Guardians of the Regime: When and Why Autocrats Create Secret Police

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Abstract

Autocrats use secret police to stay in power, as these organizations deter and suppress opposition to their rule. Existing research shows that secret police are very good at this but, surprisingly, also that they are not as ubiquitous in autocracies as one may assume, existing in less than 50% of autocratic country-years. We thus explore under which conditions secret police emerge in dictatorships. For this purpose, we apply statistical variable selection techniques to identify which of several candidate variables extracted from the literature on state security forces and authoritarian survival hold explanatory power. Our results highlight that secret police are more likely to emerge when rulers face specific, preempt-able threats, such as protests and anti-system mobilisation, but also when they have the material resources to establish these organisations. This research contributes to our understanding of autocrats' institutional choices and authoritarian politics.

Keywords: Secret Police, Security Force Structure, Authoritarian Politics, Autocracy, Variable Selection

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1 Introduction

Secret police are a key instrument in the autocrat's quest to suppress opposition and remain in power. They are specialists in surveillance and preventive repression, as they are tasked with instilling fear, deterring dissident political mobilisation, and, where such mobilisation takes place, putting an end to it before it can escalate to threaten the ruler. Accordingly, existing work has shown that secret police presence is associated with reductions in both individual and collective acts of resistance by citizens (Hager and Krakowski, 2022, 2024; Choulis et al., 2024). While they can be broadly linked to increased physical repression (Mehrl and Choulis, 2024), there also is evidence that secret police succeed at deterring dissent. For instance in Eastern Germany, their presence is linked to reduced levels of political imprisonment (Steinert, 2023), at least once they have established a reputation for tracking down and repressing opposition activity (Mehrl and Choulis, 2024).

Recent research has thus begun to elucidate how secret police keep autocratic rulers in power. Earlier work has studied the principal-agent relationship between ruler and secret police, highlighting autocrats' incentives to limit the competence of their subordinates (Egorov and Sonin, 2011; Zakharov, 2016; Dragu and Przeworski, 2019) but also the career pressures pushing subordinates to join the secret police in the first place (Scharpf and Gläßel, 2020, 2022). What may get lost across this body of work, however, is that secret police are not an automatic feature of autocratic governance. Indeed, global data shows that they exist in approximately a quarter of all military and personalist regime-years coded by Geddes, Wright, and Frantz (2014). They are present in less than half of all party regime-years, have been highly prevalent only in the dictatorships of Europe and Central Asia, and, overall, existed in not even a third of all non-democracies over the period 1950–2018 (Choulis et al., 2024; Mehrl and Choulis, 2024). Given that secret police apparently generally succeed in preventing dissent, this raises the question – when can we expect secret police to be formed in autocracies?

Here, we answer this question. Drawing on existing research on states' security force design, we first identify a number of potential predictors of secret police existence. We then apply a LASSO model (Tibshirani, 1996) to select the subset of these predictors

that are associated with the onset of secret police organisations. This selection occurs by penalizing the number of non-zero entries in the maximized likelihood. Coefficients with little impact on the target variable are set to zero, effectively removing those predictors. This allows us to identify the variables that have the strongest influence on the formation of secret police. We find that secret police are most likely to be established when rulers not only perceive specific, preempt-able rather than acute, threats that drive their creation, but also possess the necessary material resources to act upon them.

This research advances the literature on authoritarian security institutions and autocracy more generally in several ways. First, we collect different theoretical arguments regarding the drivers of security institutional set-ups from existing studies and test them against each other in a principled fashion, finding that some prominent explanations contribute little to understanding secret police formation. Second, we provide the first study of when rulers choose to institute secret police organisations, thereby, third, providing a clear foundation for further research that may investigate the specific role of single predictors of secret police from a more theoretical and/or causal perspective. Finally, our research emphasizes that what has regularly been considered a static feature of autocratic governance – secret police – is actually a variable to be explained, thus highlighting important variation in authoritarian institutional choices.

2 The Predictors of State Security Force Structure

Existing research has identified several predictors of state security force structure, that is, how governments decide to structure their security apparatus and what types of institutions they choose to invest in. This research has, in particular, studied the existence of counterbalancing paramilitaries and pro-government militias, but has also begun to investigate when government recruit private military contractors and foreign legionnaires. And while these types of security forces may share commonalities, but also important differences, with secret police organisations, their identified predictors provide a useful starting point to understand when rulers choose to establish a secret police.

Perhaps unsurprisingly, a first set of drivers of state security force structure very di-

rectly pertain to the risk of deposition the ruler is facing. Along these lines, several studies find that facing a higher risk of being deposed by regime elites via a coup d'etat, i.e., the level of internal threat, increases rulers' extent of coup-proofing, via the establishment of paramilitaries such as presidential guards (Belkin and Schofer, 2003, 2005) or pro-government militias (Ash, 2016; Carey et al., 2016), but also by hiring private military contractors (Gentil-Fernandes et al., 2024). But beyond coup risk, research also argues that rulers are susceptible to threats which are external to their regime, in particular mass-based mobilisation challenges in the form of protests or intrastate conflict (Carey et al., 2016; Böhmelt and Clayton, 2018; Akins, 2021; Klosek and Souleimanov, 2025), or even their country, pointing to the role of interstate rivalries, militarized interstate disputes (MIDs), and wars (Ash, 2016; Akins, 2021; Grasmeder, 2021). And Böhmelt et al. (2017) focus again on the role of coup risk, but show that regimes also learn external events as they react to the experience and behaviour of their "peers", that is, countries facing similar threats.

These studies have also identified less direct, structural features of states that rulers can observe to learn about their level of threat and then make decisions on establishing specific security force types, but which may also constrain rulers in actually translating these decisions into action. Along these lines, Pilster and Böhmelt (2012) show that democracies are less likely to coup-proof via paramilitaries, while Carey et al. (2015) highlight that pro-government militias are most likely to be formed in weakly democratic countries. But focusing specifically on autocracies, recent research also shows that modes of autocratic rule matter, with increased levels of personalist power concentration corresponding to an increased probability of having counterbalancing paramilitary forces (Escribà-Folch et al., 2020), pro-government militias (Klosek and Souleimanov, 2025), and foreign legionnaire recruitment (Mehrl and Escribà-Folch, 2024).

Focusing more on the constraints rulers face, Böhmelt and Clayton (2018) highlight that specific security force configurations require more developed state capacity on the side of governments, arguing in particular that mobilising, maintaining, and supervising paramilitaries requires more financial and administrative resources than linking up with

militias would entail. Mehrl and Choulis (2021), in turn, emphasise that employing paramilitaries was more straightforward for countries inheriting similar auxiliary forces upon colonial independence, while research on militias and private military contractors points to the benefits of delegating violence to such "external" actors when accountable to democratic aid donors (Carey et al., 2015, 2016; Gentil-Fernandes et al., 2024).

3 The (Potential) Predictors of Secret Police

As we aim to understand when rulers establish secret police organisations, the insights generated by the literature on state security force structure guide the choice of variables included in our models. Therefore, we include several indicators of events directly threatening the ruler, both "at home" but also in their neighborhood, regime type, and financial and administrative state capacity (see Table 1). However, we do not account for colonial history and donor accountability. The reason for this is that, first, secret police are unlikely to be inherited across regimes (Geddes et al., 2018; Mehrl and Choulis, 2024). And second, secret police, as official state institutions whose effect depends on citizens actually knowing about them, should offer little plausible deniability.

Instead, we add a number of covariates that capture societal risk factors associated with anti-government mobilisation. These attributes should increase the ruler's risk perception and, accordingly, willingness to invest into a secret police. Therefore, we incorporate covariates regarding the population size, the population share of politically included and excluded ethnic groups, as well as what percentage of the population lives in urban settings. These variables have been prominently linked to regime threats and survival strategies (see e.g. Roessler, 2011; Chenoweth and Ulfelder, 2017). Similarly, variables counting the time the current leader and regime have been in power are included as both the risk of deposition and the associated need to set up new security measures are likely to change across their life cycles as the ruler becomes more established (Svolik, 2012). We also include a measure capturing whether a regime uses ideological legitimization claims, following the notion that such regimes may have reduced needs for security institutions (Escribà-Folch et al., 2020) or, alternatively, feel a stronger need to protect their core

ideological tenets among their citizens.

We also seek to capture more formal precursors of political mobilisation. Therefore, we include a dummy variable for election years as well as measures of civil society independence, participation level, and the presence of anti-government civil society organisations. We account for the ruler's existing efforts at tackling such threats by including covariates that gauge the level of repression, both generally and targeted specifically at civil society organisations. Given that rulers only have a limited amount of resources to create and sustain different security institutions (Böhmelt and Clayton, 2018), variables capturing alternative security force structures, clientelistic rule as an alternative mode of generating information and control, as well as overall military spending are included as possible predictors. Expanding on the intuition that rulers require resources, i.e., disposable income, to create and maintain security forces (Geddes et al., 2018, p.157; Fails, 2020), we include measures of economic performance and growth, and of oil and gas production.

Table 1 lists all covariates included in our models[1]. Our goal here is to provide a first indication of which of these factors, and, thus, the theoretical dynamics discussed above, are actually associated with the establishment of secret police institutions. We thus do not develop a specific, fully formulated theory for each of them, but instead lay the groundwork for such theoretical development by investigating which of the several potential theoretical dynamics actually appear worthy of investigation[2].

[1]Table 1 also gives data sources. In accessing data, we benefited from `Peacesciencer` (Miller, 2022) and the WEP Dataverse (Graham and Tucker, 2019).

[2]Additionally, we opt against developing theoretical hypotheses here as testing all of them together would likely prove close to impossible (see Keele et al., 2020).

Table 1: Variable Selection by LASSO and Stepwise Methods. LASSO selection was performed using a logit link (Model 1) and cloglog link (Model 2); Stepwise selection was performed using a logit link (Model 3) and cloglog link (Model 4).

Variable	**Selected in Model**	**Variable**	**Selected in Model**
Intrastate conflict: Dummy (UCDP)[1]	-	Clientelism (V-Dem)[6]	-
Intrastate conflict: Years since (UCDP)[1]	-	Ethnically excluded population (%)[10]	-
Democracy score (Polity5)[2]	-	Counterbalancing[11]	-
Coup attempt: Dummy[3]	-	Military expenditures (Latent score, *ln*)[12]	1, 2, 3, 4
Coup attempt: Years since[3]	-	Oil production (Financial value, *ln*)[13]	-
Human rights (Latent score)[4]	1, 2	Gas production (Financial value, *ln*)[13]	3, 4
State capacity (Latent score)[5]	-	Election year (NELDA)[14]	-
Bureaucratic capacity (V-DEM)[6]	-	Leader duration (CHISOLS)[7]	-
Fiscal capacity (V-DEM)[6]	-	Regime duration (CHISOLS)[7]	1, 2, 3, 4
Territorial control (V-DEM)[6]	-	Failed coups in region[3]	-
CSO entry and exit (V-DEM)[6]	-	Successful coups in region[3]	-
CSO repression (V-DEM)[6]	1, 2, 3, 4	International rivalry: Dummy[15]	1, 2, 3, 4
CSO participatory environment (V-DEM)[6]	1, 2	International rivalry: Count[15]	1, 2, 3, 4
CSO anti-system movements (V-DEM)[6]	1, 2, 3, 4	MID: Dummy[16]	-
CSO strength (V-DEM)[6]	-	MID: Years since[16]	-
Regime change (CHISOLS)[7]	-	MID: Count[16]	3, 4
Urban population (%)[8]	-	Protest (Latent score)[17]	1, 2, 3, 4
Economic growth[8]	-	Neighbour protest (Latent score)[17]	-
Personalisation (Latent score)[9]	3, 4	GDP p.c. (Logged)[8]	1, 2, 3, 4
Ideological legitimisation (V-Dem)[6]	3, 4	Population (Logged)[8]	-

Data sources: [1]Davies et al. (2024); [2]Marshall and Gurr (2020); [3]Powell and Thyne (2011); [4]Fariss (2019); [5]Hanson and Sigman (2021); [6]Coppedge et al. (2023); [7]Mattes et al. (2016); [8]World Bank (2021); [9]Geddes et al. (2018); [10]Vogt et al. (2015); [11]Pilster and Böhmelt (2011); [12]Barnum et al. (2025); [13]Ross and Mahdavi (2015); [14]Hyde and Marinov (2012); [15]Thompson and Dreyer (2011); [16]Palmer et al. (2022); [17]Chenoweth et al. (2014).

4 Research Design

Our analyses are based on a dataset covering 120 autocratic countries over the period 1951–2018 from Choulis, Escribà-Folch, and Mehrl (2024). The target variable $y_{i,t}$ is a binary indicator of secret police onset in country i and year t, taking the value 1 if a secret police is established and 0 else. Following McGrath (2015), we set $y_{i,t}$ to missing if a secret police exists but was established before. If the transition is interrupted by a gap in the dataset due to the suspension of autocracy, this is not counted as a formation. As a result, we disregard any formations at time point t, if, e.g., there was no autocracy or observation at $t-1$. According to this scheme, we observe 31 secret police formations in 29 countries, with Iran and Cuba each experiencing two formations. The dataset contains 3,759 observations in total. We include all independent variables listed in Table 1 lagged by one year to account for the time between changes in the covariates and their potential effect on secret police formation. Missing values are imputed using

bootstrap-based methods with the `Amelia` package (Honaker et al., 2011)[3]. Thus, we make use of multiple imputation in an iterative algorithm that, first, imputes missing values and, second, maximizes the likelihood of the complete data. To account for uncertainty introduced the imputation step, we adopt a bootstrapping approach. For robustness, we impute the dataset five times, apply our methodology to each imputed version, and then average the resulting models to obtain more stable estimates.

The employed methodology follows a two-step approach: first, we identify the most relevant covariates via statistical variable selection, and second, we examine the magnitude, direction, and significance of their effects. The second step simply amounts to estimating logistic regression models, as we fit a logistic model on the selected variables for each dataset and pool the results by averaging. However, the first step requires a more detailed explanantion.

Since the sample size of our data is relatively small and our aim is to identify a parsimonious set of covariates from Table 1, we first fit a Lasso model to the data where the absolute value of all parameters is penalized with a penalization parameter λ (Tibshirani, 1996). This penalization will set the parameters of some coefficients to zero and thus detects which variables are associated with the establishment of secret police organizations. Since the dependent variable is binary, we employ a logit link function. In line with standard practice (Tibshirani, 1996; Hastie et al., 2009; Friedman et al., 2010), the penalization parameter λ was chosen by minimizing the deviance through three-fold cross validation. Given that there are only 31 observed formations, we stratify each cross-validation dataset to ensure that each fold contains approximately the same number of secret police establishments. This ensures a balanced distribution across the folds. The Lasso model is applied to each of the five imputed datasets detailed in the previous paragraph. We keep only those variables that appear in at least three out of the five models fitted on the different imputed datasets. Finally, we fit an unconstrained logistic model with the selected variables for each dataset and pool the results via Rubin's (1987) rule.

[3]For this imputation step, we require that the missing values are missing at random (MAR), meaning that the probability of missingness depends only on observed data and not on the missing values themselves. This is a plausible assumption for our data.

To further validate our findings, we repeat the analysis using an alternative stepwise selection approach based on Akaike Information Criterion (AIC) instead of Lasso. This procedure begins with an empty model and iteratively adds the variable that maximizes the AIC at each step until no further improvement is possible. Although the stepwise approach is straightforward and easy to interpret, it makes local, step-by-step decisions that may not yield the overall optimal set of predictors. Moreover, its results can be sensitive to the order in which variables are introduced (Hastie et al., 2020). In contrast, the Lasso method is more stable with strong theoretical foundations. Therefore, we use the stepwise approach only to validate the model. The variables selected via the stepwise approach closely align with those identified by the Lasso method, as shown in Table 1.

As a robustness check, we replace the logit-link with a complementary log-log (cloglog) link function. Unlike the symmetric logit transformation, the cloglog-link is asymmetric and commonly used for modeling binary outcomes where one class is rare (Tutz and Schmid, 2016), as is the case with our dependent variable. The results using the cloglog-link remain similar to those from models fitted with the logit-link.

5 Empirical Results

The first set of results, that is, which variables were selected by which approach (Lasso with logit link, Lasso with cloglog link, stepwise selection with logit link, and stepwise selection with cloglog link models), is provided in Table 1. We observe that several of the potential predictor variables were not selected by all four selection approaches. None of the several measures of state capacity was selected in a single model, suggesting that this institutional dimension is not associated with autocrats' decision to set up secret police. There is also no evidence that the occurrence or a history of coup attempts or civil war influence whether secret police are created. Further, existing alternative approaches to managing threats to the regime, such as counterbalancing or clientelism, were left out of all models, as were demographic variables. Finally, regional protests and coup attempts do not appear to play a role in creating secret police. At the same time, Table 1 exhibits largely compatible results between the four variable selection approaches, indicating that

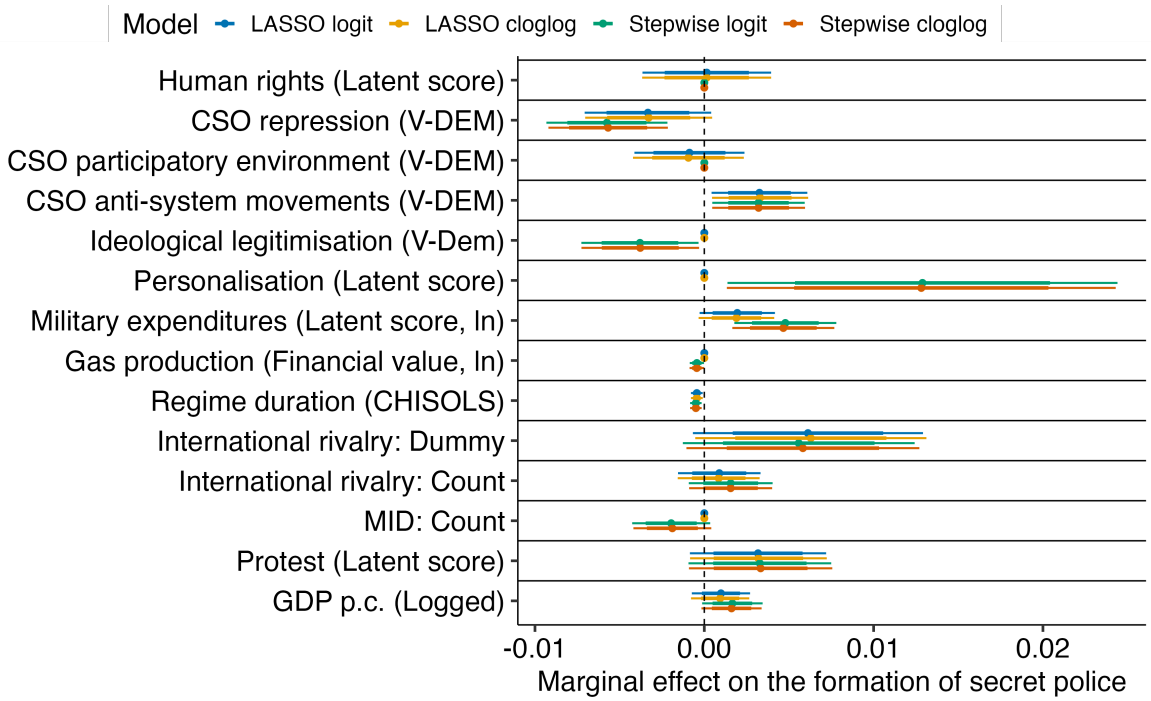

Figure 1: Predictors of Secret Police:Marginal effect estimates are shown with 90% and 95% confidence intervals, represented by thick and thin whiskers, respectively. Each variable is associated with four coefficient estimates, corresponding to LASSO and Stepwise selection methods applied with logit and cloglog link functions. Coefficients for variables not selected by a given method are plotted as zero to maintain comparability across approaches.

overall results do not depend on a particular selection approach or link function.

Figure 1 displays the marginal effects on the probability of secret police formation for all variables selected by at least one of the employed methods (Leeper, 2024)[4]. We restrict the plot to variables identified by at least one of the four approaches detailed in Table 1. A first takeaway from Figure 1 is that none of the detected effect sizes is large – however, this is unsurprising given how rare secret police formations are.

Looking at specific effect estimates, Figure 1 supports several of the intuitions developed in Section 3 about secret police formation. First, the autocrat's threat environment appears to be important: secret police are more likely to be established if protests are more rife, civil society organisations challenging the system of government exist and are stronger, and if the country is operating within an international rivalry. Interestingly, this positive relationship between threat and secret police formation appears limited to

[4]For full results tables, see the Appendix.

more latent, not yet escalated threats. This interpretation is supported by the finding that variables capturing intrastate conflict, coup attempts, and the presence of interstate dispute remain unselected, while the count of interstate disputes is selected only in the two stepwise selection models where it is found to have a negative relationship with secret police being established. This conclusion may suggest that secret police are formed to pre-empt and be prepared for such escalation when other threats make it appear likely, as opposed to when it actually takes place. In other words, secret police may be created to delay or even stop an endgame from occurring, as opposed to helping them survive the endgame when it does occur. Indeed, when faced with a potential endgame, creating new coercive institutions may only serve to further weaken the ruler's position vis-a-vis the ruling elite instead of strengthening it (see Svolik, 2012), or be unattractive as the ruler actually enjoys increased elite loyalty for the time being (McMahon and Slantchev, 2015). And finally, the result that none of the several indicators of coup attempts and coup risk appear to matter, while protests and anti-system civil society organizations do, may suggest that secret police are created more to target threats emanating from the broader citizenry, as opposed to (military) elites.

Moreover, the results in Figure 1 indicate that secret police formation is not associated with a country's respect for physical human rights and is less likely if, specifically, civil society is already being repressed. Looking at regime characteristics, the results presented in Figure 1 highlight that secret police are increasingly less likely to be established as a regime is in place for longer – suggesting that once rule has been truly established over time, a secret police either already exists or is not necessary anymore as the regime is protected via other means. Along these lines, there is also some evidence, though found only in the stepwise selection models, that autocrats are more likely to establish secret police as they concentrate more power on themselves, mirroring similar findings for other kinds of personalised security institutions (e.g. Escribà-Folch et al., 2020), but less likely if they can rely on ideological claims to legitimize their rule.

While none of the state capacity indicators were selected, there is support for the idea that the regime's material resources affect the establishment of a secret police. Military

spending is positively associated with secret police formation, as is GDP per capita. Gas production, however, has a negative coefficient estimate, where selected. Unsurprisingly, wealthier regimes and those that already spend more on security are accordingly also more likely to invest in creating a secret police. Finally, the variable capturing the wider participation level in civil society was selected in two models, but its coefficient estimate allows for little interpretation.

In sum, our empirical results thus suggest that autocrats establish secret police when facing a particular threat environment characterized by domestic opposition from its citizens, as well as the latent external dangers captured by international rivalry. In contrast, other treats, including coups and civil war, appear not to matter, suggesting that secret police may be created to pre-empt, rather than tackle actualized threats, and to target threats from ciizens rather than elites. Additionally, our results highlight that autocrats are more likely to establish secret police early in their tenure, when they have sufficient financial resources, and when they spend those resources on security. As such, our results provide novel insights into why, as highlighted above, secret police might be so surprisingly rare in autocracies: Rulers have to face a fairly specific combination of threats and their own capabilities in terms of resourcing to be both able and willing to create a secret police. In particular, secret police are more likely to be formed in response to mass-based threats that have not (yet) escalated into civil war, but also when the ruler faces external, un-escalated threats in the form of rivalries. But to establish such a security institution, the ruler also requires sufficient material resourcing and, at least according to some of our models, sufficient power vis-a-vis their ruling coalition, thus also pointing back to studies highlighting the internal dynamics of secret police institutions and the risks associated with their existence (Egorov and Sonin, 2011; Zakharov, 2016; Dragu and Przeworski, 2019).

6 Conclusion

Secret police play a key role in ensuring authoritarian rulers' survival. Nonetheless, secret police exist in not even a third of non-democratic country-years where data is available

to us. Motivated by this apparent disconnect between the usefulness and commonness of secret police, we investigate when secret police are established in autocracies. Therefore, we collected a list of potential driving factors from the growing literature on state security force structure, added several further variables motivated by insights from broader research on authoritarian survival, and used variable selection methods to comprehend which included covariates are associated with secret police formation. Our results highlight that secret police are most likely to be created when rulers face particular, not yet escalated threats motivating their establishment but also have the material resources to do so. In particular, secret police appear to be established in response to mass- and civil society-based dissent, but not to a history of coup attempts or civil war. And looking at external threats, international rivalries are consistently found to increase the probability of secret police formation whereas actual international conflict is not.

These results contribute to our understanding of secret police, state security force structure, and autocrats' tools of survival in several ways: We challenge the often-held assumption that secret police are simply a static feature of autocracies, highlighting instead that they are absent more often than not. Further, we provide both a set of empirical correlates and an overarching intuition to understand why this is the case. As such, this research not only highlights the need for more theory-driven work on when secret police are established but also provides a strong empirical foundation for it. Finally, it highlights that not only autocrats' choices regarding their political institutions (e.g. Meng et al., 2023) but also their security apparatus require study, as the latter exhibits both variation and clear empirical consequences in terms of repression and regime survival.

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Appendix

Table A.1: Full results table underlying figure 1. Coefficients for covariates that were not selected by the Lasso model are represented by the symbol —.

	LASSO		**Stepwise**	
Variable	Logit	Cloglog	Logit	Cloglog
Intercept	−7.7292	−7.6051	−10.8003	−10.5246
	(1.1229)	(1.0976)	(1.4622)	(1.4048)
Gas production	—	—	−0.0574	−0.0569
			(0.0267)	(0.0262)
GDP p.c.	0.1264	0.1182	0.2172	0.2055
	(0.1113)	(0.1092)	(0.1149)	(0.1115)
Military Expenditures	0.2504	0.2395	0.6268	0.5965
	(0.1403)	(0.1383)	(0.1770)	(0.1721)
Militarized Interstate Dispute: Count	—	—	−0.2561	−0.2411
			(0.1493)	(0.1454)
Protest	0.4080	0.4036	0.4298	0.4252
	(0.2557)	(0.2512)	(0.2741)	(0.2678)
Regime Duration	−0.0567	−0.0556	−0.0653	−0.0635
	(0.0209)	(0.0205)	(0.0205)	(0.0199)
International Rivalry: Count	0.1137	0.1072	0.2042	0.1988
	(0.1590)	(0.1549)	(0.1626)	(0.1566)
International Rivalry: Dummy	0.7871	0.7942	0.7305	0.7442
	(0.4265)	(0.4186)	(0.4427)	(0.4322)
Human Rights	0.0190	0.0176	—	—
	(0.2492)	(0.2453)		
CSO anti-system movements	0.4188	0.4161	0.4191	0.4100
	(0.1729)	(0.1694)	(0.1705)	(0.1663)
CSO participatory environment	−0.1128	−0.1184	—	—
	(0.2124)	(0.2099)		
CSO repression	−0.4281	−0.4147	−0.7532	−0.7258
	(0.2360)	(0.2321)	(0.2120)	(0.2020)
Ideological Legitimisation	—	—	−0.4976	−0.4833
			(0.2179)	(0.2129)
Personalisation	—	—	1.6876	1.6378
			(0.7282)	(0.7051)
Log-Likelihood	−149.1236	−149.2470	−140.7985	−140.9814
Observations	3,809	3,809	3,809	3,809