Clean sweep or picking out the 'bad apples': the logic of secret police purges with evidence from Post-Communist Poland

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Abstract

Peaceful regime transitions present new democracies with the dilemma of how to reckon with members of their enforcement apparatuses. One solution is to disband authoritarian agencies and build new ones. A competing approach is to fire only the "bad apples." Strapped for competent agents, new democracies may take the latter approach, particularly if the preceding autocratic regime employed predominantly competent agents. We use a formal model to compare conducting 1) a thorough purge, which dismisses everyone 2) a selective purge, where agents are evaluated on a case-by-case basis, and 3) "no purge," equivalent to retaining everyone. We predict that competence of agents of the prior regime moderates how their ideological extremity favors selective purges over thorough or no purges. We corroborate our theory using multiple methods, including paired comparison approach, employing new data from the Institute of National Remembrance (IPN) in Poland on the operation of verification commissions in 49 sub-national regions in 1990.

1 Introduction: Purge or reform?

Protection of the rights of life, liberty, property, and contract is a fundamental function of the state, even according to the most minimalist conception (Nozick 1978; Mack 2018). Governments must ensure that the institutions offering protection, such as the police, security services, and courts function properly. But how do new governments recovering from periods of authoritarian rule reform, repurpose, or replace their security apparatuses without surrendering these functions of the state?

In this paper, we formalize the dilemma facing policymakers in the aftermath of the transition to democracy, when new democratic governments must, in the words of Jon Elster

et al. (1998), "rebuild their ships while at sea." Specifically, we analyze the policies of reforming and/or purging the security apparatus of the authoritarian regime, which are a key element of regime transition (Hassan 2020).

Without rigorous analysis, the answer to the question of who should be fired from authoritarian enforcement agencies seems obvious: "the bad apples." But the meaning of "bad" here is ambiguous. It can refer to a lack of competence or it can denote preferences ideologically distant from the new democratic government.

Following the dissolution of the Soviet Union, its satellite states were faced with the challenging task of purging their security and enforcement apparatuses of officers whose responsibilities ranged from spying and repressing the opposition to fighting white-collar crime. In the words of one Polish historian: "there were two opposing views among the [new] political elite in response to how the secret police treated the anti-communist dissident movement. Some wanted to limit the influence of old agencies entirely, resulting in a thorough purge. On the other end of the spectrum were the pragmatists [who] argued that law enforcement is but a tool in the hands of politicians and ... [t]he secret service should be reformed, but in a way that retains the experts whose origins were in the communist secret police force"(Kozlowski 2019, p.289).

Another historian (Wszolek 2019) quoted Jan Zimowski, one of the masterminds of the reform of the security apparatus in Poland, as saying "While implementing this 'revolution,' it was key to abandon any desire for revenge, because such revenge instead of hurting its intended target would end up consuming us [the former anti-communist opposition]."

These quotes suggest newly democratized states confront a gamut of choices for how to deal with the personnel of compromised security apparatuses. Purging the enforcement apparatus in the context of regime change can refer to firing officers of enforcement who resorted to extreme violence, persecuted the anti-authoritarian opposition and "deserve" to be punished by members of the incoming democratic regime; or it could refer to relieving from office incompetent agents, who were appointed to their positions for their ideological

loyalty to the communist leaders. The latter kind of officers are undesirable not because they persecuted the opposition, but because they are incompetent and retaining them offers no value to the new state. Beyond revenge, new democrats seeking to reform their security services can (1) purge the enforcement apparatus in its entirety, (2) try to carefully vet the personnel and "pick out the bad apples" or (3) take the third road of doing nothing.

Building on this insight, we use the familiar literature on the loyalty-competency trade-off to frame this dilemma of new democracies in a simple formal model. Key in modeling the incentives of politicians in the new democracy is the desire to staff the security and enforcement apparatus with agents who are at once loyal and competent. However, in our model, rather than being endpoints of a spectrum, loyalty and competence are separate, sometimes even orthogonal dimensions to one another.[1] This sense of practicality—the demand for experts skilled in fighting crime — we argue, keeps new democratic politicians' desire for transitional justice (and potentially revenge) in check. Hence, for instance, the presence of a repressive history is not instantly damning to a police department but can be mitigated by the competence of agents in that department.

Although purges are the subject of our paper, in contrast to work on authoritarian purges (Montagnes and Wolton 2019; Crabtree, Kern and Siegel 2020), we focus on the post-authoritarian period and on decisions pertaining to low level enforcement agents. Our aim in this article is to explain how politicians following regime change settle on reforms of its enforcement apparatus.

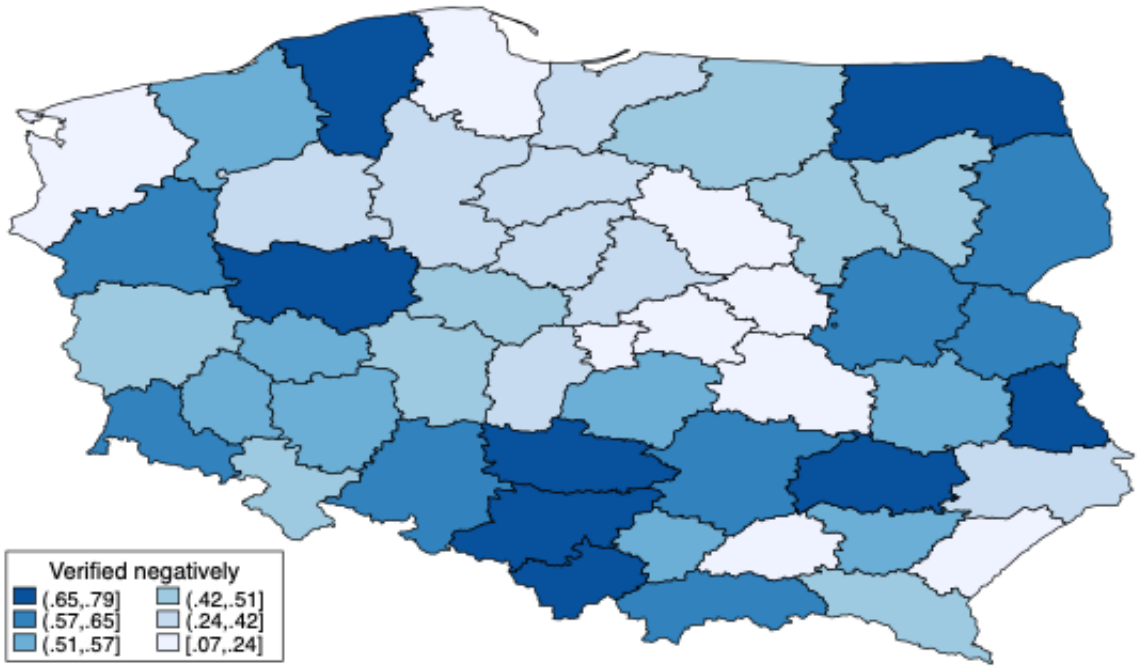
To illustrate our theory, we use data from Post-Communist Poland, a former socialist state that at the critical juncture of communist collapse faced the challenging task of purging its security and enforcement apparatus.

Poland is ideal for testing our theory of how policy-makers resolve the dilemma of whom to fire and whom to rehire because it decentralized its so-called verification process, delegating

[1] This is for two reasons: First, what it means to be competent changes with regime transition. Spying on and persecuting the anti-authoritarian opposition are, for instance, no longer desirable tasks. Second, however, an agent loyal to the former authoritarian regime may be extreme from the point of view of politicians in the new democracy.

to its 49 regions (*wojewodztwa*) and 49 Regional Verification Commissions (*Wojewodzkie Komisje Kwalifikacyjne*, RVC) the decision of how to deal with each and every employee of the former secret police. Figure 1 created using data from the IPN reveals a high level of variation in RVC decisions. It divides the 49 Polish regions into six categories, according to shares of negatively verified officers. The categories, roughly equal in size, are then ordered from the lowest of negatively verified officers (7% to 24 % in light blue) to the highest (65% to 79% in dark blue).

Figure 1: Geographic distribution of the proportion of secret service denied employment by the new democratic state



The proportion of officers verified negatively (denied employment by the new democratic state) by RVCs ranges from 0.07 to 0.79.

The variation in Poland's verification outcomes offers some opportunities for testing our theory with statistical tools, though due to a limited number of cases we are constrained to a comparison of means and a very scant OLS model. Poland does however present an ideal setting to test the findings from our formal model using the paired comparison technique. Paired comparisons have traditionally been used for theory-generation (Gerring

2016). In a first article-length discussion of paired comparisons in political science, Sydney Tarrow (2010) compared the method to experimental designs, as it allows the researcher to isolate the impact of a "single variable or mechanism on outcomes of interest" (Tarrow 2010, page 224). To our knowledge, the method has never been used in combination with formal modeling, even though it is actually ideally suited for testing propositions based on comparative statics of equilibrium results in game theory.

2 Loyalty, Competency and Justice

The recent decade has brought renewed interest among scholars in how autocrats use their various enforcement agencies to stay in power.

Sheena Greitens (2016) argues that the way autocrats organize their repressive apparatuses depends on the kind of threat they face. If they are more concerned with revolution from below, they will centralize secret police forces and create a powerful agency that might be threatening to some autocrats, just not those who predominantly fear a popular rebellion. If their primary concern is with a lateral coup d'etát, they will fragment their security forces and sacrifice efficiency in intelligence gathering to avoid a lateral challenge to their power.

Poland, the case we use here, was most definitely an instance where the greatest threat to communist rule came in the form of revolution from below rather than a lateral agency. Hence, the secret police was highly centralized. Another important feature of Communist secret police agencies was its surprising competence. In a recent article, Scharpf and Glasel (2020) present a mechanism through which security apparatuses of certain former authoritarian regimes attract agents low in competence. According to their argument, applied specifically to Argentina, the career incentives in hierarchical organizations, characteristic of authoritarian regimes, made it hard for mediocre agents to advance. The arduous character of secret police work (surveillance, long and unpredictable hours) made it a line of work that attracted ambitious yet lacking talent candidates.

Our evidence from Post-Communist Europe is somewhat at odds with this story. Based on an analysis of applicants to the communist police forces, Oseka (2008) finds that although applicants for entry-level positions in the militia (as the regular police force was called) did indeed come from rural areas and rarely carried even a high school diploma, this was no longer the case for employees of the secret police who were chosen from among the best and brightest of the militia, which had them often put through high school, and sometimes even college. According to an internal survey prepared to accompany exit interviews (Komar and Niedzialek 1990), the Polish secret police agency was generally a source of social mobility that turned uneducated, poor and rural unskilled workers into professionals with degrees (at times from college) living in their own apartments in urban areas.

Typically, the best police officers, rather than the worst, would be transferred from the regular citizens' militia to the secret police forces. To merit such transfer, they had to exhibit potential for learning the most valuable skill a secret police officer could acquire: the ability to recruit informers. This was a complex task and one on which the secret police agencies spent considerable resources, particularly in areas where the battle for citizens' hearts and minds was most heated (Piotrowska 2020).

Following the transition from authoritarian rule, the the goal of new democrats is to surround themselves with competent (or efficient) and loyal agents, which is very much in the spirit of the formalization of the loyalty-competency (or loyalty-efficiency) trade-off in the literature in political economy.

Originally modeled by Egorov and Sonin (2011), the loyalty-efficiency trade-off was used to explain why rulers, but particularly dictators, have to balance their demand for loyal agents on the one hand with the need for skilled ones, on the other. In the words of these authors,"the very competence of the vizier makes him more prone to treason" (Egorov and Sonin 2011, p. 904). Unsurprisingly, strong rulers will resolve the dilemma differently than weak rulers. The former will choose competence over loyalty, as they are capable of staging off threats; the latter will invest in loyal agents as it does not take much for them to feel

threatened.

Building on Egorov and Sonin (2011)'s foundational model, Alexei Zakharov (2016) considers an interaction between a dictator and individual subordinates where the dictator chooses a specific level of loyalty (and correspondingly lack of competence) he needs from his subordinates. A controversial prediction from his model is that unskilled agents invest in loyalty because they are aware that their limited skill-set renders them unemployable by future rulers. But skilled agents, knowing that they can find lucrative employment under any regime have an incentive to shirk.

The next models we discuss propose ways of alleviating the trade-off between loyalty and competence. Josef Woldense (2018) integrates social networks into the analysis to show that shuffling employees laterally from one geographic region to another can prevent agents' entrenchment and staves off their becoming powerful enough to threaten the ruler. At the same time, shuffling is better than firing, because agents continue to acquire expertise and have a higher competence value to the ruler. Shuffling is hence one of the ways to avoid the loyalty-competence trade-off. It allows rulers to have skilled employees that do not pose a challenge to autocratic rule.

Not posing a threat does not, however, immediately imply loyalty. What if the agent refuses to put in the effort? Jack Paine (2022) examines this aspect of the competency-loyalty trade-off in the context of organizing security and repressive apparatuses by authoritarian rulers. In this interpretation of the trade-off, the authoritarian ruler considers appointing a professional (hence equipped with expertise) army against a personal (hence loyal, but relatively less skilled) militia. It follows from the fact that neither kind of security force can survive a revolution from below (the radicalism of such revolutions reduces survival prospects of both kinds of security apparatuses to nil) that autocrats will appoint personalist rather than professional militaries when they are more concerned about external threats than about revolutionary threats from within. Because, in the view of Paine (2022), post-revolutionary regimes fire everyone from the enforcement apparatus, professional militaries

lack the will to effectively fight revolutionary threats. In contrast, in the case of external threats, professional militaries can count on leniency. Indeed, in some instances, they even collaborate with external challengers to the autocrat. In light of this, they put less effort into averting external threats. Consequently, the autocrat who fears such threats is better off investing in a personal militia.

Our model, similarly to Paine's and Woldense's, averts the trade-off between loyalty and expertise but in yet a different way: agents with expertise and weaker loyalty to the outgoing, authoritarian regime, may as a result be more loyal to the new democratic regime. At the same time, our model departs from all four models discussed above in that we are less interested in the former authoritarian ruler and more in the incentives of democratic rulers who succeed him. Note that a "competent vizier" poses a threat to the sultan precisely because of his competence (Egorov and Sonin 2011). Hence one cannot at once be competent and loyal. It is not so with our model that focuses on low level agents of repression (the equivalent of street bureaucrats) who could not pose a threat to the 'vizier' and moreover, as we explain below can be competent and loyal at the same time. It also departs from the broader literature on the loyalty-competence trade-off in that in contrast to this literature it is not concerned with leadership positions within the authoritarian regime. The fourth feature of our model is that since the new democrats inherit a state staff potentially loyal to the autocrat, their decision, at least initially, is more about whom to purge from the authoritarian state apparatus than about who to appoint.

3 The Model

In order to model the tasks before new democratic politicians deciding on how to deal with members of an authoritarian security apparatus, we follow Nalepa (2022) in using the workhorse model of American politics scholars studying bureaucracies—the delegation model (Epstein and O'halloran 1999; Huber and Shipan 2002; Callander et al. 2008). The problem

of whether or not to fire a law enforcement agent is the flip side of the delegation problem. Instead of choosing to delegate, the politician in a new democracy chooses whether to retain an existing agent that was appointed by a different (authoritarian) principal.

We model this dilemma as a decision-theoretic problem of a government official (such as an RVC chairman) who makes a choice about a former law enforcement agent. This law enforcement agent can be competent or incompetent (we assume he is competent with probability $c \in (0,1)$). Independently of his level of competence, the agent can also be moderate or extreme (he is moderate with probability $m \in (0,1)$).

The way to think about moderate and extreme agents of the law enforcement apparatus is to imagine their ideal points in the policy implementation space. This is illustrated in the upper panel of figure 2, where (M) marks the ideal point of the moderate agent and (E) marks the ideal point of the extreme agent, while (P) and (D) mark the ideal points of the RVC and former dictator, respectively. The RVC knows only that the agent's ideal point is either M, if the agent is moderate or E, if the agent is extreme, but does not know which specifically it is.

The point of including in the figure the ideal point of the former dictator is to reinforce that E is the agent ideologically proximate to the dictator but extreme from the point of view of members of the RVC. M describes the ideology of the agent who is distant from the point of view of the dictator, but moderate from the point of view of the new democracy. The agent who is distant from the dictator may have been appointed for his competence. Perhaps the efficiency with which he was capable of executing policy made up for his lack of loyalty so that it was worth from the point of view of the dictator to tolerate him despite his divergent preferences. Since regime change means that executive power changes hands, sometimes in the radically opposite direction, such a competent but disloyal towards the dictator agent may be exactly the kind of agent who can be repurposed in the new democracy, provided he has portable skills.

At the same time, the ideological extremeness of the agent is clearly an impediment to

Figure 2: Reinterpretation of the loyalty-competency trade-off in post-authoritarian setting

serving in the new democratic state. The greatest transition in the character of security services before and after regime change is that from serving the state, agents of enforcement have to transition to serving citizens.

Building on these insights and Nalepa (2022) and Gehlbach (2021), to simplify analysis, we assume that if the RVC could perfectly and at no cost observe the moderation and competence of the agents of the enforcement apparatus, it would retain those who are simultaneously competent and moderate.

Competence and moderation are both private information to the agent. The RVC knows only the aggregate distribution of competence and loyalty in its district. However, it can pay a cost, s (representing a selective purge) to learn loyalty and competence of the individual agent. This cost is interpreted as taking the time to examine the personnel files of secret police officers. These files contain relevant information about their performance, whether they received awards or sanctions, their tenure on the job as well as career trajectory, transfer history and education acquired before and during their service in the secret police.

In the first period, Nature determines if the agent is competent and whether his ideal point is moderate or extreme.

In the second period, the RVC chooses one of three actions $a_R \in \{tp, sp, np\}$:

1. thorough purge (tp), where the RVC fires everyone and trains a replacement;[2]

2. selective purge (sp), where after paying cost s he can learn the competence and ideal point of the agent and only fire the extreme and/or incompetent one but then has to recruit and train their replacements;

[2] In terms of Figure 2 one can think of the replacement as an agents who shares an ideal point with the RVC, i.e., 0, but has no competence (so cannot observe ω)

3. no purge (np), where nobody is fired and no new information is learned.

The payoff to (1) is $1-t$, where t is the cost of recruiting and training a new agent. The idea here is that the RVC fires the incompetent agents and replaces them with agents who are also incompetent but whose ideal point overlaps with P.

The goal of the government officials from the RVC is to employ an agent who is competent and moderate. The value of such and agent is 1. Otherwise, the government officials' payoff is 0. Hence, the payoff to (2) is $cm+(1-cm)(1-t)-s$, which reduces to $1-(1-cm)t-s$.

With no purge at all, given the probability of a competent agent is c and the probability of a moderate agent is m, the payoff from (3) is cm.

Given the parameters of the model above, we can derive the conditions under which a selective purge is the optimal choice.

Proposition 1. *A selective purge is preferred to a thorough purge, which is in turn preferred to no purge when*

$$\begin{cases} t < 1 - cm \\ s < t(1-cm) \end{cases} \tag{1}$$

Proposition 2. *A selective purge is prefered to no purge, which is in turn preferred to a thorough purge when*

$$\begin{cases} t > 1 - cm \\ s < (1-t)(1-cm) \end{cases} \tag{2}$$

These conditions are nonlinear and the first of each pair determines if the "runner-up" choice is 'no purge' or a 'thorough purge' :

1. $t < 1 - cm$ (thorough purge preferred to no purge)

2. $t > 1 - cm$ (no purge preferred to thorough purge)

The table below and the accompanying Figure 3 illustrate for what kind of values of the parameter space will a selective purge be preferred.

Suppose the costs of recruiting and training new agents of the enforcement apparatus vary from small ($t = \frac{1}{4}$) to medium ($t = \frac{1}{2}$) to high ($t = \frac{3}{4}$). Table 1 illustrates the conditions that have to be satisfied for every possible ordering of the three kinds of purges to obtain.

First, for any given level of training/recruitment cost, there is a cutpoint in terms of cm (the joint probability of a competent and moderate agents) that demarcates which of the constraints on s (the cost of carefully reading personnel files) is binding. With the exception of the medium training cost, this cutpoint is also the point of discontinuity.

For the high cost of training, for instance, the cutpoint is at $\frac{1}{4}$ creating a discontinuity in what the optimal purge is as a function of competence and moderation. When either competence or moderation (or both) are low, a selective purge is preferred even at a relatively high cost to the left of the cutpoint. Only for very high costs of selective purges would a thorough purge be chosen. However, beyond that cutpoint the maximal price of a selective purge the government official is willing to pay drops dramatically and when it is exceeded, the optimal decision is no purge.

There is also a point of discontinuity at the low cost of training, where the cutpoint is at $\frac{3}{4}$. The general pattern is similar: to the left of the cutpoint, a thorough purge is preferred when the selective purge price is not met and to the right of the cutpoint no purge is optimal when the selective purge price is not met. But the maximal price of a selective purge has to be lower for this low training cost and instead of decreasing, once cm passes the cutpoint, it increases.

	$t = \frac{1}{4}$	$t = \frac{1}{2}$	$t = \frac{3}{4}$
$np > tp$	$cm > \frac{3}{4}$ $s < \frac{3(1-cm)}{4}$	$cm > \frac{1}{2}$ $s < \frac{(1-cm)}{2}$	$cm > \frac{1}{4}$ $s < \frac{(1-cm)}{4}$
$tp > np$	$cm < \frac{3}{4}$ $s < \frac{(1-cm)}{4}$	$cm < \frac{1}{2}$ $s < \frac{(1-cm)}{2}$	$cm < \frac{1}{4}$ $s < \frac{3(1-cm)}{4}$
cutpoint	$cm = \frac{3}{4}$	$cm = \frac{1}{2}$	$cm = \frac{1}{4}$

Table 1: Conditions for selective purge to be optimal for different levels of competence, moderation and training/recruitment costs

These findings are intuitive. Note that for cm (represented on the horizontal axis in figure 3) to be high, both competence and moderation must be high. The fact that for such high values the price for a selective purge to be optimal must be very low makes sense: why pay the cost of a selective purge when almost all the agents of enforcement are desirable? Here also, unless the costs of training new staff are very low, it makes sense to just preserve all agents in their positions.

Note, however that a decrease of cm, which happens when either c or m falls, erases the advantage of no purge. Moving to the left on the horizontal axis, the attractiveness of retaining all former agents disappears in favor of a thorough purge (for a high cost of screening). Moving from top to bottom along the vertical axis, the attractiveness of a selective purge increases relative to a thorough purge for low values of cm and relative to no purge for high values of cm.

Figure 3 illustrates the propositions that can be used to produce hypotheses that we test within our paired comparison approach.

The vertical axis of figure 3 gives the value of s, the cost that the selective purge. The additional vertical lines (dashed in different colors at $cm = \frac{1}{4}, cm = \frac{1}{2}$ and $cm = \frac{3}{4}$) have been chosen to illustrate three instances of the costs of training ("high" in red, "moderate" in green, and "low" in blue). To the left of each dashed line, a selective purge is preferred to a thorough purge when s takes on a value below the line in the color of the dashed line, while a thorough purge is preferred when s is above the line in the color of the line. To the right of each dashed line, a selective purge is preferred to no purge when s takes on a value below the line in the color of the dashed line and no purge is preferred when s is above the line.

In a nutshell, the predictions of the model diverge depending on whether the proportion of competent and moderate agents is high or low. When the proportion of both or either is low, the alternative to a selective purge is a thorough purge, but when it is high, the contender is no purge.

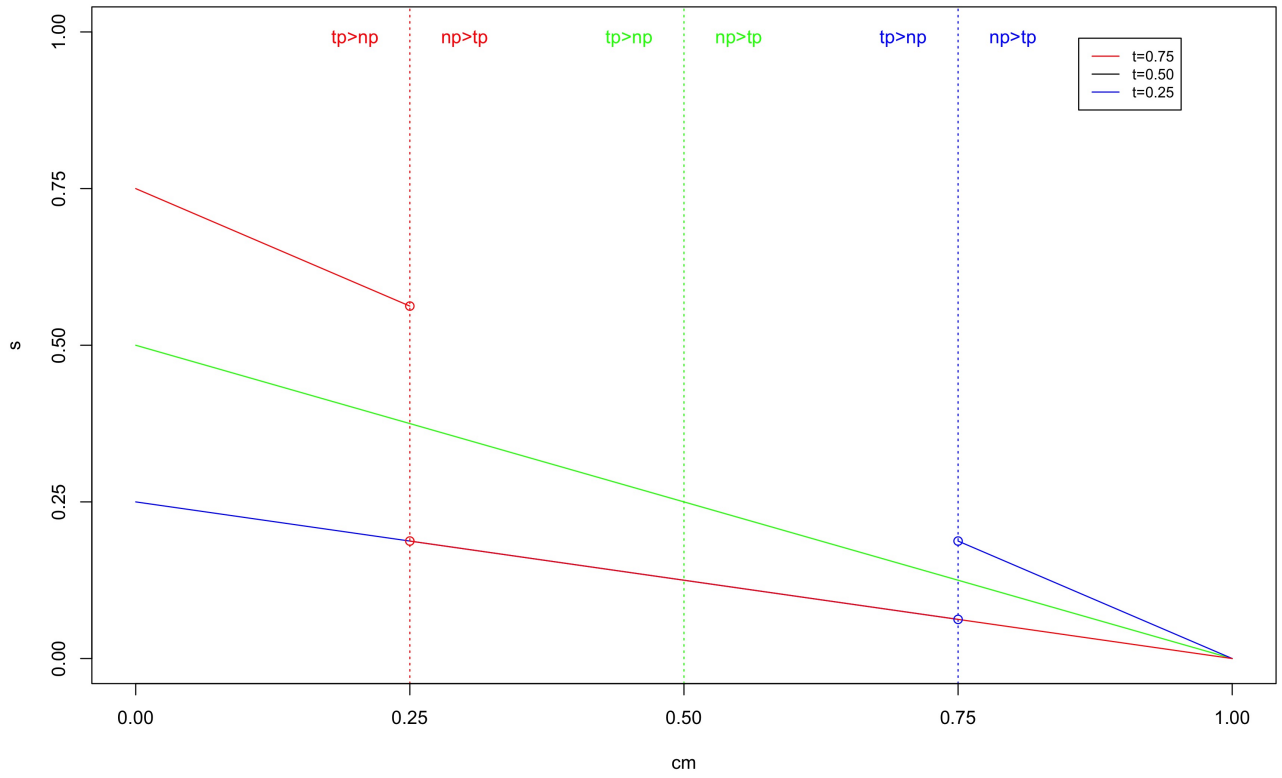


Figure 3: Thorough, Selective and No purges as a function of competence, loyalty, and cost of selective purge for three different costs of training and recruitment of new agents

In the following section, we take the main findings of the model to data. To summarize, the most robust finding is that the only parameter of the model that unconditionally makes a selective purge more attractive is a decrease in the costs of setting up a verification commission, but the proportion of competent and moderate agent changes which kind of purge is the alternative to a selective purge.

This means that when the proportion of competent agents is low, for comparable costs of selective purges, when the proportion of extreme agents increases, a thorough purge will be chosen over a selective purge (hypothesis 1)

However, when the proportion of competent agents is high, for comparable costs of carrying out selective purges, a decrease in the proportion of moderate agents will make a selective

purge more attractive to no purge (hypothesis 2)

This pair of implications will guide our construction of the empirical test based on paired comparisons (Tarrow 2010). First, however, in the next section, we explain why data on the operation of verification commissions in 1990 from the Polish IPN is ideal for our purposes.

4 Verification of security officers in Poland

Several reasons make Poland an appealing case to study the turnover of agents of repression accompanying regime change.

First, during its transition years, Poland had to deal with security forces whose loyalties could potentially destabilize the state. In the 1990's private protection and security services were highly sought after. Urban areas became hotbeds of violence committed by actors ranging from mobs of organized crime to soccer fans. In this context, the new democratic government had to decide how to retain competent moderate officers capable of staving off the threats of the transition while sifting out the disloyal and/or possibly incompetent "bad apples."

Poland's was not just a democratic transition but also a transformation of a socialist-planned to a free-market economy. The economic transformation was abrupt. Dubbed the "big-bang," it created ample opportunities for those with access to information for fast enrichment. The political transition was slow and protracted. Over two months of "Roundtable Talks," preceded by secret preparations negotiated in a Warsaw suburb, the old government negotiated the terms of including the Solidarity trade union in the formal political decision-making.[3] Ultimately, Solidarity candidates were allowed to run for 35% of seats to the Sejm in the June 4, 1989 elections. Solidarity's victory in those elections was the beginning of the end of communism in Europe.

The dual regime change –from authoritarianism to democracy and from market socialism to capitalism–meant that fragile democratic institutions exacerbated the threat of large-scale

[3] Despite its name, the Roundtable negotiation was bilateral.

property crimes brought about by the privatization of formerly state-owned enterprises. Poland needed competent officers trained in fighting corruption and white-collar crime.

The agents from the former *Sluzba Bezpieczenstwa* (SB, as the communist security services were called) were better positioned to combat white-collar crime, ranging from corruption to industrial espionage, than insufficiently trained outsiders. Hence, the new security system was bound to include at least some personnel trained under the authoritarian SB.

Yet reforming the SB became a contentious topic. The first problem was its sheer size. In 1989, SB employed 24,308 officers (Kozlowski 2019). With a long history of repressing dissidents, SB was perceived as a key pillar of authoritarianism, but any staffing policy had to respond to the challenges facing the new democratic state. Poland was in dire need of a screening mechanism.

The first democratically sanctioned cabinet initially fired all officers employed by SB at the end of July 1989. Next, each of them could apply for a position in the newly created Office for National Protection (*Urzad Ochrony Panstwa, UOP*) as long as he or she was younger than 55 *and* was positively verified by the relevant RVC. Positive verification was not synonymous with re-employment in the new secret service: While some 14,000 officers participated in the verification process, there were only c.a. 5,000 vacancies in UOP.

The creation of RVCs was the result of delegating vetting decisions to the 49 wojewodztwa by the new democratic cabinet and came as somewhat of a surprise in July 1990 (Kozlowski 2019).

Each RVC included an UOP representative, the head of local police, a universally trusted local activist as well as MPs, and senators. This composition was more or less uniform in each *wojewodztwo* (as the 49 regions in Poland are called).

With little more than a few weeks to review hundreds of personnel files, RVC resources were thinly stretched. Given how little guidance came from the administrative center, the variation seen in the verification outcomes in the introduction to this article might not seem surprising.

Perhaps some RVCs only approved officers who distinguished themselves from the rest by contributing socially desirable outcomes[4] while others rejected only those whose transgressions could be proven.[5] Though such idiosyncratic explanations are consistent with the high variation we observe in Figure 1, our model provides a theoretically consistent reason for the variation.

A sub-national study like ours offers a rare opportunity to control for broader country-specific variables. Moreover, given that the 49 RVCs operated fairly independently from one another in making the initial verification decision, this kind of analysis is reminiscent of a subnational analysis of, say, state legislatures in the 50 United States.

This is crucial in light of many criticisms leveraged against the paired comparisons approach. Tarrow (2010), for instance, points out that the first instances of using this method by Skocpol (1979) and Putnam, Leonardi and Nanetti (1994) paired cases that were distant either across time, space, or both. Tarrow argues that this makes it impossible for the analysis to pick up on hidden cultural or historical determinants that are responsible for the phenomenon in question but not accounted for by the independent variables of these authors.

4.1 Data

Ultimately, out of the 14034 security officers that underwent verification, 10439 (or 74%) were verified positively and could apply to work in the new democratic security service.

In order to shed light on the determinants of the type of purges, we analyzed a number of historical and archival sources, compiling them into an original dataset.

The archival data from files of the RVCs contain, for each of the 49 wojewodztwa, information on the severity of purges, our key variable of interest. The files allow us to extract:

[4] For instance, Kozlowski (2019) reports that in Tarnobrzeg 80 % of the applicants were verified negatively, as positive evaluations were only offered to those who could provide evidence of contributing a desirable outcome from the point of view of dissidents.

[5] Also Kozlowski (2019) describes that in Gdansk, the stronghold of the Solidarity trade union, RVC members only opined negatively on case with concrete evidence of harm inflicted on dissidents (p.206).

1. the number of officers that underwent verification;

2. the number of those verified positively and negatively;

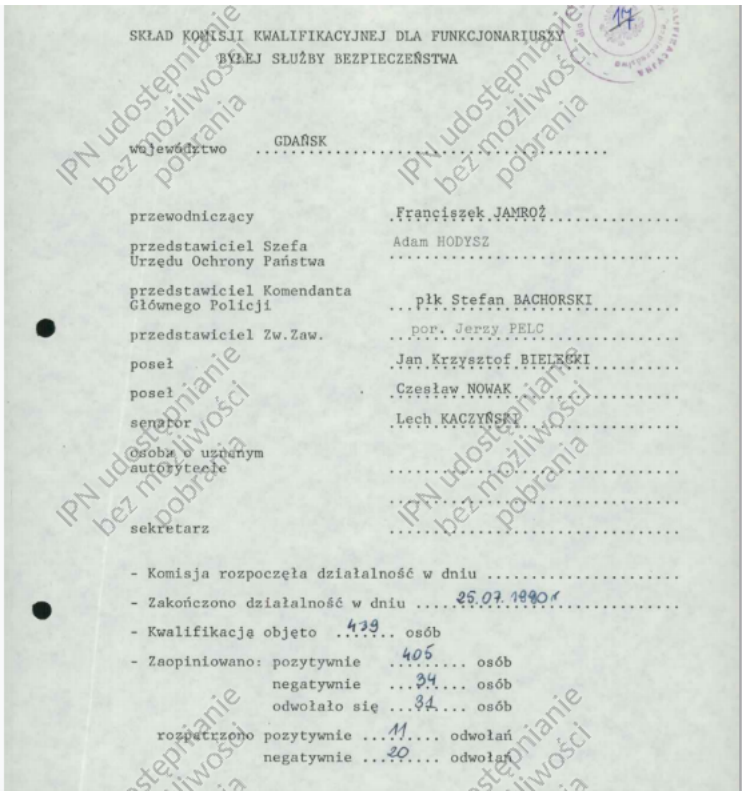
3. the time each RVC spent on deliberation;

4. the proportion of officers that appealed the negative decision of the commission;

5. the outcome of the appeal.[6]

An example of a page from the files constituting our data is provided in Figure 4.

Figure 4: Example of a Regional Verification Commissions summarizing the commission's decisions



SKŁAD KOMISJI KWALIFIKACYJNEJ DLA FUNKCJONARIUSZY
BYŁEJ SŁUŻBY BEZPIECZEŃSTWA

województwo GDAŃSK

przewodniczący Franciszek JAMROŻ

przedstawiciel Szefa Urzędu Ochrony Państwa Adam HODYSZ

przedstawiciel Komendanta Głównego Policji płk Stefan BACHORSKI

przedstawiciel Zw.Zaw. por. Jerzy PELC

poseł Jan Krzysztof BIELECKI

poseł Czesław NOWAK

senator Lech KACZYŃSKI

osoba o uznanym autorytecie

sekretarz

- Komisja rozpoczęła działalność w dniu .....
- Zakończono działalność w dniu 25.07.1990 r.
- Kwalifikacją objęto 439 osób
- Zaopiniowano: pozytywnie 405 osób
  negatywnie 34 osób
  odwołało się 31 osób
  rozpatrzono pozytywnie 11 odwołań
  negatywnie 20 odwołań

The empirical interpretation of our model ought to focus on the type of purges conducted in each wojewodztwo. The type of purge is best captured as a combination of the verification

[6] We investigate the consequences of such appeals in separate work. Here, it suffices to say that the possibility of appeal was not even anticipated by RVCs

outcome *and* the amount of time that each RVC spent adjudicating the individual cases. Since selective purges require the careful reading of files and interviewing candidates, we expect them to be the most time-consuming.

Hence, we operationalize a *selective purge* as one where the RVC took a considerable amount of time deliberating each case; a *thorough purge* as an instance where RVCs took the least time deliberating *and* verified a high proportion of officers negatively; and *no purge* as an instance where the RVCs took little time deliberating *and* cleared a high proportion of officers to serve under the new democratic system. Thus, no purge means that the commission was relatively lenient, not necessarily that all the agents were verified positively. Similarly, a thorough purge means that the commission was relatively stringent.

Demarcating the categories of "less" and "more" time into clear categories requires a definition of cutoffs. In Table 2 we define it as above (more) and below (less) the mean number of hours expended per file.[7]

Table 2: Types of purges

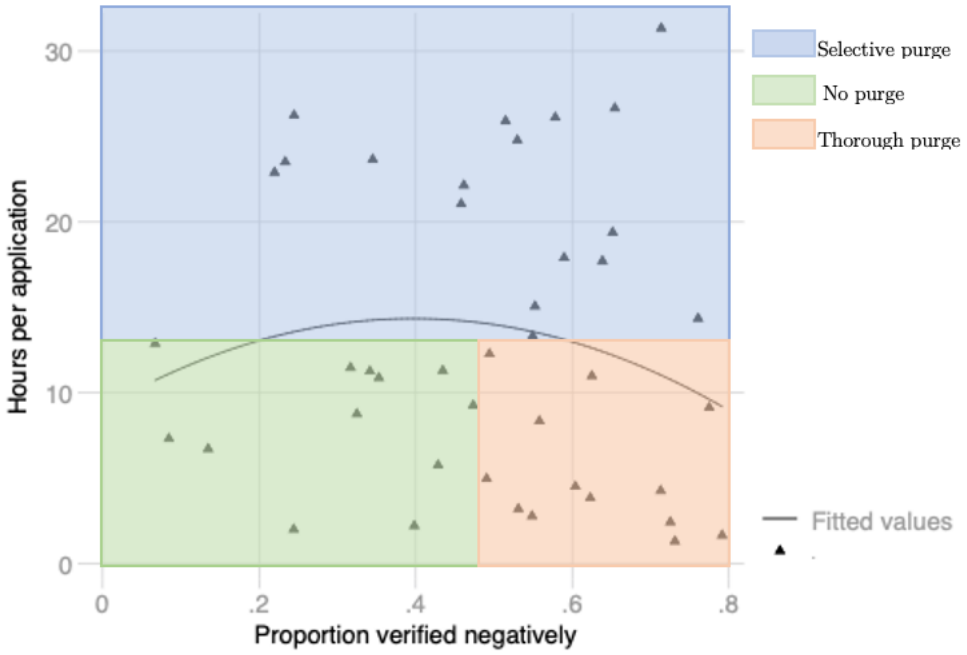
Purge type	Proportion verified negatively	Hours per application	Frequency	Percent
No	<0.48	<12.9	12	28.57
Selective		>12.9	17	40.48
Thorough	>0.48	<12.9	13	30.95

This rule allows us to classify the vast majority of wojewodztwa according to the type of purge they used in dealing with former secret police agents.[8] Figure 5 depicts all wojewodztwa for which we have the relevant information and places them on in a space defined by the two relevant dimensions (1. proportion verified negatively and 2. length of time spent per application). The lines demarcating the three types of purges are set to the mean values of the two variables.

[7] In the appendix, we present an alternative categorization that uses median, rather than mean, values (Table 7)

[8] The remaining wojewodztwa could not be classified as the dates of operation of the RVCs (and hence the time devoted to each application) are missing from the files.

Figure 5: Classifying purge types



Our classification necessarily rests on arbitrary choices concerning the levels of key variables. To increase its credibility, we corroborate it with supporting information from the archives of RVCs, consisting of letters and reports that allow us to paint a richer picture of the commissions' work.

In wojewodztwa classified as having no purges, the documents consist of complaints regarding the low levels of purges. For instance, Wloclawek's Solidarity Trade Union rep wrote a letter to the RVC complaining about the high level of positive verifications in the wojewodztwo (BU/3546/52). In Zamosc, the commission wrote "Society judged our position as too lenient. SB's activity in the Zamosc area was particularly brutal and repressive." (BU/3546/53 p.22). Finally, in Radom, the leader of the RVC wrote "We feel that the Commission's activities have not met public expectations." (BU/3546/39). Documents from wojewodztwa that saw selective purges show fewer complaints. In Bydgoszcz, the commission reports "considerable public approval of the work of the RVC. Attitudes demanding revenge soon morphed into acceptance and even empathy" (By/453/47 p.204). In Tarnow, the

selective aspect is also clearly visible: "(i)n cases where the in-depth information did not give unequivocally negative indications, the RVC requested positive consideration of the appeals".

Correspondence stored in the archives of the wojewodztwa that underwent thorough purges strikes a yet different tone, suggesting a desire for revenge. According to the author (a former SB officer) of a letter addressed to the Ombudsman for Human Rights "on its first day of proceedings, the commission [RVC in Tarnobrzeg] handled a vast majority of valuable and highly educated personnel. (...) Moreover (...) there was a list of 40 names drawn up by "Solidarity" demanding they be dismissed. Among those negatively verified were secretaries, an archivist, and even an officer who served on one of the new parliamentary committees (...) This was but another act of revenge carried out in our country" (BU/3546/47 p.41).

As a final robustness check of our categorization, we use the proportion of officers that appealed their RVC decision along with the percentage of those who were granted appeal. If our purge decisions have been correctly classified, the proportion of appeals should be highest in those wojewodztwa that we classified as implementing thorough purges while wojewodztwa with no purges should have the lowest proportion of appeals. Finally, the thorough purge wojewodztwa should have the most reversals of negative decisions.

A comparison of means shows exactly that: In wojewodztwa with thorough purges 91.9% officers verified negatively had appealed the result, while in wojewodztwa with selective purges the corresponding number was 90.4%. Finally, wojewodztwa with no purges had only 85.4% of the rejected officers appeal their decisions. Of these appeals, the highest proportion— 75.5%— of reversals took place in wojewodztwa experiencing thorough purges, followed by 60.7% in wojewodztwa with selective purges. The corresponding figure for wojewodztwa with no purges was 58.7%.

These additional robustness checks increase the credibility of our classification rule. Moreover, the results of our analysis as well as the appeals data reported above are robust to changing the classification rule into one that uses median, rather than mean, values of the

proportion of negatively verified and time spent per application. As expected, using medians classifies relatively more wojewodztwa as experiencing a selective purge (see Table 7).

Having discussed the dependent variable, the key explanatory variables for testing our hypotheses are the level of competence among officers in a given wojewodztwo, c; the extent of moderation among the officers, m; and the cost of conducting a selective—that is, associated with a careful reading of personnel files—verification commission, s.

To operationalize each of the theoretically relevant variables, we rely on data from IPN, as well as historical statistical yearbooks of Poland, including some variables that were collected and constructed specifically for this paper. We discuss these in turn. First, to operationalize the competence of the officer corps of the SB, we draw on data from an IPN publication covering the basic statistics on the type and number of officers at the regional level (Piotrowski 2003). The most relevant measure covers the proportion of officers tasked with securing economic resources and employed in the Department for the Protection of the Economy (PoE, *Wydział Ochrony Gospodarki*) in 1989. We use these figures as a proxy for competence, as the prestige of this department attracted highly capable officers (Kozlowski 2019), with skills that can be no doubt considered "usable" (Grzymala-Busse 2002) by the new democratic regime. In contrast to officers who spent their time repressing the anticommunist opposition or the Catholic church, officers from PoE were trained to trace crimes that were more economic than political. According to our data, the proportion of PoE officers among all officers employed in the region varied between 0.13 and 0.53 (see Table 3).

Second, to capture the level of moderation among officers we measure its inverse - the level of repression - using the intensity of repression during the Polish Martial Law (1981-1983), broken down by wojewodztwo. To construct our first measure, we take the number of people convicted of political crimes following the implementation of Martial Law and divide it by the number of people that were brought to court (Instytut Pamieci Narodowej 2021) in each wojewodztwo. On average, 63.9% of those tried were sentenced for political crimes. However, this value ranges from 0% to 100% across wojewodztwa, suggesting considerable variation in

how active the judiciary was in exercising its ability to punish dissidents. Although courts and security services were nominally separate organizations, research by Popova (2012) and McCarthy (2015) suggests that in autocracies, the actions of these institutions are more rigidly aligned than in democracies. In practice they were fused institutions, acting in sync to protect the interests of the party. In light of these considerations, higher levels of repression by courts can be used as a proxy for extremism among local security services. At the same time, we are well aware that measuring repression is bogged by problems of reverse causality: Repression is a response to anti-governmental action which, when effective, stifles the demand for anti-governmental action, and—consequently—repression (Ritter and Conrad 2016). To acknowledge this reciprocal relationship, for our second measure of repression, we normalize the first measure with the number of Solidarity members in a given wojewodztwo to control for the level of dissent.[9]

Finally, to account for the cost of running verification commissions we rely on population density in 1989 sourced from the Statistical Yearbook of Poland. We argue that the costs of selective purges were related to demands for justice (or revenge) from citizens who had been directly wronged by the secret police. Particularly in Poland, more urban wojewodztwa with fewer rural areas had a denser network of dissident activists. This was a direct consequence of the fact that Solidarity was a trade union that first organized in large workplaces. As a result, in more urban wojewodztwa, the probability that any given resident personally knew someone persecuted by secret police officers was higher than in rural wojewodztwa. This is in line with the reasoning presented by Krzysztof Kozlowski, the Minister of Interior, who argued that in areas where people had a lot of information and knew each other, the RVCs experienced pressures for revenge. On the other hand, in areas with weaker networks, the process was more devoid of emotions (Kozlowski 2019, p.206).

Building on these insights we assume that in wojewodztwa with a smaller population density the commission would pay a lower cost for engaging in a scrupulous examination

[9] The dataset of Solidarity members was constructed specifically for this purpose by the authors.

of individual officer files. In wojewodztwa with a higher population density, the easy way out was to succumb to popular demand for revenge.[10] Moreover, in the robustness checks, we also include two alternative operationalizations of the cost of setting up a commission. The first uses wojewodztwo-specific average salaries. The second uses wojewodztwo revenues per capita, excluding transfers from the central government. Both are meant to capture the opportunity costs of participating in an RVC. In other words, the higher the average salary and revenues, the higher the cost of setting up an RVC (see Table 9).

Table 3: Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Verified negatively	49	0.477	0.198	0.067	0.791
Hours/application	42	12.90	8.64	1.32	31.35
Population ('000)	49	776.498	599.4678	246.2	3968.3
Population density	49	0.143	0.146	0.0444	0.749
Repression (cases)	48	65.71	100.97	0	564
Repression (sentences)	48	37.5	50.54	0	213
Solidarity membership	49	196331.9	187110.9	33853	1122114
Competence	48	0.27	0.09	0.13	0.53

Finally, the cost of training a replacement t is likely to be common for the entire country, due to the centralized nature of security service training.[11] This implies that in our theoretical proposition, t can be held constant and so does not enter directly into our empirical analysis and does not need to be operationalized.

A summary of how we operationalize the key parameters of our model is as follows:

- c - the proportion of competent agents, is measured as the proportion of officers who before the transition worked in the Department for the Protection of the Economy;

[10] We acknowledge that this could seem to make "no purge" equally costly, but RVCs reaching "no purge" do so inconspicuously. They do not interview former secret police agents and do not solicit input from the community drawing attention to their work. Hence, it is the combination of visible effort on part of the commissioners coupled with the decision to positively verify some of them that we believe is costly.

[11] At the time when RVC's were operating, the main campus for training secret police officers was in Legionowo, a suburb of Warsaw.

- s - the cost of setting up the commission is proxied for by the population density in each wojewodztwo;

- m - the probability that the agent is moderate, measured as the reverse of the proportion of those repressed during the Martial Law.

4.2 Analysis

Having established the empirical interpretation of the model's key parameters, we are ready to present our empirical hypotheses. Based on the empirical implications derived from our model in section 3 we should see:

1. More selective purges where the cost of setting up a verification commission, s, measured by population density, is small.

2. In wojewodztwa with a high cost, s, having both a high proportion of secret police officers employed in PoE (*high competence*, c) and low levels of Martial Law repression *high moderation,* m of a typical officer increases the chances of no purge.

3. In wojewodztwa with a high cost, s, having both a low proportion of secret police officers employed in PoE (*low competence*, c) and high extremism (1-m) of a typical officer increases the chances of a thorough purge.

Our empirical tests are a combination of medium-N analysis using comparisons of means, medium-N OLS regression, as well as a paired comparisons approach (Tarrow 2010). Instead of bemoaning our low number of observations (N=42) , we see this as an opportunity to introduce yet another research design to the toolkit of scholars doing work in the spirit of Empirical Implications of Theoretical Models.

First, via a comparison of means in Table 4 we address the model's predictions concerning the effect of the cost of setting up a verification commission on the choice of a selective purge.

Table 4: Means of the purge type determinants

Type of purge	c	SD(c)	m	SD(m)	s	SD(s)
No	0.280	0.087	0.999858	0.00018	0.198	0.235
Selective	0.257	0.066	0.999851	0.00015	0.089	0.036
Thorough	0.239	0.109	0.999858	0.00014	0.164	0.138

As postulated by the model, wojewodztwa that chose a selective purge are also the ones where the verification cost (s) was relatively low: those that have seen selective purges are characterized by lower average population density, that is a lower cost of conducting an exhaustive investigation was less costly. This lower cost is statistically significant at the 10% significance level when we compare wojewodztwa with selective purges to the other two types. It is also robust to specifying purge categories using median, rather than mean values (see Table 8 in the Appendix). The relationship between purge type and the other two key variables, moderation[12] and competence is conditional on cost and nonlinear, a challenge to testing, which we address in the next section.

4.3 OLS regression

We start the analysis by running an OLS regression[13] of the likelihood of a wojewodztwo experiencing a selective purge. We choose selective purge as the base category, as it is the one of most substantive interest in our model.

Moderation (m) is measured as $1 - r$, where r is one of two measures of repression discussed above (first, exploiting the proportion of defendants sentenced in Martial Law courts and second, using the number of defendants sentenced as a proportion of the number of Solidarity members in the wojewodztwo). Finally, the first two specifications use the

[12] Here, measured as a number of those sentenced/Solidarity membership.

[13] We chose an OLS specification over MLE because when the likelihood of having experienced a selective purge is moderate (the is mean 40%), there is very little substantive difference between logit and OLS coefficients, but OLS is more efficient (recall, due to the fact that our variables are measured at the wojewodztwo level and the fact that we have unresolved missingness for some wojewodztwa, we have a very low number of observations) and easier to interpret, which is particularly important given our use of interaction terms (Hellevik 2009).

categorization of purges according to mean values of verification results, while the last two rely on median values.

The results provide a tentative confirmation of our findings. First, in three of the four different specifications of repression (see Table 5), we can see that population density (higher cost of vetting) decreases the likelihood of a selective purge. Secondly, having an interaction of both high repression and high moderation decreases the likelihood of a selective purge. This is in line with the theory - holding the cost of vetting constant, an increase in both c and m should make no purge more likely than a selective purge.

Hence, the OLS regression results provide indicative support for our theory of the relationship between the underlying characteristics of a wojewodztwo and the purge type that it saw. However, given the small sample, their sensitivity to specification, and high extent of conditionality on the variable levels, we explore these findings further using qualitative evidence.

Table 5: OLS regression of determinants of a selective purge (sp)

	(1)	(2)	(3)	(4)
	sp (mean)	sp (mean)	sp (median)	sp (median)
Competence (c)	12826.4*	8071.9*	9333.2	5464.1
	(6600.40)	(4552.83)	(6759.98)	(4724.77)
Moderation (m)	3009.6*	1775.6	2623.5	1483.8
	(1651.79)	(1193.21)	(1691.72)	(1238.27)
c*m	-12828.6*	-8074.1*	-9334.5	-5465.2
	(6601.50)	(4554.00)	(6761.11)	(4725.98)
Population density	-0.849*	-0.839	-1.014*	-1.011*
	(0.50)	(0.50)	(0.51)	(0.52)
Constant	-3008.6*	-1774.6	-2622.4	-1482.9
	(1651.53)	(1192.93)	(1691.46)	(1237.98)
N	40	40	40	40
R^2	0.18	0.17	0.17	0.15

Regressions (1) and (3) measure repression as cases/Solidarity membership.
Regressions (2) and (4) measure it as sentences/Solidarity membership.
Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

4.4 Paired comparisons

The last two theoretical predictions of our model concern instances where the cost or a selective purge exceeds the threshold to make it worthwhile for the RVC. In those circumstances, the best choice will be determined by the interaction of competence and ideological moderation of agents.

When both competence and moderation are low, when a selective purge is too expensive, a thorough purge is chosen. On the other hand, when both competence and moderation are high, the pool of agents is of high quality so that rather than paying for a selective purge, the verification commission can choose no purge. Simply put, the proportion of moderate agents does not have a linear effect on the likelihood of a selective purge, but is instead conditional on the level of competence: in high competence settings selective purges were more likely where agents were more extreme, but not when they were more moderate. In the latter setting, the no-purge option is more likely.

After obtaining preliminary evidence for the conditional effect of competence and moderation on the choice of a selective purge in the regression, our key interest lies in confirming that the mechanisms that underpin the quantitative data are what we posit them to be. Hence, we zoom in on two pairs of wojewodztwa illustrating the mechanisms discussed in our theory.

Table 6: Wojewodztwa compared and their characteristics

Wojewodztwo	Repression	Population density	Competence	Purge type	Officers verified
Tarnowskie	0.000705	0.160	0.211	selective	139
Rzeszowskie	0.0002542	0.163	0.213	thorough	206
Bydgoskie	0.0002925	0.107	0.363	selective	284
Wloclawskie	0.0000778	0.097	0.354	no	164

The paired comparison approach, which we used to select two pairs of wojewodztwa, is

central to our testing strategy. The method is an adaptation to the social sciences of John Stuart Mill (1869)'s Method of Difference (Most Similar System Design). It enables linking the key explanatory variable to the dependent variable by choosing cases that are most similar on the relevant control variables. Hence, in spirit, it is akin to statistical matching.

In one of the few discussions of combining qualitative evidence with formal models, Lorentzen, Fravel and Paine (2017) note that the overwhelming majority of papers providing such evidence published in top journals and presses use qualitative cases heuristically rather than systematically, as evidence. According to these authors, this is puzzling, as the insights generated from comparative statics are often conditional on keeping the values of other variables below or above a certain threshold. This is the case also in our theory, where the impact of competent agents moderates the predicted effect of extreme agents on the probability of taking the time to conduct a selective purge, that is, carefully vetting who among candidates for a position in the security apparatus is competent and not a loyalist of the prior regime. Thus, the inferences from our model translate directly into a paired comparison research design. The fact that all the RVCs in our data come from the same country allows us to control for many variables not in our model, while the parameters that are modeled guide our choice of specific regional commissions to match the exact conditions described in our hypotheses.

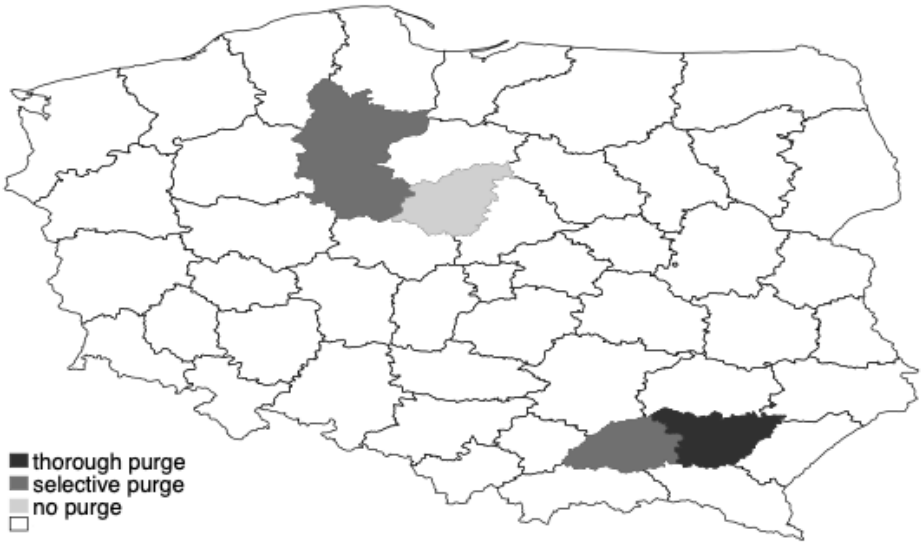
To the best of our knowledge, the paired comparison approach has never yet been used to test a formal model. Yet the suitability of the paired comparison approach to testing implications based on comparative statics of a formal model is striking. First, it allows us to control for variables operationalizing the model's parameters by using those variables to select cases. Second, many critics of EITM point out that even though a formal model isolates the effects of parameters *omitted* from the formal model, one cannot do the same when carrying the model's parameters over to a regression framework. There, any omitted variables can bias the results. By selecting our pairs of cases from the same country and region, we are effectively controlling for many hard-to-account-for cultural or geographical determinants

and thus escaping the criticism that Sydney Tarrow (2010) levied against Skocpol (1979). Moreover, when using the conditioning parameter—the proportion of competent agents (or those employed in PoE)—we choose neighboring wojewodztwa to ensure that they shared the same imperial legacies.[14] In doing so, we are able to effectively control for unaccounted institutional legacies of the past, thus escaping the criticism Tarrow (2010) levied against the work of Putnam, Leonardi and Nanetti (1994).

The wojewodztwa presented in Table 6 and Figure 6 satisfy a Most Similar Systems Design. Specifically, the two pairs share similar levels of competence (agents in PoE), cost (population density)[15], historical and cultural legacies, and have in common a host of other variables, as discussed below. At the same time, in each pair, one wojewodztwo saw a selective purge while the other saw a thorough or no purge, respectively.

This design allowed us to "control for" common systemic characteristics while inter-systemic differences play the role of explanatory variables (Przeworski and Teune 1981).

Figure 6: Location of the compared wojewodztwa



Consider first, in the top part of Table 6, the two wojewodztwa with below-average levels

[14] Poland's territory for 123 years (the period of the so-called Partitions) was partitioned by three empires: Russia, Prussia, and Hapsburg.

[15] This relationship is preserved also when using alternative measures of cost and repression, as shown in Table 10

of PoE agents (competence), but similar population density: tarnowskie and rzeszowskie, two neighboring wojewodztwos in southern Poland, depicted also in Figure 6. These wojewodztwa experienced different types of purges even though they are very similar in terms of population density. First, their share of city and village gminas[16] is nearly identical (and above average), which is associated with a similar urban-to-rural composition. They are also similarly distant from Warsaw, leading to a similarly peripheral character. Second, they both lie in a part of Poland that was controlled by the Hapsburg Empire from the 18th century, leading to shared institutional legacies. Third, even the size and composition of their RVCs was similar: they were rather small (with 8 members in each each), and both were headed by prominent Solidarity activists.

Yet, tarnowskie had a selective purge, where in 19 days the commission negatively considered the application of 39% of the 139 officers who sought verification. In fact, when following the decision of the regional commissions, the masterminds of the reform in Warsaw enabled an appeals process, members of the Tarnow commission collectively resigned in a form of protest (Wszolek 2019). Rzeszowskie, on the other hand, had a thorough purge, with all 206 applications considered in three days and 54% verified negatively. The main difference between the two was the level of repression. Rzeszowskie experienced brutal repression throughout the 1980s. In the early days of the Martial Law around 100 activists were arrested, 163 more were threatened. In the following years, security forces violently broke up anti-communist demonstrations. For example, a 1982 demonstration resulted in 136 arrests (including 42 students) and the hospitalization of five individuals (Gliwa N.d.). Repression also claimed the life of one dissident (Instytut Pamieci Narodowej Poznan 2022). Moreover, the eagerness of Rzeszow's secret police was demonstrated by the fact that following the announcement of the 1989 elections (won by Solidarity) they were ready to assist the Ministry of Defence in invalidating those results and imposing a second version of Martial law just eight and a half years following its first imposition. In our archival research, we came across

[16] Gmina is a smaller administrative unit, akin to a district.

lists of oppositionists that had been drawn up by the secret police in Rzeszow to carry out "warning conversations" and another list of individuals to be arrested. These lists, jointly containing 30 names, mimicked the lists that SB had prepared during the first imposition of Martial Law. The lists contained the addresses and full identification data of the persons to be arrested and were signed by the Deputy Director of the Regional Department of Internal Affairs in Rzeszow (Draus and Nawrocki 2000).

In contrast to rzeszowskie, in tarnowskie, the number of activists arrested and placed in internment camps was relatively low (Redakcja 2006) and included no fatal casualties. Reading of memoirs of Solidarity leaders in the region, led us to infer that any prosecution of the trade union was the result of exceptionally eager informants entangled in Solidarity leadership (Leslaw Maleszka and Zbigniew Stanuch), rather than a particularly repressive local security apparatus. Stanuch was uncovered by co-conspirators from Solidarity, but Maleszka was not and continued to provide information to the secret police about high-profile dissidents also in Krakow, where he went to college. His undercover work led the police to arrest and ultimately murder the leader of the student opposition, Stanislaw Pyjas.[17]

The qualitative discussion above corroborates similarities and the difference between Tarnowskie and Rzeszowskie. First, the proportions of officers employed in the protection of the economy are low in both with a little over 21 % in both. Moreover, using our measures of repression based on Martial Law sentencing, the expected proportion of extremist agents in rzeszowskie was higher than in tarnowskie, making tarnowskie a good candidate for a selective purge.

[17] The identity of Maleszka as a secret police informer was not revealed until several years following the transition.

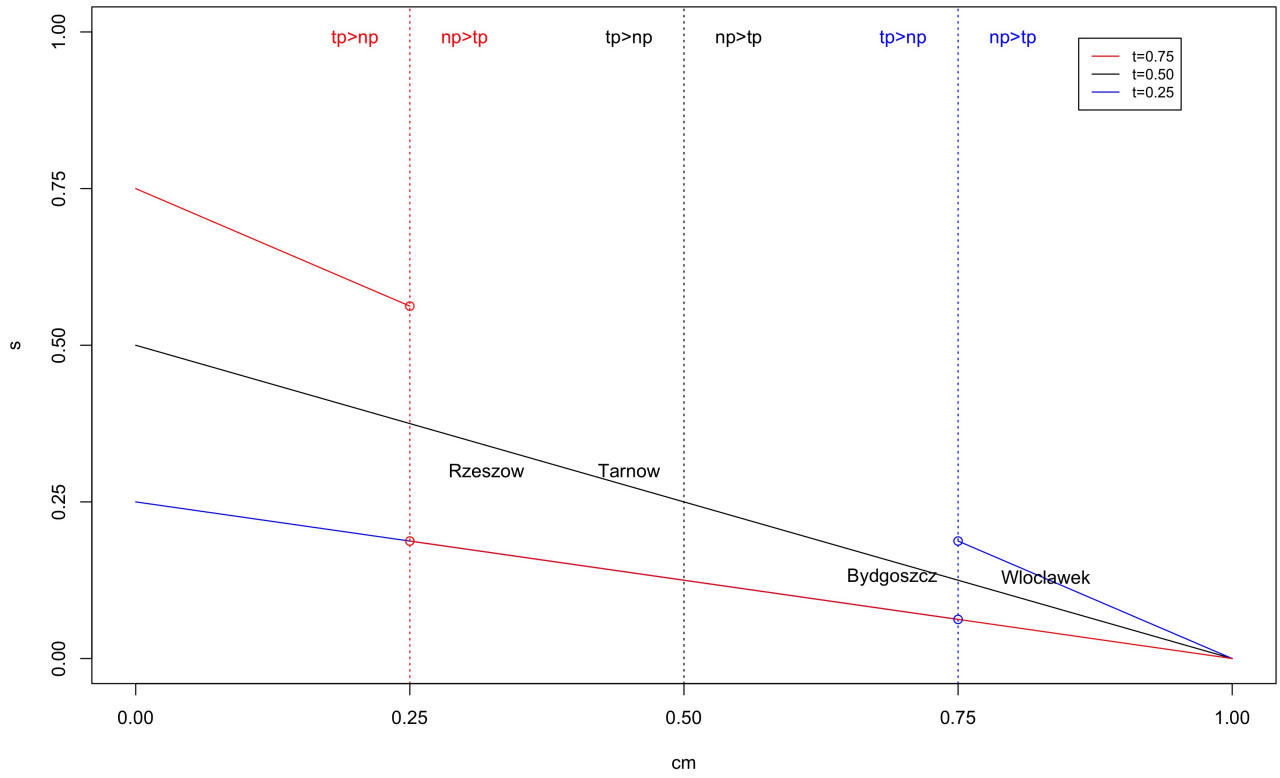


Figure 7: Tarnowskie vs. Rzeszowskie and Wloclawskie vs. Bydgoskie in light of model predictions

Based on the narrative above and our operationalization of model parameters, we can place rzeszowskie and tarnowskie in the context of Figure 7, illustrating our theoretical results from section 3. For simplicity, we assume a typical cost of training (at $t = \frac{1}{2}$) and since training of new secret police officers would have been conducted nationally, we hold those costs fixed for both pairs of wojewodztwa.

Figure 7 shows that even for a similar cost of verification, the difference in repression, resulting in fewer moderate agents in Rzeszowskie shifts the cutoff line between selective and thorough purge just right enough to be above the line separating selective purges from thorough purges.

We conduct a similar exercise for Wloclawskie and Bydgoskie, our second pair of wo-

jewodztwa below. Bydgoskie and wloclawskie share many important characteristics. First, according to the variables operationalizing parameters of our model, both wojewodztwa have a moderately high, above-median population density, making setting up a selective purge relatively costly. Second, they both had a similar (and high) proportion of agents employed in PoE (36% and 35%, respectively), which we use to operationalize competence.

Beyond the variables operationalizing our model's parameters, bydgoskie and wloclawskie shared institutional legacies: as geographic neighbors, they remained under Prussian control for a significant part of the Partition period.[18] In fact, until the 1975 administrative reform, they were assigned to the same administrative unit. Bydgoskie and wloclawskie even have comparable levels of "Solidarity" membership: 27% and in bydgoskie and 21% in wloclawskie.[19] Finally, they both had very large RVCs, with 17 and 13 members respectively, making the decision-making process complicated and prone to intervention by veto players in both cases. Where the two wojewodztwa differed, is in the levels of repression (measured by the proportion of sentenced dissidents)—our independent variable—and the type of purges they experienced—our dependent variable.

The RVC in bydgoskie chose a selective purge. As described above, in bydgoskie commission members devoted a considerable amount of time to careful verification, which suppressed discussions of retributive justice towards the SB (By/453/47 p.204). By way of contrast, in wloclawskie, the commission chose no purge, allowing almost all the candidates for verification through. This caused an uproar when several Solidarity affiliates from around the country complained to the Ministry of Interior that the RVC had ignored their complaints that positive verification of any but two security agents was morally unacceptable in light of the persecution members of Solidarity faced from the hands of the SB (BU/3546/52 p.63-69). This quote suggests that Solidarity affiliates believed the RVC was ignoring public opinion, which is consistent with mechanisms we label as "no purge".

[18] Although after the Congress of Vienna, Wloclawek, a small part of wloclawskie became part of Congressional Poland in the Russian Partition

[19] While the national average was 23.9%, it ranged from 8.5% to 44.4%

We attribute the difference in purge types between the two wojewodztwa to the difference in agents' extremism, as posited by our model. The higher level of extreme agents in bydgoskie than in wloclawskie, while holding constant the high level of competence, according to our theory, made a selective purge comparatively more likely in bydgoskie.

At the same time, our model allows us to account for an outcome that many commentators found puzzling: Bydgoszcz had been a site of one of the most brutal repressions during anti-communist resistance (before the introduction of Martial Law in 1981). The repressions culminated with severe beatings of "Solidarity" members that resulted in several hospitalizations (Chincinski 2002). The event led to unrest throughout Poland but particularly in Bydgoszcz. Had the RVC given in completely to calls for revenge, it would have no doubt picked a thorough purge. Instead, it chose a selective purge, as the competence of security officers was relatively high. Hence, our model helps understand why retribution which seems to be a natural response to repression gave way to practicality.

5 Scope conditions

The subnational analysis presented above gives us high confidence in the internal validity of our results and their potential for explaining the dynamics of security service reform in Poland in the 1990s. But what insights does it provide beyond that time and place? How representative of screening mechanisms in the former Soviet Bloc are Poland's verification commissions?

We explore the potential shadow case of Ukraine, with whom Poland shares a Post-Communist context.

When in 2014, the world turned its attention to Euromaidan in Kiiv, Ukraine, it was in response to the brutal pacification of peaceful protesters in the Central square of Kiiv, the Maidan. People had gathered there in opposition to the ruling government's pulling out of a cooperation agreement with the EU in what was perceived as a pro-Russia move.

The government led by Victor Yanukovych was in the last months of what was generally perceived as his final term. After days of trying to deflect the protest, Yanukovych resorted to sending the most brutal troops of riot police, the infamous Berkut unit, to pacify the demonstrators. Police fired on the occupants of Maidan and as a result of police actions, more than a hundred protesters died and many more suffered injuries. Europe watched in shock as a peaceful protest turned bloody. To those familiar with Eastern Europe's communist past, it brought back memories of brutal police crackdowns on peaceful anticommunist demonstrations in Poland, Hungary, Czechoslovakia, Romania, and others.

The Revolution of Dignity that followed events of the Euromaidan eventually ousted Yanukovych's government and led to the creation of a new interim government followed by new presidential elections that put in power Petro Poroshenko. Police reform was at the very top of Poroshenko's agenda. Although following the break-up of the Soviet Union, Ukraine had not purged its security apparatus of agents of repression, the interim government disbanded the violent 14,000 troops-strong Berkut unit. Several members of the unit fled to by now Russian-annexed Crimea asking for asylum in exchange for allegiance (which likely explains their eagerness to violently suppress Euromaidan). In 2022 during Russian War in Ukraine, troops from Berkut units were seen fighting on the side of Russia.

But the disbanding of Berkut was only one part of the security apparatus reform. What followed under the new government was a reform comprising of (1) the creation the newly founded (on principles of democratic policing) National Police of Ukraine; (2) the establishment of a Patrol Police staffed by newly trained recruits; (3) and a verification process resembling the Polish process (but called "re-attestation" or "re-certification") of almost 70,000 police officers.

Ukrainian re-attestation commissions included trusted civil society members. Their decisions were based their decisions on studying officers' personnel files interviews with officers, sometimes with the use of a polygraph. Initially, 7.7% of the police force was fired, including 27% officers in leadership positions. However, the process was rumored to have succumbed

to capture by insiders of the previous regime who added an appeals stage to the process, as a result of which 93% of the initially fired were rehired.

Perhaps due to this, the reforms, initially greeted with enthusiasm, were by 2008 associated with leading to a police force that was ineffective at investigating cases and participated in attacks on civic activists or minority members. Some critics blamed the failure of re-attestation commissions on the appeals process that was included in the last verification stage, which re-instituted members of the top leadership of the security forces, stalling any opportunity for a culture shift in the way police work was conducted in Ukraine.

In the terminology of our model, the police reform in post-Euromaidan Ukraine is a combination of a selective purge (in the initial phases) and no purge (at the appeals stage). Consequently, the process in Ukraine lends itself to analysis with the tools of our model of police reform.

First, note that disbanding of the Berkut unit (a thorough purge) would have been a good choice had the Berkut forces been both extreme and incompetent. While the extremism of Berkut troops is evident from its troops' readiness to declare allegiance to Russia following the annexation of Crimea and during the ongoing war, incompetence is harder to establish in light of the "elite" status of Berkut. In the late Soviet period, Berkut forces were among the best-trained units in the former Soviet region (Marat 2018). Hence, these troops had skills that would not be repurposed in the eventuality of a thorough purge. Perhaps because of such considerations, after the unit was disbanded, nearly 41% (1,641) of Berkut officers joined the new Ukrainian policeforce and consequently, the process resembled a selective, rather than thorough purge. While, as remarked above, considerable numbers of the former Berkut pledged allegiance to Russia, some pro-Ukrainian Berkut officers also joined the National Guard of Ukraine and ended up fighting alongside the regular Ukrainian Army against pro-Russian separatists in Donbas.

Second, retaining the leadership of the security forces and the police helped preserve the culture of these institutions from the Soviet era. Hence, despite purges of extreme and

incompetent actors lower in police hierarchy and the training of new recruits, officers of the old regime preserved the corrupt culture. In sum, the appeals process nullified the impetus of the initial reform.

While Ukraine offers a useful "out-of-sample" test of our theory, the model is applicable more broadly to post-authoritarian countries under two conditions: the state retained control over the files of their former secret police *and* the secret police was a relatively centralized and powerful agency.

The rationale behind the first condition is based on the summarized earlier work by Sheena Chestnut Greitens (2016), according to whom secret police centralization depends on the origin of threats to authoritarian rule. Recall Milan Svolik (2012)'s categorization of such threats into "from below" (in the form of grassroots revolutions) and "from within" the ruling coalition itself (in the form of coups d'etát).

Though extremely insightful at a macro level—predicting how autocrats will develop their secret police– Greitens does not delve into how the different secret police agencies ought to be reformed should the regime undergo a democratic transition. We believe that our model applies specifically to those new democracies that follow autocracies where the dictator feared first and foremost revolution from below, resulting in a centralized security service. The post-communist countries of Eastern Europe, including Poland, share this characteristic, but so do other autocracies (Spain under Franco and Mexico under PRI in Latin America and, arguably, China under Xi Jinping).

The centralization requirement is definitely met by non post-Soviet states in Eastern Europe, that is, states that had robust and powerful secret police apparatuses. However, not all authoritarian regimes delegate such broad powers to secret police agencies.

Whereas we would apply our model to these non-Eastern European states with caution, we feel quite confident in its relevance for post-communist Eastern Europe and believe that Poland is an ideal representative of those states.

Poland shares with Post-Communist countries the dual nature of regime change, encom-

passing both a transition from authoritarianism and a transition from a planned economy. It also shares with many countries in the region the very gradual process of the transition and the fact that the pace of the transition itself was the subject of negotiation.[20] The slow pace of transition likely factored into the price of selective purges, making careful verification cheaper as the files of the secret police could be secured through a political rather than revolutionary transition.[21]

The pace of the transition factors in our model in yet another way: by reducing the cost t associated with training new personnel. One could argue that a long protracted transition facilitates training new staff better than a revolutionary turnover. In light of this, countries with roundtable-style, yet shorter transformations would have lower training costs than those with abrupt "velvet revolutions", implying the higher accessibility of selective purges, as the agents of repression would not have to go through retraining.

Taken together, this suggests that selective, as opposed to thorough or no purges, could be more expensive in countries where the transition was more abrupt, perhaps even prohibitively expensive. Nevertheless, the underlying problem modeled here— the combination of personnel shortages with acute uncertainty concerning competence and loyalty of state employees to the former authorities — is ubiquitous.

6 Conclusion

This paper used a simple formal model, that placed familiar elements, such as the loyalty-competence dilemma, in the context of regime change to identify the unique circumstances when new democracies ought to take the time to carefully verify their security apparatus through a process we have called a "selective purge." We show that selective purges are more likely when the costs of verification are low. We also established an interactive effect between

[20] Roundtable-style negotiations took place in Hungary, Bulgaria, and even Czechoslovakia

[21] One could also make the opposite argument according to which gradual transitions gave outgoing autocrats a chance to destroy incriminating personnel files of secret police officers, which would ultimately make the work of verification commissions harder. Kozlowski (2019) documents such destruction in the multi-week-long transition period.

the extremism of former agents (or their loyalty to the previous regime) and competence. Specifically, in cases where the competence of the former agents was low, a decrease in extremism makes it more likely that a selective purge will be chosen over a thorough purge. However, when competence is high, an increase in extremism makes a selective purge more likely to be chosen over no purge.

Our theoretical findings are corroborated by a comparison of means analysis using data from the operation of 49 regional verification commissions in Poland in 1990, an OLS regression, and with a paired comparison approach. With this dual research design, we find corroborative support for our theory.

This simple model lends itself to several modifications that we plan to examine in the future. A plausible extension could give the agents a chance to appeal (that is accept or reject the decision to be purged) and have the appeal reconsidered by a "central" verification commission.

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Appendix

Alternative operationalization of the variables

In this section we consider alternative operationalizations of the key variables analyzed in the comparison of means. First, we use the same model variables, but consider the means when the purge categories are defined using median, rather than mean, variables.

To do so, recall that the main categorization considers a wojewodztwo as having seen a selective purge if the time devoted to each application was higher than the mean (Table 2). A thorough purge is defined as a situation when the time was short (lower than the mean) and the proportion of those verified negatively high (higher than the mean), and no purge is associated with a similarly short time, but a low proportion of those verified negatively. In what follows, we follow a similar rule, but using the median, rather than mean, values of the variables.

Table 7: Types of purges

Purge type	Proportion verified negatively	Hours per application	Frequency	Percent
No	<0.51	<11.3	10	23.81
Selective		>11.3	21	50
Thorough	>0.51	<11.3	11	26.19

Given that the median time is significantly lower than the mean, using the median values classifies more wojewodztwa as having experienced a selective purge.

Having constructed an alternative classification, we can now check if it affects the lessons from the comparison of means. Table 8 shows that the cost of verification is still the lowest in the areas with selective purges.

Beside the main classification, two of the theoretically key variables that can be operationalized in different ways: moderation (m) (1-repression) and cost of running an RVC (s). As a reminder, repression is measured as:

Table 8: Means of the purge type determinants using median definition of purges

Type of purge	c	SD(c)	m	SD(m)	s	SD(s)
No	0.274	0.087	0.999836	0.00019	0.208	0.258
Selective	0.260	0.066	0.999872	0.00014	0.094	0.038
Thorough	0.240	0.120	0.999843	0.00015	0.179	0.145

Table 9: Means of the purge type determinants using alternative operationalizations

	m_1	m_2	s_1	s_2	s_3
no purge	.999858	.999772	.198	198.37	259.86
selective purge	.999851	.999739	.089	192.58	229.66
thorough purge	.999858	.999772	.164	200.98	250.09

1. Number of those sentenced during the Martial Law/ Solidarity membership

2. Number of those tried during the Martial Law/ Solidarity membership

The above table uses the first operationalization. Similarly, the cost of setting up the commission can be measured in three ways:

1. Population density

2. Average salary in a given wojewodztwo

3. Revenue of a given wojewodztwo

To further explore the robustness of the comparison of means, we consider the means of the various operationalizations in wojewodztwa classified as having experienced different purge types (here we use the mean values). Table 9 shows us that the relative relationship between the means remains the same regardless of the specification. Most importantly, in all three operationalizations, the cost of setting up the RVC is the lowest in wojewodztwa classified as having seen a selective purge.

Finally, we replicate Table 6, using alternative measures of repression and cost. We can see that the main relationships (comparable costs within the two pairs and a big difference

Table 10: Means of the purge type determinants using alternative operationalizations

	r_1	r_2	s_1	s_2	s_3
Tarnow	0.0000705	0.0001795	0.160443	188.1	222.1817
Rzeszow	0.0002542	0.0003583	0.1631	183.5	245.67
Bydgoszcz	0.0002925	0.0005408	0.1069	198.9	289.6
Wloclawek	0.0000778	0.0001778	0.09743	191.8	200.2238

in the levels of repression) are preserved, regardless of the operationalization.