Purging Militaries: Introducing the Military Purges in Dictatorships (MPD) dataset

5,985 Words (6,000 words limit)

Abstract

The principal threat most autocratic leaders face stems from within the regime. To control militaries and mitigate the risk of coups d'etat, many autocratic leaders repeatedly purge strong officers from the military. What are the causes and consequences of such purges? Despite its importance, scholars rarely have studied the question, as they have lacked a systematic and comprehensive dataset. The Military Purges in Dictatorships (MPD) dataset contains information on the dates and characteristics of 1,007 military purges, and covers 566 political leaders in 116 authoritarian countries over the period 1965 to 2005. In this article, I describe MPD, compare it with other datasets, present descriptive statistics on the data, and suggest its applications. By coding the timing and various characteristics of military purges, MPD facilitates empirical study of the relationships between autocratic leaders and their militaries, and thus is useful for researchers studying political violence, repression, civil-military relations, coup-proofing, leader survival, and regime transition.

Introduction

The principal threat most autocratic leaders face comes from within the regime rather than from outside. Approximately three-quarters of dictators who lose power do so as the result of a coup d'etat (Svolik, 2009). To address such threats to their power, many dictators attempt to control their militaries by eliminating strong potential rivals from key positions and replacing them with those who are loyal. Prominent examples include Iraq's Saddam Hussein, Syria's Hafez al-Assad and Uganda's Idi Amin. More recently, Turkey's Recep Erdogan and China's Xi Jinping have increased their political control by purging opponents in their militaries. An emerging literature on comparative authoritarianism points out that the repeated elimination of rival elites allows dictators to consolidate their personal power and diminishes the ability of those elites to hold the dictator accountable (Svolik, 2009; Sudduth, 2017). In fact, the number of authoritarian regimes where political power is highly concentrated in the hands of a single individual – typically called *personalist* dictatorships – has steadily increased since the end of the Cold War (e.g. Kendall-Taylor, Frantz and Wright, 2017; Frantz and Kendall-Taylor., 2017).

What are the causes and consequences of purging the military in autocracies? Despite its importance, a lack of comprehensive data has impeded systematic research on this topic. The Military Purges in Dictatorships (MPD) dataset contains systematic human-coded data on military purges, defined as events in which a political leader within a dictatorial regime eliminates individuals from their positions in the military or other elements of the security apparatus. The MPD dataset contains coded information on the dates and characteristics of military purges covering 566 political leaders in 116 countries under authoritarian regimes from 1965 to 2005. MPD codes, for example, whether a purge is primarily peaceful, or involves arresting, jailing or killing military officers, the positions of purged officers, the size of the purge, and the background reasons for it. Researchers can use MPD in an event data format as well as a leader-year panel data format. In coding the data, careful attention has been paid to which leaders conduct purges and, thus, unlike other datasets with country-year

observations, MPD properly codes cases where multiple leaders ruled in the same year.

This article proceeds as follows. I first overview other datasets that capture some aspects of political purges, and I highlight important aspects of the MPD dataset that are not captured elsewhere. Next, I describe how MPD was constructed, and set out the definitions, data sources, and coding criteria. I then provide descriptive statistics for MPD. I go on to illustrate how MPD can be used by examining the effects of military purges on the severity of repression of civilians. The concluding section includes discussion of an agenda for future research.

Comparison with existing datasets

How can a dictator's efforts to purge the military be measured? The most comparable dataset has, perhaps, been provided by Geddes, Wright and Frantz (2018) (GWF). GWF has several indicators specifically coded to capture the levels of personalization –defined as concentration of power in the hands of a leader– within the security apparatus for 280 autocratic regimes from 1950 to 2010. Their *Military Purge* variable captures whether regime leaders murder military or security service opponents, or jail or execute them, either without trial or after a trial regarded as unfair by country specialists or journalists. Their *Military Promotion* variable captures whether there are widespread forced retirements of officers not from a regime leader's ethnic or religious group (Geddes, Wright and Frantz, 2017, pp.30-31).[1]

Though these variables certainly help us understand the personalization level of the security apparatus, they do not identify military purge "events" and their timing in a precise manner. GWF codes each variable as of January 1st for each calendar year, and once a regime leader is coded as having engaged in personalization activities such as jailing military officers, the same codes are applied "until the current leader is ousted or the regime ends unless something you read leads you to believe that the leader's way of dealing with the military has changed" (Geddes, Wright and Frantz, 2017, pp.30-31). In other words, their data identify the first regime year when a specific personalization policy – including military

[1]See also Baturo and Elkink (2014) for the measurement of personalism.

purges– occurs, and all subsequent regime years retain the same coding, such that that leader is assumed to continue jailing and executing officers until he is ousted or the regime ends (Song, 2018, p.13). For example, the *Military Purge* variable is coded as positive during the entire tenure of Stalin, regardless of actual occurrences of military purges in a particular year. In contrast, MPD precisely codes the timing of each military purge, regardless of whether a dictator has engaged in purges in the past.

Several other datasets also capture military purges, but these are limited to particular types of purge. The dataset on ethnic exclusion created by Roessler (2011) identifies when a particular ethnic group is excluded from the central government.[2] Although the data capture an important aspect of elite purges, they are limited to those based on 'ethnicity.' Yet, even in countries where ethnicity is politically relevant, ethnic identity is not the only cue for dictators' decisions about which individuals are potential threats and should be eliminated. The Banks Cross-National Time-Series Data Archive also includes a variable on purges (Banks, 2013), but is limited to purges based on violence and coercion – namely "jailing and execution." The concept of elite purges, however, should not be limited in this way, as nonviolent elimination can be effective in concentrating power into dictators' hands. For example, Cameroon's Paul Biya repeatedly dismissed his rivals from key positions through nonviolent means and these efforts are considered to have increased Biya's control over national defense (Keesing, May 1986). More fundamentally, the Banks purge variable includes dictators' acts against opposition groups *outside* the regime, without any differentiation of a dictator's actions to purge regime insiders. More recently, Easton and Siverson (2018) coded whether a state leader eliminates and punishes the plotters following a failed coup attempt. The coverage of their data is therefore limited to the circumstances and periods following failed coup attempts.

MPD builds on the dataset originally used by Sudduth (2017), but has extended it in several ways. First, it expands the data coverage by coding all autocracies between 1965 and 2005, whereas the original data by Sudduth cover only the period 1969–2003. Second, MPD

[2]See also Harkness (2016) for her data on leaders' attempts to build co-ethnic armies.

introduces several new indicators that are useful in explorations of the dynamics of military purges. For example, it codes the dates of military purges and lists all the positions targeted in each, which allows users to ascertain the relative importance of each purge. Another new feature of MPD is an indicator that identifies whether a purge is primarily violent (including arresting, jailing, or killing officers), or nonviolent. Third, MPD distinguishes multiple purges in the same leader-year, while Sudduth's original dataset aggregated the information for each leader-year and did not capture the existence of multiple events for the same leader-year. Finally, as discussed below, my research team and I reexamined the original codings of Sudduth and updated them if we found her codings to be questionable, or if we found more relevant information that led us to make changes to the original codings. Thus, the MPD dataset improves on the quality and reliability of the codings for those cases covered by Sudduth (2017), while adding new ones for the extended period of coverage.

MPD data: Definitions, coding procedure, variables, and limitations

The MPD dataset contains information on the dates and characteristics of 1,007 military purges covering 566 political leaders in 116 authoritarian regimes from 1965 to 2005.

Definitions

Following Sudduth (2017), MPD defines military purges as incidents where a dictator eliminates individual members of the elite who have legitimate access to the use of armed forces. The targets of purges coded in MPD are thus officers in the military or other elements of the security apparatus and civilian members of the elite at the top of the security apparatus, such as the defense minister or interior minister. Regarding the manner of elimination, a dictator's actions to dismiss, replace, demote, arrest, jail, or kill officers, as well as *forced* resignations, are treated as purges in MPD. Finally, we want to distinguish dictators' actions to expand their power at the expense of elites from incidents where dictators dismiss officers purely because of their incompetence or for other nonpolitical/technical reasons. The difficulty is,

though, that dictators can justify their actions by emphasizing that purged officers were incompetent or had committed crimes, even when their intention to consolidate their personal power is clear (a case in point is China's Xi Jinping). MPD therefore takes an inclusive approach, that is, it includes all cases where a dictator eliminates officers, but in addition it codes the background reasons for each case. Users thus can operationalize their purge variables by focusing only on cases with certain background reasons appropriate for their studies.

The basic unit of analysis for the MPD dataset is the military purge "event," such that we code even those purge incidents that occur within a short period as distinct events when the background reasons for these purges are different. In addition to the event format dataset, we provide a panel dataset with a leader-year unit of observation, which, unlike the country-year format, identifies which leader conducted the purge. Therefore, even when multiple leaders rule in the same year, MPD precisely assigns each purge event to the appropriate leader. To identify autocratic countries, we rely on both GWF and Cheibub, Gandhi and Vreeland (2010) (hereafter CGV), such that we code for all the countries that are treated as a non-democracy by either GWF or CGV. The list of leaders is obtained from Archigos (version 4.1) (Goemans, Gleditsch and Chiozza, 2009).

Coding Procedure

To make the dataset, my research team (research assistants drawn from graduate students at Emory University and the University of Strathclyde) and I gathered information using (i) Keesing's Record of World Events and (ii) Lexis-Nexis news searches. Because of their global coverage and consistent reporting standards, we decided to use Associated Press, BBC, New York Times and Washington Post news articles from the Lexis-Nexis database. To search for relevant articles from the news database, we used several key words that would capture purge events as defined above. Those words include purge, arrest, dismiss, expel, replace, remove, reshuffle, sack, and fire. My research team downloaded all hits from the search and read all the articles to see whether they qualified for coding. Each research assistant read all

the articles for specific countries and coded all the events from these countries for the relevant period. This process allowed research assistants to develop country-specific expertise and improve their interpretation of specific cases. To ensure inter-rater reliability and minimize the possibility of miscoding, all the events originally coded were reexamined by different research assistants, and our research team as a whole made a final decision on any cases of disagreement. All the cases were then reviewed by myself as the project manager. For any cases I found to be questionable, research assistants searched for additional news articles using (iii) the Periodicals Archive Online (ProQuest) and (iv) the wider literature on individual countries. After reviewing the information from the additional search, I made a final decision on coding.

Variables

In MPD, we include information on the dates and various characteristics of military purges. The *Date* variable codes year, month, and day of a specific purge event. Though it is often difficult to obtain information on the exact day of a purge, for the majority of cases we were able to capture month-level information.[3] We also coded several variables to capture the nature and characteristics of purges. First, we identify whether a purge was primarily violent in nature or nonviolent. *Violent Purge* indicates whether the purge involves the arrest, jailing, or killing of officers. *Nonviolent Purge* takes the form of dismissing, demoting, or replacing officers. Second, we code the background reasons for the purge. Based on our reading of each case, we code whether a dictator purges the military, for example, (i) to diminish the influence of a dictator's political rivals who are popular among other elites and thus are suspected to be potential threats to his political survival, (ii) to exclude those who have different policy preferences and criticize the dictator's policy, (iii) to punish those officers who have planned to overthrow the leader or the regime, (iv) to punish officers for being incompetent, or (v) to punish officers who have committed crimes, or (vi) because of pressure from foreign countries. We also code whether a purge happens in the form of cabinet reshuffles or new government

[3]For 87 cases among 1,007 purges, the month information is missing.

formations. Crucially, these categories are *not* mutually exclusive and a single purge event can have multiple background reasons. We code these variables so that users can properly operationalize their purge variables by excluding cases with certain background reasons, or by including only cases with certain background reasons.

MPD can also differentiate the relative importance of each purge, as it identifies the *positions* of purged officers. In the *Position* variable, we list all the positions targeted in each purge.[4] Based on the information on these purged positions, we then rank purge events in four categories. The *Rank* variable identifies whether the targets of a particular purge include (i) the top-ranking positions, such as the army chief of staff, chief of general staff, the commander of the army (or navy or air force), or ministerial positions such as the defense minister or interior minister; (ii) deputies for the top-rank positions, such as deputy chief of staff or deputy defense minister; (iii) mid-level officers and senior officers, such as the commander of the regional command, army general or colonel generals; or (iv) junior officers or soldiers. The *Size* variable is a four-category measure that indicates whether the number of purged officers is (i) only one individual, (ii) between 2 and 10, (iii) between 11 and 100, or (iv) more than 100. We also code whether the target of the purge is an organization: the *Organization Purge* captures whether a leader eliminates an entire organization.

Detailed documentation on coding procedures and variables is available in a codebook. In addition, descriptions of each military purge coded in the dataset and brief discussions of how we coded it are provided in a case description document (See Online Appendix).

Limitations

Like any data collection efforts that rely on news articles, MPD potentially has reporting bias. As the news media target a particular audience, their coverage might be biased in favor of particular countries. In particular, because MPD focuses on authoritarian countries, it might suffer from underreporting (Salehyan, 2015). Though it is certainly possible that it misses

[4]Note that these are positions from which officers are purged, and are not always equivalent to the officer's specific rank in the military hierarchy.

some military purge events, there are several reasons to believe that MPD is less subject to such bias.

First, we gather information from a variety of news sources, including Keesing's Record of World Events, Lexis-Nexis news searches and literature on individual countries. Consulting multiple sources allows us to make the data as comprehensive as possible and to address the potential biases found in particular sources. Second, as emphasized by Sudduth (2017), dictators have incentives to make purges public, to credibly signal the cost of disloyalty and scare off other potentially disloyal elites. Due to their public nature, purges are likely to be detected and reported by news sources. Relatedly, changes within military organizations resulting from purges can have important consequences on countries' military capabilities, strategies and regional security environments. Because of their security implications for neighboring countries, military purges tend to draw the attention of foreign media and governments, which will counter any tendency to underreporting. Third, we dropped from MPD seven countries where we could not obtain sufficient information to accurately code purges. Finally, as I will discuss in the following section, the trends in military purges captured by MPD are consistent with a scholarly understanding of this phenomenon.

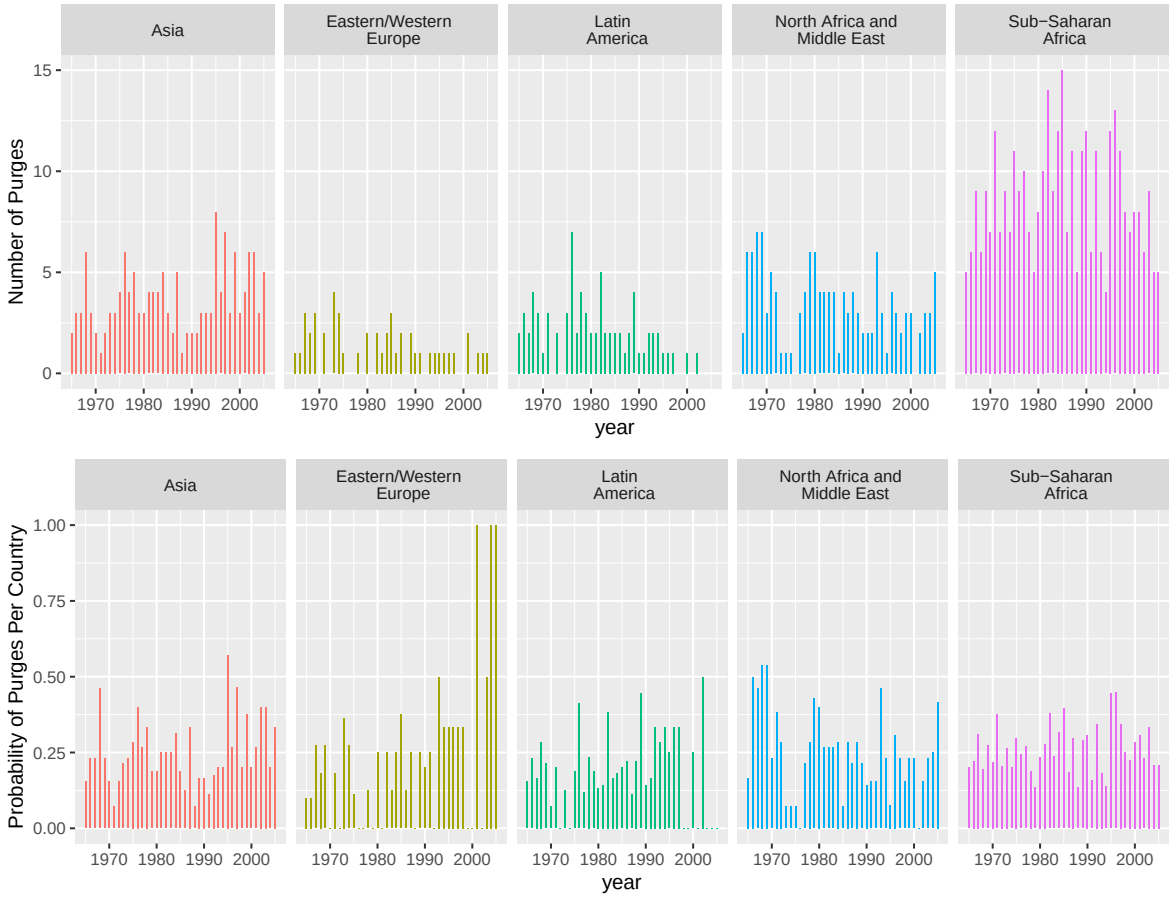
It is also important to note that though military purges are crucial in diminishing the elite's coup-making capabilities, to obtain a comprehensive understanding of the personalization process, systematic information on "civilian elite" purges is essential. Further, given recent political trajectories in Hungary, Turkey and the US, another step forward would be to gather data on purges in democracies.

Descriptive Statistics

This section presents descriptive statistics for MPD. I first examine variations in the incidence of military purges among different regions and years. For the sake of simplicity, I created the country-year format data, which codes whether at least one military purge event took place in a country-year. I identify country-years with autocratic government using GWF,

and include all military purge events except when an elimination of officers results from the implementation of a peace agreement.

Figure 1. Number and Probability of Military Purges by Region and Year



In the upper part of Figure 1, I plot the total number of military purge events per year in separate panels for different regions. It reveals that the largest number of military purges occurred in the sub-Saharan African region, while North Africa and the Middle East, and Asia also witnessed a fairly large number of purges. The lower part of Figure 1 reports the probability of purge events per country, calculated as the total number of military purges divided by the number of autocratic countries, for each region-year. It shows that, though sub-Saharan Africa witnessed the largest number of military purges, the probability that each autocratic regime experiences at least one purge event in any given year is similar across

regions as well as across years.[5] The average probability of military purges per country-year is 0.25 in Asia, 0.24 in Eastern and Western Europe, 0.18 in Latin America, 0.25 in North Africa and the Middle East, and 0.26 in the sub-Saharan African region.

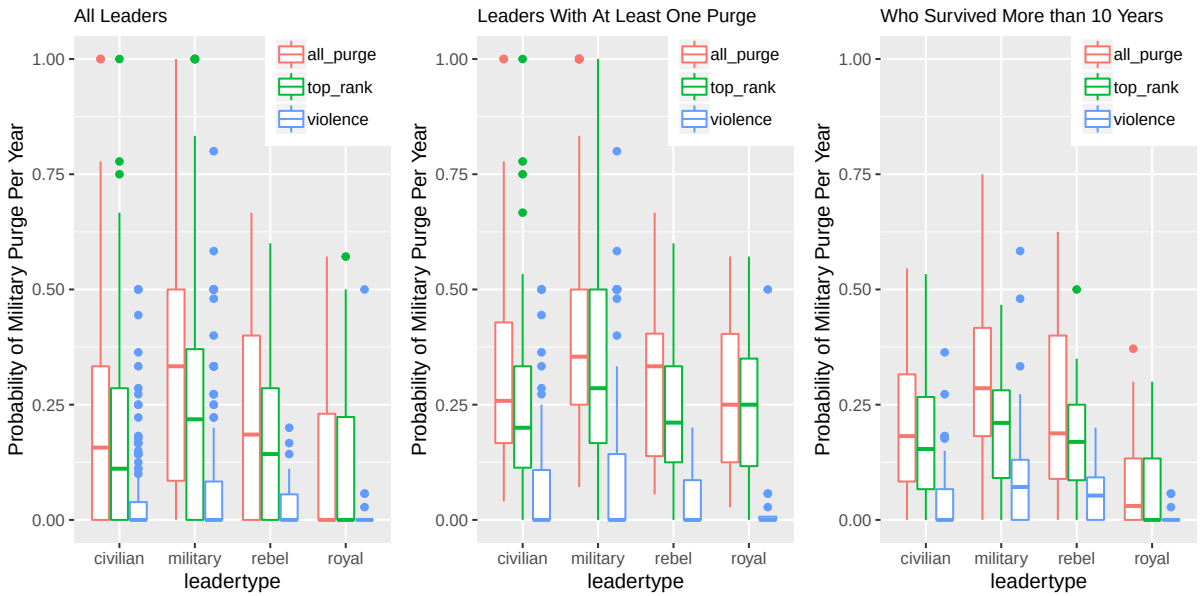
We now explore how the characteristics of individual leaders are correlated with their tendencies to purge the military. For this exercise, I use the leader-year format of MPD. Figure 2 presents boxplots of the distributions of the probability of a military purge per year, calculated for each leader as a unit. Using data from Geddes, Wright and Frantz (2017, 2018), I compare four different leader identities prior to their assuming office – i.e. *civilian*, *military*, a *rebel* leader, or a member of the *royal* family. For each type of leader, the three boxplots display the distributions of (i) all types of military purges, (ii) military purges where the targets include top-ranking positions, and (iii) military purges that involved the arresting, jailing, or killing of officers. Each panel represents different samples of leaders. The left-hand panel plots the distribution for all authoritarian leaders, while the middle panel shows the distributions for those leaders who purged their militaries at least once during their tenure. The right-hand panel focuses on the sample of leaders who survived more than 10 years.

The left-hand panel in Figure 2 shows that military leaders who were members of the security apparatus prior to coming to power are more likely to purge the military than other types of leader, though both civilian and rebel leaders also display a relatively high likelihood of military purges (around 14 % per year). This tendency also applies to purges that target top-ranking officers. Second, whereas the majority of leaders never violently purged the military, there are a few leaders who had frequently conducted violent purges (i.e. there are a good number of outliers for violent purges). Turning to the middle panel, where we focus on leaders who purged at least once during their tenure, the variations among different types of leader considerably diminish. Moreover, all types of leader have relatively high probabilities of purges (above 0.25 per year on average), implying that leaders who have purged at least

[5]One exception is the Eastern/Western Europe region in the 2000s, when only Russia and Georgia were autocratic regimes and both carried out purges. Belarus is coded as authoritarian regime in GWF, but it is not included in MPD, due to the lack of information.

once are more likely to purge again.

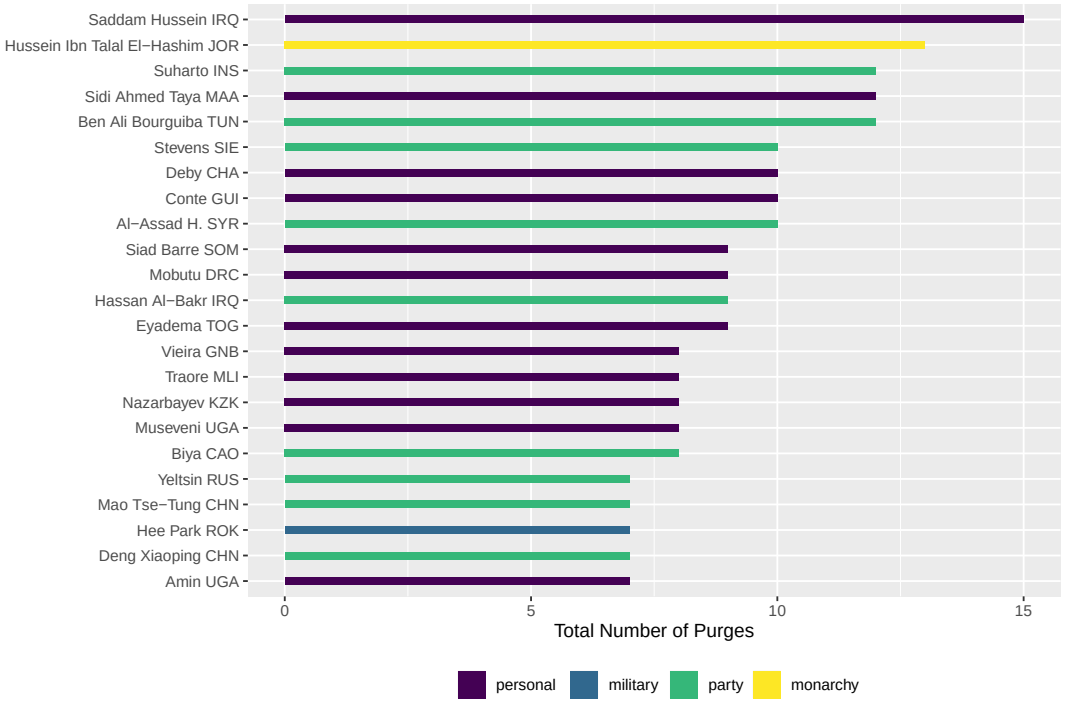
Figure 2. How Leader Type Is Correlated with the Probability of Military Purges



Finally, in the right-hand panel, military and rebel leaders who survived more than 10 years show much higher levels of violent purges than the leaders in other panels. These findings might suggest that in order to implement violent purges, a leader needs to have already consolidated enough power. Alternatively, they might reveal a selection effect, such that those who have abilities to survive long also have abilities to violently purge militaries from the beginning of tenure. Though descriptive statistics cannot demonstrate causal relationships, the findings underscore the importance of further work to see how time (tenure) as well as the type of leader matter in explaining variations in military purges.

Finally, I compare the MPD data with the data on personalist regimes created by Geddes, Wright and Frantz (2014). The GWF data code whether a specific authoritarian regime is a *personalist*, military, or single-party dictatorship. The category of personalist dictatorship indicates that a high level of concentration of power in the hands of the dictator is considered to have been achieved in the specific regime. Since a dictator accumulates his power at the expense of regime elites by repeatedly eliminating strong rivals from the regime over time (Svolik, 2009; Sudduth, 2017), we should expect that dictators who frequently purge

Figure 3. The List of Leaders with the Largest Number of Military Purges



their militaries in MPD should eventually consolidate enough power during their tenure and, thus, should be coded as personalist in GWF. Figure 3 confirms this point. Figure 3 displays the list of leaders who had purged their militaries more than seven times during their tenure. Approximately 50% of leaders who purged their militaries more than seven times are coded as personalist regimes in GWF. Approximately 55% of those leaders who implemented purges more than eight times during their tenure are coded as personalist regimes in GWF. This exercise of comparing MPD and GWF thus gives us confidence that MPD properly captures a dictator's efforts to promote the process of personalization of power.

How to Use MPD

In this section, I illustrate a use of MPD by analyzing the impacts of military purges on the severity of state repression. Dictators face threats not only from within the regime, but also from outside the regime. To suppress societal dissent and challenge, dictators often resort to repression, or coercive actions against civilians. To implement repression, however, dictators must rely on the compliance of members of the security apparatus (e.g. DeMeritt,

2015; Hendrix and Salehyan, 2017; Dragu and Lupu, 2017; Tyson, 2018). How do dictators' efforts to consolidate power by repeatedly purging members of the security apparatus affect security officers' willingness and ability to comply with the orders and carry out repression?

Theoretically we can think of two competing scenarios. First, military purges might lead to higher levels of repression because purges allow dictators to "place at the heads of security organizations loyalists who are more willing to use coercion to keep the regime in power" (Frantz et al., 2019, p.374). Because the fates of the loyalists are linked with that of the leader remaining in power, they are more willing to employ violence to protect the regime. They are also aware that the chances that they themselves will be purged should they disregard their orders to repress are high (Fruge, 2019). Second, military purges might decrease the levels of repression. Frequent purges prevent officers from developing the leadership skills and establishing the cohesive ties with their troops and personnel (Brooks, 1998; Powell, 2015; Sudduth, 2016; Narang and Talmadge, 2018) that are required to achieve successful coordinated actions in implementing repression. Moreover, purges would increase grievances among military officers, making them increasingly refuse to obey the leader's orders to repress, or even making them more likely to*defect* from the regime (Brooks, 2013; Gaub, 2013).

Using MPD, I am able to evaluate these competing hypotheses. Our sample consists of the 108 authoritarian countries over the years 1965-2005, with the country-year unit-of-analysis. Using MPD, I create several binary variables that capture whether (a) all types of military purges, (b) violent purges, (c) purges where the targets include top-ranking positions, and (d) large-scale purges where the number of purged officers is more than 100, occur at least once in the last five years for each country-year. Following Sudduth (2017), I focus on military purges that occur for political reasons, and exclude cases where a dictator eliminates officers because they were incompetent or committed crimes.

To measure the severity of repression, I use the number of civilians killed intentionally by government armed forces, taken from the UCDP One-Sided Violence (OSV) Dataset Version 19.1 (Eck and Hultman, 2007). Though there are a number of existing datasets on

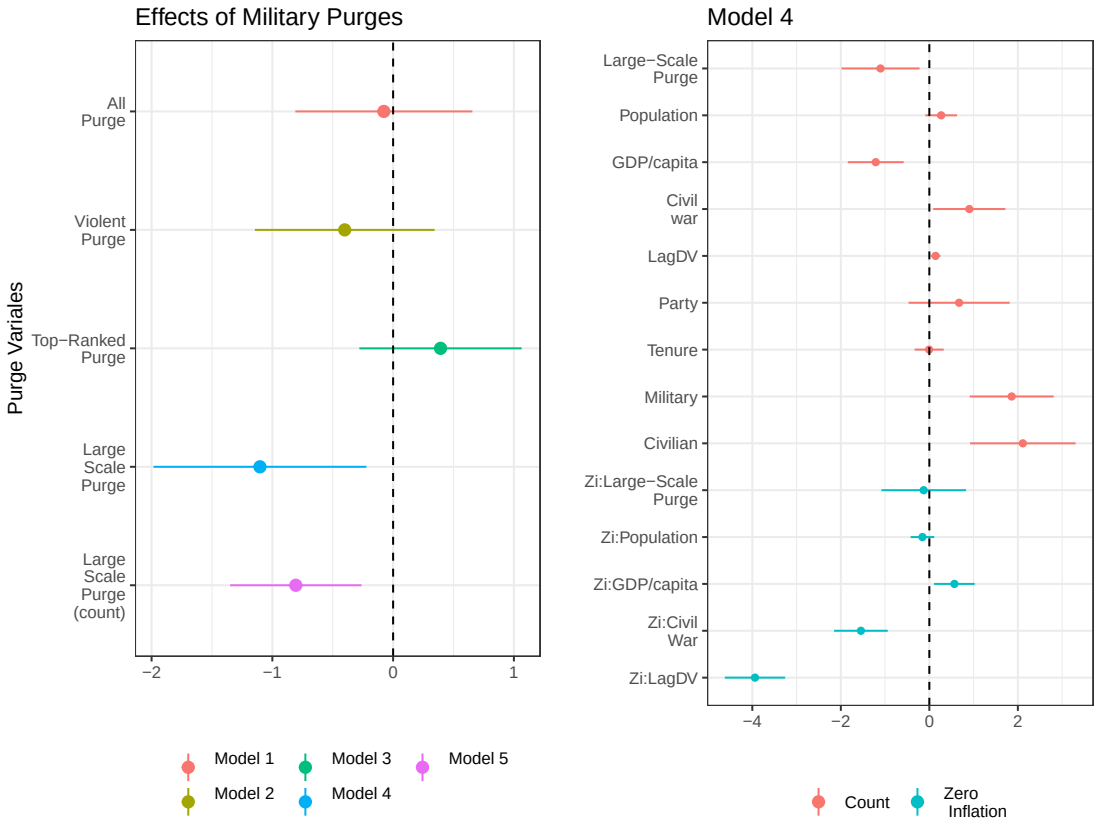
state repression, many of them count dictators' acts against members of the security forces as state repression.[6] I use OSV data because it clearly defines the target of repression as unarmed civilians who are "not active members of the security forces of the state" and also excludes cases where the targets of state violence are government officials (Pettersson, 2019, p.3). OSV data include cases where at least 25 civilians are killed per government-year, and report fatality estimates for these cases.

Since my dependent variable (the number of civilians killed by government forces per country-year) exhibits over-dispersion as well as an excess number of zeros, I use zero-inflated negative binomial models with country random effects, estimated via the *glmmTMB* package in R. In all the models reported below, I control for GDP per capita, population size, civil war, the lag of the dependent variables in both the count components and zero-inflated components, and civilian leader, military leader, support party and leader tenure in the count components. Due to the space limitation, I discuss the data sources of these variables in the Appendix.

The left-hand panel in Figure 4 plots the coefficient estimates of the count components, reporting the effects of different types of military purges on the number of civilian fatalities, with 95% confidence intervals. It demonstrates that a large-scale purge variable has a negative and statistically significant effect on the number of civilian fatalities (Model 4), while the effects of other types of purges are insignificant. Model 5 confirms that the coefficient on the number of large-scale purge events (a non-binary variable) is also negative and statistically significant. The right-hand panel in Figure 4 plots the coefficient estimates of Model 4. It shows that though large-scale purges are associated with lower levels of repression, they do not have significant impacts on the occurrence of repression. The coefficient on large-scale purge in the zero-inflated part is insignificant. In the Appendix, I demonstrate that the empirical inferences hold with additional control variables such as civilian killings by non-government groups, International Criminal Court (ICC) ratification, ethnic exclusion, violent

[6]Fariss (2014) overviews repression data sources.

Figure 4. Effects of Military Purges on the Number of Civilians Killed by Governments



and nonviolent protests and personalism.

Using MPD, I examine the impact of military purges on the severity of state repression, assessing competing hypotheses suggested in the literature. The findings reveal that (i) dictators' efforts to consolidate power by purging their security apparatus will *reduce*, not increase, the severity of repression, measured by the number of civilians killed by the government. Moreover, (ii) purges have significant impacts only when they target a large number of military officers. Though the finding that the size of purges matters might not sound surprising, it indicates that the key agents that channel dictators' actions toward militaries to the level of state repression are middle- and lower-ranked officers, rather than top-ranking members of the security apparatus. In large-scale purges, defined as those with more than 100 individuals targeted, coded in MPD, the majority of victims are the middle- and low-ranked officers, simply because there are not so many top-ranked positions to be

purged. A detailed assessment of the causal mechanisms is beyond the scope of this article, but these findings underscore the importance of further work to disaggregate types of military purges in analyzing their causes and consequences.

Conclusion

MPD contributes to the literature on political violence and comparative authoritarianism. Though many studies have examined how political authorities repress citizens' capabilities to challenge them, we know very little about when leaders repress regime elites (especially the military) who are the key agents of the state repression of citizens. Using MPD, this paper demonstrates that purges of members of the security apparatus reduce the regime's ability and willingness to repress civilians. Further, MPD allows researchers to explore the dynamics of consolidation of power in dictatorships. Though a global rise of personalist dictatorships and its implications for global stability have been highlighted (e.g. Kendall-Taylor, Frantz and Wright, 2017; Frantz and Kendall-Taylor., 2017; Geddes, Wright and Frantz, 2018), we hitherto lacked a systematic dataset that captures the timing of when dictators take steps to promote the concentration of power at the expense of the elite. By providing such information, MPD will illuminate the dynamics behind a global rise of personalism, a concerning trend in the post-Cold War era.

References

Banks, Arthur. 2013. "Cross-National Time-Series Data Archive.". Databanks International. Jerusalem, Israel.

Baturo, Alexander and Johan A. Elkink. 2014. "Office or officeholder? Regime deinstitutionalisation and sources of individual political influence." *Journal of Politics* 76(3):859–872.

Brooks, Risa A. 1998. *Political-Military Relations and the Stability of Arab Regimes*. Cambridge: Cambridge University Press.

Brooks, Risa A. 2013. "Abandoned at the place: Why the Tunisian military defected from the Ben Ali regime in January 2011." *Journal of Strategic Studies* 36(2):205–220.

Cheibub, Jose Antonio, Jennifer Gandhi and James Raymond Vreeland. 2010. "Democracy and Dictatorship Revisited." *Public Choice* 143(1):67–101.

DeMeritt, Jacqueline H.R. 2015. "Delegating Death: Military Intervention and Government Killing." *Journal of Conflict Resolution* 59(3):428–454.

Dragu, Tiberiu and Yonatan Lupu. 2017. "Collective Action and Constraints on Repression at the Endgame." *Comparative Political Studies* 51(8):1042–1073.

Easton, Malcolm R and Randolph M Siverson. 2018. "Leader survival and purges after a failed coup d'etat." *Journal of Peace Research* 55(5):596–608.

Eck, Kristine and Lisa Hultman. 2007. "One-sided violence against civilians in war: insights from new fatality data." *Journal of Peace Research* 44(2):233–246.

Fariss, Christopher J. 2014. "Respect for Human Rights has Improved Over Time: Modeling the Changing Standard of Accountability." *American Political Science Review* 108(2):297–318.

Frantz, Erica and Andrea Kendall-Taylor. 2017. "Pathways to Democratization in Personalist Dictatorships." *Biometrika* 24(1):20–40.

Frantz, Erica, Andrea Kendall-Taylor, Joseph Wright and Xu Xu. 2019. "Personalization of Power and Repression in Dictatorships." *The Journal of Politics* 82(1):372–377.

Fruge, Kimberly R. 2019. "Repressive agent defections: How power, costs, and uncertainty influence military behavior and state repression." *Conflict Management and Peace Science* 36(6):591–607.

Gaub, Florence. 2013. "The Libyan Armed Forces between Coup-proofing and Repression." *Journal of Strategic Studies* 36(2):221–244.

Geddes, Barbara, Joseph Wright and Erica Frantz. 2014. "Autocratic Breakdown and Regime Transitions: A New Data Set." *Perspectives on Politics* 12(2):313–31.

Geddes, Barbara, Joseph Wright and Erica Frantz. 2017. "Coding Rules for How Dictatorships Work .". Coding Rules, Version 1.0.

Geddes, Barbara, Joseph Wright and Erica Frantz. 2018. *How Dictatorships Work: Power, Personalization, and Collapse*. Cambridge: Cambridge University Press.

Goemans, H.E., Kristian Skrede Gleditsch and Giacomo Chiozza. 2009. "Introducing Archigos: A Data Set of Political Leader, 1875-2003." *Journal of Peace Research* 46(2):269–283.

Harkness, Kristen A. 2016. "The Ethnic Army and the State: Explaining Coup Traps and the Difficulties of Democratization in Africa." *Journal of Conflict Resolution* 60(4):587–616.

Hendrix, Cullen S. and Idean Salehyan. 2017. "A House Divided: Threat Perception, Military Factionalism, and Repression in Africa." *Journal of Conflict Resolution* 61(8):1653–1681.

Keesing. May 1986. "Cameroon." *Keesing's Record of World Events* 32:34393.

Kendall-Taylor, Andrea, Erica Frantz and Joseph Wright. 2017. "The Global Rise of Personalized Politics: It's Not Just Dictators Anymore. ." *The Washington Quarterly* 40(1):7–19.

Narang, Vipin and Caitlin Talmadge. 2018. "Civil-military Pathologies and Defeat in War: Tests Using New Data." *Journal of Conflict Resolution* 62(7):1379–1405.

Pettersson, Therese. 2019. "UCDP One-sided Violence Codebook Version 19.1.". Codebook.

Powell, Jonathan. 2015. "Trading coups for civil war." *African Security Review* 23(4):329–338.

Roessler, Philip. 2011. "The Enemy Within: Personal Rule, Coups, and Civil War in Africa." *World Politics* 63(2):300–346.

Salehyan, Idean. 2015. "Best practices in the collection of conflict data." *Journal of Peace Research* 52(1):105–109.

Song, Wonjun. 2018. "Dictators, Personalized Security Forces, and Coups.". Working Paper.

Sudduth, Jun Koga. 2016. Coup-Proofing and Civil War. In *The Oxford Research Encyclopedia of Politics*, ed. William R. Thompson. Oxford University Press.

Sudduth, Jun Koga. 2017. "Strategic Logic of Elite Purges in Dictatorships." *Comparative Political Studies* 50(13):1768–1801.

Svolik, Milan W. 2009. "Power Sharing and Leadership Dynamics in Authoritarian Regimes." *American Journal of Political Science* 53(2):477–494.

Tyson, Scott A. 2018. "The Agency Problem Underlying Repression." *The Journal of Politics* 80(4):1297–1309.

Supporting Online Appendix

to the paper

Purging Militaries: Introducing the Military Purges in Dictatorships (MPD) dataset

Contents

A.1 Codebook

This section presents the main parts of a codebook for the Military Purges in Dictatorships (MPD) dataset, which I will release immediately upon publication of this article.

General Description:

- The MPD dataset contains information on the timings and characteristics of military purge events in dictatorships from 1965 to 2005. MPD contains 1,007 military purge cases and codes for 566 political leaders in 116 autocratic countries.

- The MPD dataset comes with two formats – (a) the event data format and (b) the leader-year panel format dataset.

- To create MPD, we gathered information using (i) Keesing Record of World Events and (ii) Lexis-Nexis news searches (Associated Press, BBC, New York Times and Washington Post). For cases in which we need additional information, we also consult with (iii) Periodicals Archive Online (ProQuest) and (iv) literatures on individual countries.

Theoretical Background:

- In dictatorships, the mechanisms of political accountability and power dynamics are ultimately backed by a credible threat of a coup d'état -- an attempt by regime elites to remove political leaders using unconstitutional/violent means--, even when nominally democratic institutions such as parties and legislatures exist (Svolik 2009). A dictator's decision-making and behaviours are constrained to the extent that regime elites can credibly threaten the use of force and deter the dictator's opportunism. Elites' abilities to successfully oust a dictator using violence thus define their bargaining power and abilities to hold him accountable.

- Though many authoritarian leaders face powerful regime elites who are willing and able to remove leaders via coup, some dictators have successfully eliminated enough rival elites from key positions so that they no longer face powerful audiences who can credibly threaten to stage a coup. Without having strong elites to hold them accountable, these dictators – typically called *personalist* dictators -- are found to be more likely to initiate a costly international conflict and invest in nuclear weapons than political leaders in other forms of autocracies or democracies (Weeks 2008, 2012).

Definition:

- Our primary interest in this project is to identify cases in which a dictator purges their militaries. We define military purges as incidents where a dictator eliminates individual elites who have legitimate access to the use of armed forces.

- **Target of elimination:** The MPD data focus on individuals who have legitimate access to physical forces capable of violence. They thus include (1) military officers in the military or other security apparatus (including the army, navy, air force,

police force and paramilitary), and (2) civilian elites that are at the top of the security apparatus such as the defence minister or interior minister.

We focus on purges of members in the military and other security apparatus because these officers are most critical in organizing a coup. Although the initial stage of coup attempts frequently involves civilian elites alone, whether these civilian coup-plotters can successfully replace the incumbent leader crucially depends on whether they can gain (at least implicitly) support from the military or other security apparatus. Thus eliminations of elites that have access to physical forces - officers in the military or other security apparatus and civilian elites that are at the top of the security apparatus such as the defence minister or interior minister - are considered to be the most crucial in reducing the elites' capabilities to successfully oust a dictator and hold him accountable.

- **Manner of elimination**: We focus on cases in which autocratic leaders force individuals out of their positions. Thus, a dictator's action to dismiss, replace, demote, arrest, jail or kill officers, as well as forced resignations are coded as purges.

- **Dictators' motivations behind elimination:** We want to distinguish dictators' actions to expand their power at the expense of elites from incidents where dictators dismiss officers purely because of their incompetence or other non-political/technical reasons. The difficulty is, though, that dictators can justify their actions by emphasizing that purged officers were incompetent or had committed crimes, even when their intention to consolidate their personal power is clear (a case in point is China's Xi Jinping). MPD therefore takes an inclusive approach, that is, it includes all cases where a dictator eliminates officers, but in addition it codes the dictator's motivations (i.e. background reasons) for each case. Users thus can operationalize their purge variables by focusing only on cases with certain background reasons appropriate for their studies.

Even Format Dataset:

This dataset contains 1,007 military purge events and their data and characteristics information. The unit of observation is an event.

Variables:

obsid*:* A unique ID for each leader (taken from Archigos 4.1)

year: The year of the purge event

month: The month of the purge event

day: The day of the purge event

multievent: Coded 1 if the same leader-year observes multiple purge events, and 0 otherwise.

ccode: Correlates of War country code

idacr: The abbreviation of country names

leader: Name of Political Leader

Purge Variables :

purge: Coded 1 if a purge occurs (i.e. all the observations are coded as 1 in the event dataset.)

violent_purge : Coded 1 if a purge involves arresting, jailing or killing of officers, and coded 0 otherwise.

Ranks of Purged Officers:

top_officer_event:

Coded 1 if targets of a purge include the top-ranking positions such as the army chief of staff, chief of general staff, commander of the army (or navy or air force), or ministerial positions such as the defense minister or interior minister.

deputy_officer_event:

Coded 1 if the targets of a purge include the deputies for the top-rank positions such as deputy chief of staff or deputy defense minister.

high_officer_event:

Coded 1 if the targets of a purge include mid-level officers and senior officers such as the commander of the regional command, army general or colonel generals.

low_officer_event:

Coded 1 if the targets of a purge include junior officers or soldiers.

rank_officer_event:

This is an aggregated categorical variable and captures whether the highest-ranked target of a purge is (a) the top-ranked officers ("top-rank officers purged"), (b) high-ranked officers ("high-rank officers purged"), or (c) only low-ranked officers ("low-rank officers purged"). Specifically, if either "*top_officer_event*" or "*deputy_officer_event*" is coded as 1, this variable is coded as "top-rank officers purged." If "*high_officer_event*" is coded as 1, but neither "top_officer_event" nor "deputy_officer_event" is coded as 1, this variable is coded as "high-rank officers purged". Finally, if only "*low_officer_event*" is coded as 1, this variable is coded as "low-rank officers purged."

Positions of Purged Officers

position_year:

This variable lists all the positions targeted by purges in a particular leader-year (This is not an event-specifi c variable. We list all the positions targeted in the same leader-year and thus it can include multiple purges.)

Size of Purges

size_purge_event:

Coded to capture whether the number of purged officers is (a) only one individual ("One officer", (b) betwee n 2 and 10 ("less than 10"), (c) between 11 and 100 ("less than 100"), or (iv) more than 100 ("more than 100").

organization_purge_event:

Coded 1 if the target of the purge is the entire organization.

Background Reasons of Purges

We create several variables that capture the background reasons or a dictator's motivation behind purges. The se categories are not mutually exclusive and thus a single purge case can have multiple reasons.

anti_previousgov_event

Coded 1 if the purpose of the purge is to diminish the influences of the previous leader/government. A dictator excludes or demotes those officers who are close to the previous leader/government. Coded 0 otherwise.

anti_rivals_event:

Coded 1 if the purpose of the purge is to diminish the influences of a dictator's rivals. This includes a purge of individuals who are popular among other elites, are considered potential successors, or those individuals who are closely connected to, or are loyal to the dictator's rivals. Cases where a dictator replaces them with those officers who are more loyal to the dictator, or takes these positions by himself are included in this category.

ethnic_purge_event:

Coded 1 if a dictator eliminates officers based on their ethnicity.

obtainposition_event:

Coded 1 if a dictator purges individuals and takes their positions by himself.

policydifference_event:

Coded 1 if a dictator eliminates individuals due to the *policy differences* they have. This category includes cases where a dictator excludes officers who have policy preferences different from the dictator's, who criticized or challenged the dictator's policies, or who refused to implement the dictator's policy orders. We use the term policy very broadly here and include purges based on differences in political philosophy in this category (such as anti-communist purges).

cabinetreshuffle_event:

Coded 1 if a leader eliminates individuals via cabinet reshuffle, and the security-related portfolios are affected by the cabinet shuffle. There are several criteria to code this variable. First, to code this variable as 1, there is at least one individual who previously held the security-related portfolio and lost the portfolio, or who was assigned to a clearly lower-ranked portfolio via the cabinet reshuffle. Second, if the individual who

previously held the security related portfolio (Minister) is assigned to a different but similarly important portfolio (Minister) in the cabinet, we do NOT code this event as a purge. However, as an exception to the above criteria, we code this variable as 1 if an individual who had previously held multiple portfolios lost some of these positions including security–related positions and still remained in the cabinet with a smaller number of positions, as a consequence of the cabinet reshuffle. If there is a clear indication that the cabinet members agree to resign and then a new cabinet is formed, we do not code the event as a cabinet reshuffle purge.

international_purge_event:

Coded 1 if a dictator eliminates officers due to political pressures from the international community or foreign countries. This includes cases where a dictator eliminates military officers in the process of implementing the peace agreement with former rebels.

threat_rumor_event:

Coded 1 if a dictator eliminates officers who reportedly planned to challenge him (via coup or assassination). This includes cases where a leader dismisses officers because the leader fears a potential coup. Note that this event refers to coup rumours. We do not include post-failed coup punishments in this category.

failedcoup_purge_event:

Coded 1 for cases where a purge happens after the attempt to challenge a dictator or the regime fails. In these events, dictators purge and punish officers who plotted or participated in a (failed) coup or a military rebellion, or those who are related to the coup plotters.

rebel_purge_event:

Coded 1 if a dictator purges officers who cooperated with rebel groups or opposition groups to challenge t he government/dictator.

civilcontrol_purge_event:

Coded 1 if the purpose of purges is to promote the civilian control of the military. Purges are meant to reduce the military's influences on politics.

incompetence_purge_event:

Coded 1 if a dictator purges officers due to their incompetence, poor performances, failures in impleme nting strategies or achieving policy goals and negligence.

crimepunish_purge_event:

Coded 1 if a dictator eliminates officers to punish them for the crimes they had committed (such as b ribery, smuggling and violations of citizens' human rights etc.).

newgovern_purge_event:

Coded 1 if a dictator eliminates individuals who had positions in the previous government, from the new government s/he organizes.

noinfo_reason_event:

Coded 1 if there is no information to code specific reasons behind purges.

Types of Purges

We create several variables to capture different types of military purges. These variables build on our coding of the *background reasons for purges* discussed above.

purge_sub1:

Coded 1 for all purges except cases where "*international_purge_event*" is coded as 1.

purge_sub2:

Coded 1 for all purges except cases where "incompetence_purge_event" or "crimepunish_purge_event" are coded as 1.

purge_sub3:

Coded 1 for all purges except cases where "newgovern_purge_event" is coded as 1.

purge_sub4 :

Coded 1 for all purges except cases where "failedcoup_purge_event" or "rebel_purge_event" is coded 1.

purge_sub5:

Coded 1 for all purges except cases where "noinfo_reason_event" is coded as 1.

purge_sub6:

Coded 1 for all purges except cases where "anti_previousgov_event" is coded as 1.

purge_sub7:

Coded 1 for all purges except cases where "international_purge_event" , "incompetence_purge_event", "crimepunish_purge_event", or "noinfo_reason_event" is coded as 1.

purge_sub8 :

Coded 1 for purge events where at least one of the following variables is coded as 1. "anti_rivals_event", "policydifference_event", "threat_rumor_event", "anti_previousgov_event", "ethnic_purge_event", "obtainposition_event", "failedcoup_purge_event", "rebel_purge_event", "civilcontrol_purge_event", "cabinetreshffle_event", "newgovern_purge_event".

purge_sub9 :

Equivalent to "purge_sub8" except that "newgovern_purge_event" is not included in the criteria (i.e. Whether "newgovern_purge_event" is coded as 1 is not relevant in creating this variable.)

Leader-Year Format Dataset

This dataset has leader-year unit of observations and includes 566 political leaders for 116 authoritarian countrie s from 1965 to 2005.

obsid:
A unique ID for leaders taken from Archigos 4.1

year:
Calendar year

ccode
COW's country code

tenure:
Tenure in years.

leader:
Leader names

Start dates and End dates of Tenure
The variables on start dates and end dates of tenure are taken from Archigos 4.1. However, we had changed the codings for Syria's Al-Jadid and Al-Assad tenure so that we can reflect the fact that the effective power shifted f rom Al-Jadid to Assad after February 26, 1969 coup.

syear:
Start year of a leader's tenure.

smonth:
Start month of a leader's tenure

sday:
Start day of a leader's tenure

eyear:
End year of a leader's tenure

emonth:
End month of a leader's tenure.

eday:
End day of a leader's tenure.

transleader:
Coded 1 for those leaders who are in power in the transition year (i.e. multiple-leaders in the same year).

GWF regime type
The following variables are from GWF and identify different types of autocratic regimes. Note that though both GWF and CGV are country-year, I assigned proper regime types for each dictator in transition years (i.e. multipl e leaders/regime types exist in the same year.)

gwf_party
gwf_military
gwf_monarchy
gwf_personal

gwf_nonautocracy

CGV regime types:

The following variables are taken from CGV and identify regime types. Note that though both GWF and C GV are country-year formats, I assigned proper regime types for each dictator in transition years (i.e. multiple le aders/regime types exist in the same year.)

cgv_regime
cgv_democracy
cgv_gwf_democracy"

Purge Variables:

The following variables are binary variables to capture whether a certain type of military purges occur in a leade r-year. For the definitions of each type of military purge (i.e. sub1 v.s. sub2), see the descriptions of the event da taset.

purge_sub1_year:
purge_sub2_year:
purge_sub3_year:
purge_sub4_year:
purge_sub5_year:
purge_sub6_year:
purge_sub7_year:
purge_sub8_year:
purge_sub9_year:

The following variables are binary variables to capture whether a certain type of violent purge occurs in a leader -year. Violent purges involve arresting, jailing and killing of officers. For the definitions of each type of military purge (i.e. sub1 v.s. sub2), see the descriptions of the event dataset.

violentpurge_p1_year
violentpurge_p2_year
violentpurge_p3_year
violentpurge_p4_year
violentpurge_p5_year
violentpurge_p6_year
violentpurge_p7_year
violentpurge_p8_year
violentpurge_p9_year

The following variables are binary variables that capture whether a certain type of nonviolent purge occurs in a l eader-year. For the definitions of each type of military purges (i.e. sub1 v.s. sub2), see the descriptions of the ev ent dataset.

peacepurge_p1_year
peacepurge_p2_year
peacepurge_p3_year
peacepurge_p4_year
peacepurge_p5_year
peacepurge_p6_year
peacepurge_p7_year
peacepurge_p8_year
peacepurge_p9_year

The following variables are binary variables to identify whether the targets of purges include top-ranked officers ("top_officer_p1"), deputies for the top-rank positions ("deputy_officer_p1"), high-ranked officers ("high_officer_p1"), or low-ranked officers ("low_officer_p1"). # indicates the types of military purges (See above for the definitions of each type of purges).

top_officer_p#
deputy_officer_p#
high_officer_p#
low_officer_p#

The following variables are binary variables to identify whether the targets of nonviolent purges include top-ranked officers ("top_officer_p1"), deputies for the top-rank positions ("deputy_officer_p1"), high-ranked officers ("high_officer_p1"), or low-ranked officers ("low_officer_p1"). # indicates the types of military purges (See above for the definitions of each type of purges).

peacepurge_p#_top_officer
peacepurge_p#_deputy_officer
peacepurge_p#_high_officer
peacepurge_p#_low_officer

The following variables are binary variables to identify whether the targets of violent purges include top-ranked officers ("top_officer_p1"), deputies for the top-rank positions ("deputy_officer_p1"), high-ranked officers ("high_officer_p1"), or low-ranked officers ("low_officer_p1"). # indicates the types of military purges (See above for the definitions of each type of purges).

violentpurge_p#_year
violentpurge_p#_deputy_officer
violentpurge_p#_high_officer
violentpurge_p#_low_officer

The following are aggregated categorical variables that capture the ranks of purge officers/positions. Specifically, the variable identifies whether the highest-ranked positions of the target officers include (a) the top-ranked officers ("top-rank officers purged"), (b) high-ranked officers ("high-rank officers purged"), or (c) only low-ranked officers ("low-rank officers purged"). # indicates the types of military purges (See above for the definitions of each type of purges).

rank_officer_purge#
rank_violentpurge#
rank_peacepurge#

The following variables capture whether the number of purged officers is (a) only one individual ("One officer", (b) between 2 and 10 ("less than 10"), (c) between 11 and 100 ("less than 100"), or (iv) more than 100 ("more than 100"). # indicates the types of military purges (See above for the definitions of each type of purges).

size_purge#
size_violent_purge#
size_peace_purge#

The following variables code whether the purge eliminates the entire organization or not.

organization_purge#
organization_violent_purge#
organization_peace_purge#

position_year:
This variable lists the names of all the positions affected by purge event in a certain year.

A.2 Case Descriptions

Upon publication of this article, I will release a case description document that provides brief narratives of cases for each leader-year included in our dataset. In this document, coders briefly provide narratives of military purges observed for each leader-year, explain their coding decisions and report the news sources. The entire case description document currently consists of 291 pages. In this section, I provide a few of these narratives as examples.

Example Narratives from the Case Description Document

1970 Bolivia BOL Ovando Candia

In a move to forestall left-wing factions within the armed forces from taking power, General Ovando reorganized the High Command of the Bolivian military, and removed General Torres, the Chief of Staff of the Armed Forces. Ovando himself took charge of a newly formed Supreme Council that oversaw the Chiefs of Staff of the three branches of the military.

A peaceful purge of one top officer, the Chief of Staff of the Armed Forces was recorded for 1970. The reason for this purge was coded as the leader obtaining a position by himself, and as spurred by anti-regime activities (rumors of a coup plot by left-wing officers).

Source: Keesing's Record of World Events, Volume 17, May, 1971 Bolivia, Page 24573.

1971 Bolivia BOL Torres

President Torres removed several high-ranking officers with right-wing sentiments that supported a rival, General Miranda. Among the removed officers were Colonel Adet Zamora and Colonel Juan Miguel Ayoroa. Ayoroa was General Ovanda's (mentioned above, 1969 and 1970) Interior Minister. A peaceful purge of several high-ranking senior officers was recorded for Torres in 1971. The reasons for this purge were coded as anti-previous government, as a policy difference, and getting rid of officers connected to a popular or powerful figure.

Source: Keesing's Record of World Events, Volume 17, May, 1971 Bolivia, Page 24575.

1971 Bolivia BOL Banzer Suarez

In a cabinet reshuffle, President Banzer removed his Interior Minister, Colonel Andres Selich and replaced him with Colonel Mario Adett Zamora. Selich was a powerful and important member of the regime that had played a key role in bringing the president to power. A peaceful purge of one top officer, the Interior Minister was coded for 1971 under President Banzer as part of a cabinet reshuffle.

Source: Keesing's Record of World Events, Volume 18, February, 1972 Bolivia, Page 25124.

1997 Jordan JOR Hussein Ibn Talal El-Hashim

As a result of strong differences over the country's domestic policies and stance toward Israel, Hussein dismissed his premier and Defense Minister, Abdul- Karim Kabariti, appointed just a year earlier, and replaced him with Abdel-Salam al-Majali. A new Interior Minister was named as well as part of the new government.

A peaceful purge of several top officers, the Defense and Interior Ministers was recorded as a result of policy differences and the formation of a new government.

Source: Keesing's Record of World Events, Volume 43, March, 1997 Jordan, Page 41566.

1999 Jordan JOR Abdullah Ibn Hussein El-Hashimi

A large purge of the Jordanian armed forces was conducted after the late King Hussein had surprisingly named his oldest son as his successor in place of his brother Hassan Bin Talal. The latter was accused of corruption and attempts to replace senior military officers with people loyal to him, as well as securing the support of other officers in return for promises of quick promotions. In total, some 92 junior and senior officers suspected to be loyal to crown prince Hassan were removed from the armed forces, including the Deputy Chief of the Army Staff, Lieutenant General Tahsin Shurdum. The new king Abdullah II replaced the Chief of Staff, Field Marshal Abdul Hafez Murei Kaabneh with General Mohammed Malkawi, and forcibly retired three other army generals; General Id Kamil al-Radwan, General Hamzah al-Azab, and General Mahmud Fihad.

A peaceful purge of less than 100 military officers is recorded for 1999. A purged top officer was the Chief of Staff (this is currently called the Chairman of the Joint Chiefs of Staff of the Jordanian Armed Forces). Purged high-ranking officers include the Deputy Chief of Staff (coded as "Deputy Chief of Army Staff"), several army generals, senior and junior officers. The reasons for the purge were coded as: removing a popular figure, removing those loyal to a popular figure and anti-regime actions or coup plots.

Sources: The Associated Press, July 18, 1999; BBC Summary of World Broadcasts, March 4, 1999; and BBC Summary of World Broadcasts, February 24, 1999. Wiki: Chairman of the Joint Chiefs of Staff of the Jordanian Armed Forces.

A.3 Countries Dropped from MPD

We dropped from MPD those countries where we could not obtain sufficient information to accurately code purges. These countries are North Korea, Libya, East Germany, Mongolia, Belarus, Cyprus, and Bosnia and Helzegovina. Given that we dropped only seven countries, it is very unlikely that it will introduce biases in the empirical analyses.

A.4 Main Results

This section provides more detailed information on statistical analyses and results reported in the main text.

- Repression Data (Dependent Variable)
  - In terms of my dependent variable (the severity of state repression), as I maintain in the main text, I use OSV data because it clearly defines the target of repression as unarmed civilians who are "not active members of the security forces of the state" and also excludes cases where the targets of state violence are government officials (Pettersson, 2019, pp.3).
  - As I mentioned in the main text, many state repression datasets count dictators' acts against members of the security forces as state repression.[1] For example, Political Instability Task Force (PITF) data by Marshall, Gurr and Harff (2018) include large-scale military purge incidents as genocide or politicide cases.
  - More generally, repression literature defines repression as "violations of physical integrity rights" that are inflicted by "political authorities against those under their jurisdiction" (Fariss, 2014, p.297). And, thus, it does not differentiate whether the targets/victims of repression are regime insiders (i.e. members of the government/regime including members of the repressive apparatus), or civilians. For example, the CIRI Physical Integrity data created by Cingranelli and Richards. (1999) define extrajudicial killings as "killings by government officials without due process of law" and a victim is "someone who was killed by a government or its agents as a result of his or her involvement in political activities or for supporting (implicitly or explicitly) the political actions of opposition movements against the existing government (Cingranelli and Richards, 2014, p.7)". This definition thus does not exclude cases where dictators violently purge members of the security

[1] See Fariss (2014) for the list of these data sources.

apparatus who are unhappy about incumbent leaders and are suspected to support the movement against the regime/dictators.

  - Using these repression data sources in my analysis would be problematic as we would count the cases where dictators arrest, jail or kill military officers as both military purge incidents as well as repression incidents, which in turn leads to incorrect inferences that military purges have positive effects on repression of civilians.

- Control Variable Sources

  - Data for variables come from the GWF data for the military leader and civilian leader variables, that capture leader identities prior to their assuming office (the base category includes both rebel leaders and a member of the royal family), the support party variable, and the leader tenure variable (logged), the PRIO (Gleditsch et al., 2002; Harbom, Melander and Wallensteen, 2008) for the civil war variable, the Penn World Tables, version 9.0 from Feenstra and Timmer (2015) for the GDP/capita (logged) and the population (logged) variables.

  - In terms of the lagged dependent variables, the number of civilian casualties in the previous year (logged) is included in the count component, and a binary variable of whether civilian killings by the government (i.e. defined as one with at least more than 25 deaths) occurred in the previous year is included in the zero-inflated part.

- Model Selections

  - Since my dependent variable exhibits clear over-dispersion (the mean of the DV is 172, while its sd is 8,812) as well as an excess number of zeros (the number of zeros is 3094, while non-zero positive is 126), I use zero-inflated negative binomial models with country random effects, estimated via the *glmmTMB* package in R.

Zero-inflated models have two components – the count component that explains the number of civilian killed by the government-year, and the zero-inflated component that estimates whether country-years are unlikely to observe the occurrence of civilian killing by the government.

  - Table A1 compares various model specifications using Model 4 in the main text (i.e. the model with a binary large-scale purge variable). Table A1 reveals that a zero-inflated negative binomial model enormously improves the fit, in comparison to alternative approaches such as a negative binomial model and a zero-inflated model with the poisson link. I also confirmed that adding more control variables (i.e. including all the control variables utilized in the count component) in the zero-inflated component diminishes the model fit.

- Results

  - Figure A1 provides the coefficient estimates of Models 1, 2, 3, 4 and 5 discussed in the main text. As I mentioned in the main text, large-scale purge variables have negative and significant effects on the number of civilians killed by the government, while other types of purges do not have significant effects. In terms of the occurrence of civilian killings, defined as one with at least 25 civilian deaths per country-year in OSV data, none of purge variables have significant effects.

  - The magnitude of the effects of large-scale purges is also large enough to be meaningful. Holding other variables constant at their means or medians, an increase in a binary large-scale purge variable from zero to one reduces the predicted number of civilian casualties in state repression by one-third from 213 to 70.

  - The results on control variables are consistent with the literature's understanding. For example, a better economy will reduce the number of civilians killed by the government as well as the likelihood of occurrence of civilian killing. Both the

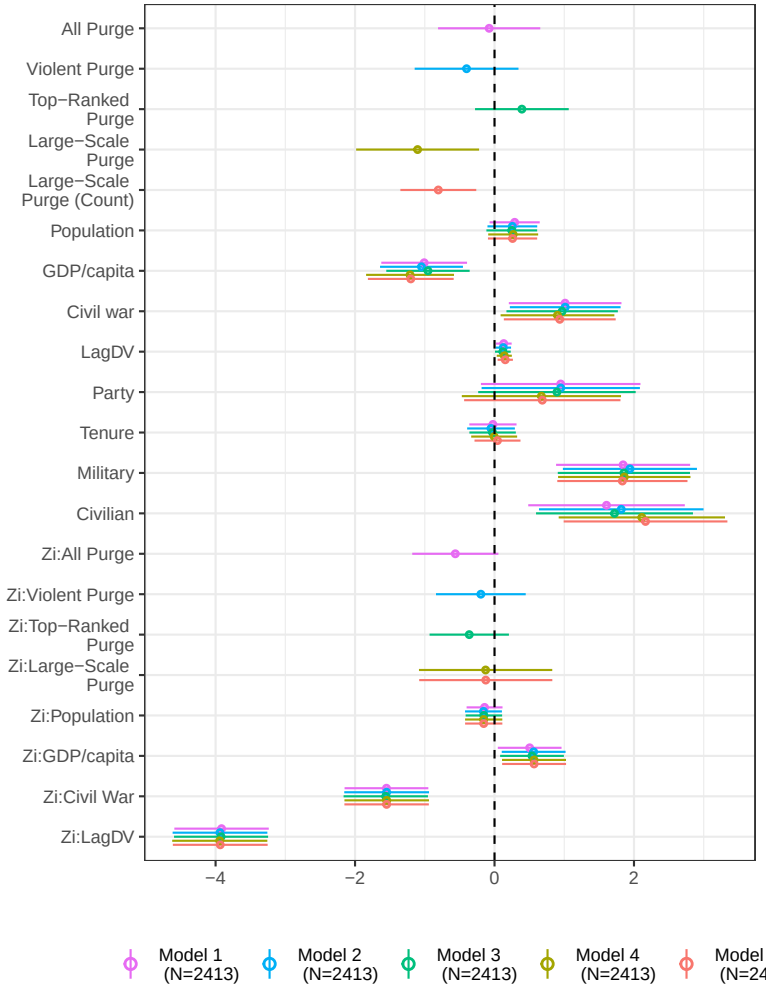
occurrences of civilian killing by the government as well as the severity of civilian killing are higher during ongoing civil war.

Table A1. Model Fits

Model	AIC	BIC	N
Negative Binomial	2363.92	2433.39	2413
Zero-inflated Poisson	69794.15	69898.34	2413
Zero-inflated Negative Binomial	2083.20	2193.19	2413
Zero-inflated Negative Binomial with more ZI parameters	2084.23	2217.37	2413

Note: I compare different model specifications in evaluating the effects of *Large-Scale Purge* on the severity of repression. A zero-inflated negative binomial model reported here is identical to Model 4 in Figure 4 reported in the main text.

Figure A1. Coefficient Estimate (Models in the Main Text)



A.5 Robustness Test

In this section, I show that the empirical inferences reported in the main text hold with additional control variables such as civilian killings by non-government groups, the International Criminal Court (ICC) ratification, ethnic exclusion, violent and nonviolent protest and latent personalism.

- Variable Sources
  - Data sources are Chapman and Chaudoin (2013) and Jo and Simmons (2016) for the International Criminal Court (ICC) ratification variable (whether a country-year has ratified the ICC Rome Statute), OSV data for the binary rebel violence variable that indicates whether civilian killing by non-government actors occurs in a country-year, NAVCO 2.0 dataset (Chenoweth and Lewis, 2013) for the violent and nonviolent protest variables (the binary variables that indicate whether such protest occur in a country-year), the Ethnic Power Relations (EPR) dataset version 3.0 (Wimmer, Cederman and Min, 2009) for the ethnic exclusion variable (the percentage of a country's population excluded from state power), and Frantz et al. (2019) for the latent personalism variable.
- Results
  - I report the results with a binary large-scale purge variable in Figure A2 and the results with a count purge variable that measures how many large-scale purge incidents occur in the previous 5 years in Figure A3.
  - Consistent with the results reported in the main text, the results here show that large-scale purges reduce the number of civilians killed by the government.
  - The majority of the additional control variables do not have significant impacts on the count of civilian fatalities. One exception is a latent personalism measure, which is negative and statistically significant, though the uncertainty is quite large.

Figure A2. Results with More Control Variables (IV: Binary Large-Scale Purge Variable)

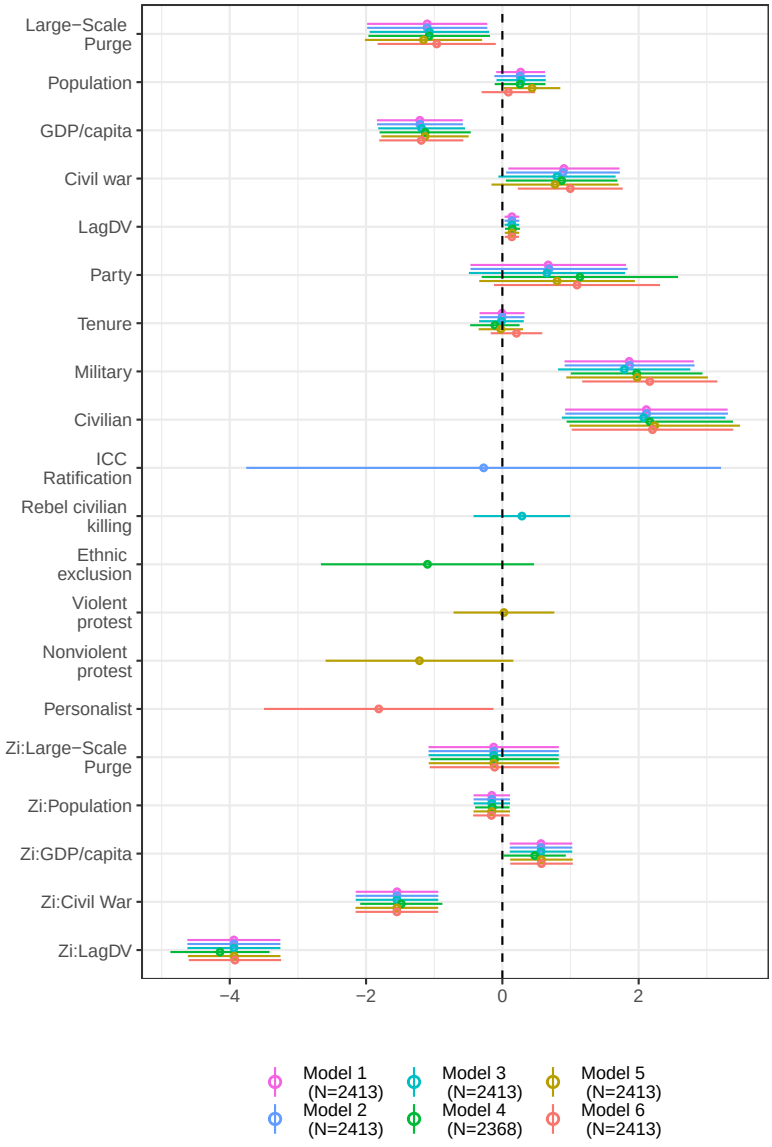
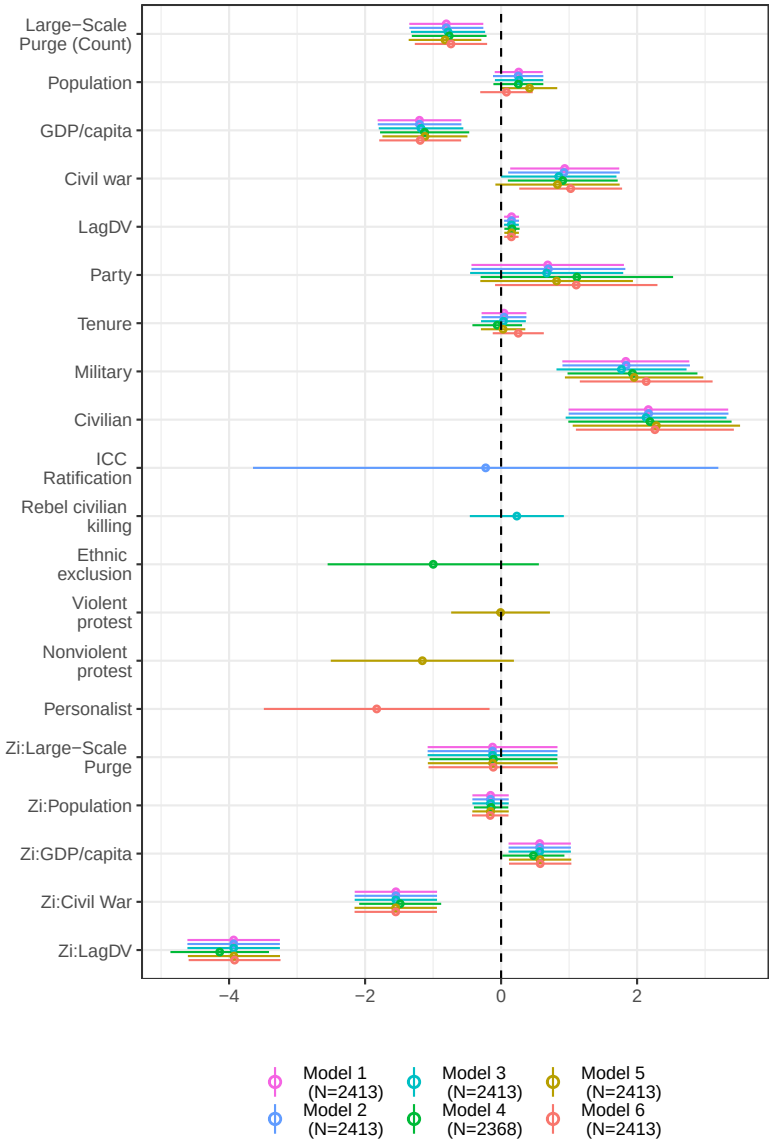


Figure A3. Results with More Control Variables (IV: Non-Binary Large-Scale Purge Variable)



References

Chapman, Terrence L. and Stephen Chaudoin. 2013. "Ratification Patterns and the International Criminal Court." *International Studies Quarterly* 57(2):400–409.

Chenoweth, Erica and Orion A. Lewis. 2013. "Unpacking nonviolent campaigns: Introdoucing the NAVCO 2.0 dataset." *Journal of Peace Research* 50(3):414–423.

Cingranelli, David L. and David L. Richards. 1999. "Measuring the Level, Pattern, and Sequence og Government Respect for Physical Integrity Rights." *International Studies Quarterly* 43(2):407–417.

Cingranelli, David L. and David L. Richards. 2014. "The Cingranelli-Richards (CIRI) Human Rights Data Project Conding Manuary Version 5.20.14.". https://drive.google.com/file/d/0BxDpF6GQ-6fbY25CYVRIOTJ2MHM/edit.

Fariss, Christopher J. 2014. "Respect for Human Rights has Improved Over Time: Modeling the Changing Standard of Accountability." *American Political Science Review* 108(2):297–318.

Feenstra, Robert, Robert Inklaar and Marcel P. Timmer. 2015. "The Next Generation of the Penn World Table." *American Economic Review* 105(10):3150–3182.

Frantz, Erica, Andrea Kendall-Taylor, Joseph Wright and Xu Xu. 2019. "Personalization of Power and Repression in Dictatorships." *The Journal of Politics* 82(1):372–377.

Gleditsch, Nils Petter, Peter Wallensteen, Mikael Eriksson, Margareta Sollenberg and Håvard Strand. 2002. "Armed Conflict 1946-2001: A New Dataset." *Journal of Peace Research* 39(5):615–637.

Harbom, Lotta, Erik Melander and Peter Wallensteen. 2008. "Dyadic Dimensions of Armed Conflict, 1946-2007." *Journal of Peace Research* 45(5):697–710.

Jo, Hyeran and Beth A. Simmons. 2016. "Can the International Criminal Court Deter Atrocity? ." *International Organization* 70(Summer):443–475.

Marshall, Monty G., Ted R. Gurr and Barbara Harff. 2018. "PITF-State Failure Problem Set: Internal Wars and Failures of Governance, 1955-2018.". Dataset and Codebook.

Pettersson, Therese. 2019. "UCDP One-sided Violence Codebook Version 19.1.". Codebook.

Wimmer, Andreas, Lars-Erik Cederman and Brian Min. 2009. "Ethnic Politics and Armed Conflict: A Configurational Analysis of a New Global Dataset." *American Sociological Review* 74(2):316–37.