix VIII for a list of domestic and international observation groups.

68. CCMG, "2016 Election Report."

69. Simpser, "Unintended Consequences of Election Monitoring."

70. Hyde, "Foreign Democracy Promotion, Norm Development and Democratization"; Birch, Electoral Malpractice.

71. EU, "Final Report."

72. If one replaces the observed rejected ballot rate with the “natural rate” found using polling stations close to 100% PF vote, then the number of rejected ballots falls by 5945. Secondly, using fitted values from Table 2, eliminating the effect of Nyanja on rejected ballot difference (Nyanja from 23% to 0%), would results in a decline of 5734 rejected ballots.
73. The Varieties of Democracy (V-Dem) Clean Elections Index assesses the “absence of registration fraud, systematic irregularities, government intimidation of the opposition, vote buying, and election violence” (Coppedge et al., “V-Dem Dataset v7”).

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