Building Coercive Capacity: Three Essays

by

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Dissertation submitted in partial fulfillment of the requirements for the degree of
Doctor of Philosophy in the Department of Political Science
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Abstract

This thesis is comprised of three chapters on several distinct challenges state builders face in attempting to obtain compliance for policies intended to build coercive state capacity. The focus is on two levels of political control. The first level is control exercised by leaders and principals against their agents. Strategies that leaders pursue to control their coercive agents fall under this rubric. The second level is the control exercised by states over society. Strategies that shape the state's ability to extract compliance from people come into focus here.

The security services of authoritarian leaders or their elected representatives are designed to help security officials as a group overcome the collective action problems they encounter in doing their jobs. But the achieved cooperation enables more than the maintenance of state security. It can also undermine state security by generating a potential for agency problems such as collusion and treason. Thus, leaders must balance their efforts to empower collective action among security officials with those of undermining adverse collective action. The chapter titled "Fending Off Shield and Sword: How Strategic Purges of State Security Personnel Protect Dictators" focuses on the strategic use of purges by leaders to undermine adverse collective action among officials. Leaders purge, it argues, according to factional ties in order to undermine collective action. Using individual-level career data, the chapter also tests the theory on the case of the Stalinist purges of the Soviet secret police.

Extant conflicts and social cleavages often shape how states expand power to the

periphery. The chapter "How Settlement and Inter-Ethnic Conflict Shapes State Capacity" focuses on Japanese-led state-building in Manchuria. It examines the strategies that states utilize in expanding state capacity through exploiting ethnic conflicts. A key finding is that conflict can induce cooperation with state-building efforts from some groups but not others, due to different incentives arising from conflicting property rights institutions.

finally, the dissertation illuminates trade-offs between deploying coercion and building infrastructural power. Highlighting this trade-off, the chapter titled "How Repression Undermines Infrastructural Power" shows that repression by police forces retards their ability to obtain accurate information about the population. This relationship is tested by analyzing the legacies of arbitrary Chinese repressions against Korean settlers in warlord-era Manchuria. There is a strong relationship between anti-Korean repression and lower subsequent state capacity. Literacy data of police suggests this relationship is associated with candidate quality. Specifically, repression lowers the average quality of police candidates.

To my ever-supportive parents, Tatsuyoshi and Takako Saijo.

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Abbreviations

ASSR	Autonomous Soviet Socialist Republic
CPH	Cox Proportional Hazards
GAM	Generalized Additive Model
GB	Gosudarstvennoy bezopasnosti, "State Security", to indicate ranks given to core state security workers.
GG	Government-General
GUGB	Glavnoe upravlenie gosudarstvennoi bezopasnosti, Main Directorate of State Security, central organ within NKVD apparatus in charge of state security.
IJA	Imperial Japanese Army
JPY	Japanese Yen
LTI	Land Tenure Institution
MBI	Myers Blended Index
MOFA	Ministry of Foreign Affairs of Japan
NKVD	Narodnyi komissariat vnutrennikh del, People's Commissariat for Internal Affairs, main security organ of the Soviet Union during Stalinism.
NPSF	Nonparametric Step Function
ROC	Republic of China
SMR	South Manchurian Railway–Japanese semi-state owned corporation in charge of operating the Dairen-Mukden-Hsinking railway

and adjacent zones from 1906 to 1945 after taking over from the Russians.

SoS   Sons of the Soil

SSR   Soviet Socialist Republic

UGB   Upravlenie gosudarstvennoi bezopasnosti, or State Security Directorate, local offices in charge of state security.

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Introduction

This dissertation focuses on the problems of political control faced by states and leaders attempting to induce compliance for state-building projects from recalcitrant subjects through unreliable agents. The first paper addresses the manner with which leaders control agents in the armed security forces that have the capability to violently oppose them. The second paper follows with an analysis on how extant inter-ethnic land conflicts influence the ability of states to obtain compliance from its subjects for policies intended to enhance state capacity. finally, the third paper focuses on the kinds of costs that states incur down the line when employing tactics of control such as repression.

There is a large, extant literature on the dimensions, causes, and consequences of state capacity, as well as an emerging literature surrounding political control. State capacity, defined as the capability of states to implement their goals, has been defined, categorized, and measured in many different ways. In his now famous formulation, Mann (1984) differentiates between infrastructural power, or "the capacity of the state to actually penetrate civil society, and to implement logistically political decisions throughout the realm", and despotic power, or the range of actions which

the elite is empowered to undertake without routine, institutionalized negotiation with civil society groups". In this framework, states employ both forms of power in different combinations depending on the regime type and the intent of the leaders. An influential literature investigates tradeoffs between, on the one hand, infrastructural power and, on the other, the use of coercive means for garnering compliance and exercising political control. For example, Fortin-Rittberger (2014) shows that there are positive or negative correlations between infrastructural and what it calls "coercive capacity" depending on the measure of coercive capacity used. Similarly, Osorio et al. (2018) find that highly targeted repressions are negatively associated with security provision and the consolidation of the state's monopoly over the use of force, though positively correlated with other aspects of state capacity. Lucas (1998) also shows how over-reliance on despotic power through the security apparatus undermined infrastructural power in the long run for the military regime in Nigeria. The literature on backlash against repression (or the lack thereof) shows that the literature on the effect of violent repression on rebel mobilization is replete with contradictory results, which highlights the question of when, how, and why these relationships occur (Davenport, 2007). finally, works such as Tyson (2018) demonstrate that employing coercion exacerbates the agency problems inherent in maintaining coercive capacity.

Such trade-offs notwithstanding, effective coercion often requires infrastructural power. Such capabilities allow states to obtain accurate information about the situation on the ground so that it can more effectively repress their challengers and surveil rebel organizations to deter resistance (Tilly et al., 2003; Davenport, 2009; Sullivan, 2019; Ritter and Conrad, 2016), rather than indiscriminate violence which is often counter-productive and can lead to even more opposition mobilization (Davenport, 2007). Lindvall and Teorell (2016) similarly define state capacity as the ability to "get things done," but their focus is on state capacity as power. They

define state capacity as a state's ability to project and exercise power in the Dahlian sense of the ability to compel a subject to do what he otherwise would not have done (Dahl, 1957). They focus on the financial, human, and informational resources that states deploy to implement policies through instruments such as coercion, economic incentives, and propaganda. How then, do states build such capacities?

While factors such as effective administrative organs and fiscal sources are important for building such capacities, one necessary component of this process is political control, a concept expounded in Hassan et al. (2022). Control is distinct from state capacity, as it signifies the tactics used by states to engender compliance in behavioral outcomes, such as repression, indoctrination, coercive distribution, and infiltration.

Successful political control, while distinct from state capacity, is vital for states to build capacity. This is because weaker states and those with less legitimacy often must compel their subjects to cooperate with policies designed to increase state capacity. As Matsuzaki (2019) highlights, residents must be somehow made to systematically comply with "rules and regulations" for states to successfully build infrastructural power. To take fiscal capacity as an example, taxpayers comply with extraction in already established states for two reasons. first, the administrative, coercive, and informational capacities are high enough such that there is a reasonable threat of punishment for tax evasion. Second, taxpayers have internalized norms that make them comply with extraction as long as they value the generated public goods and believe that everyone else is paying their fair share (Levi, 1989). Yet, in a society with low state penetration and a low state extraction, getting to a point where such compliance is possible requires the state to exercise more overt forms of political control. In particular, they must induce subjects to comply with measures that increase the state's ability to collect and process information needed for raising revenues and making taxpayers believe in fair tax enforcement. Such capacity is needed to pay for the provision of the very public goods that citizens

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might consider beneficial as well. Thus, states exercise various strategies of control to induce compliance at this nascent point, with varied success.

Projects to increase the state's informational capacity, such as censuses, are often viewed with great suspicion by subjects at the outset, often with good reason. The lion's share of tax revenue for early modern states went to military spending (Scott, 2010) rather than in the production of tangible public goods such as healthcare, pensions, policing, utilities, and sanitation, which, even in the most advanced states, began only in the 19th century (Ansell and Lindvall, 2020). Even seemingly benign policies such as public health programs, vaccinations, and compulsory education are resisted, as people perceive them as onerous, dangerous, or costly, and thus require states to exercise political control to implement them successfully. Even if the public accepts the utility of such programs, the provision of public goods necessarily entails a free-rider problem. Residents may want the public good but the state must often use coercion to extract and utilize resources to provide these goods (Samuelson, 1954).

Such exercises in political control require some level of organized coercion to compel subjects to begin following the state's rules and regulations—yet, building and maintaining coercive capacities raises its own problems of political control. When principals (such as authoritarian leaders or elected representatives) set up security organs to engage in coercion, they must make these offcials overcome collective action problems to maintain security. However, the achieved cooperation can also undermine state security by generating the potential for agency problems such as collusion and treason. Thus, leaders must balance their efforts to empower collective action among security offcials while managing this principal-agent problem and undermining adverse collective action. This discussion highlights the importance of political control on two levels: the state's ability to impose political control on their subjects, and the ability of principals within a state to control their agents, especially ones

with coercive capacity. This framework highlights three strata in society: masses, offcials/state agents, and leaders/state principals as highlighted in figure 1.1.

FIGURE 1.1: Leader-State-Mass Relationships

The state, comprised of agents and leaders, can exercise political control upon the population to build its capacity to govern them; in turn, mass cleavages often shape the effectiveness of such tactics, and the use of some tactics can sometimes undermine the ability of these agents to carry out state tasks in the long run (relationship B). Simultaneously, leaders must exercise political control over their agents, an especially acute issue if these agents are armed (relationship A).

As discussed above, states often use coercion to pacify social forces in order to lay the groundwork for further investments into state power. Doing so requires some sort of organized coercive capacity, which raises the problem of control for leaders who wish to use coercive force, as their coercive organs can turn against them.

Thus, the second chapter, "Fending Off Shield and Sword: How Strategic Purges of State Security Personnel Protect Dictators" focuses on relationship A in figure 1.1, highlighting one strategy of achieving political control over coercive organs: the

purge. I find that leaders purge according to factional ties to undermine collective action. I test this proposition on the case of the Stalinist purges of the Soviet secret police using individual-level career data. Though costly, such strategies are sometimes used during key moments, e.g. during times of temporary weakness or following a regime transition to allow leaders or new regimes to consolidate their control over the coercive organs.

Once violent opposition to state power is pacified, states still face the task of administering complex societies. For states with wide-ranging modernist ambitions, such as the Japanese-backed state of Manchukuo, those in power needed to understand the situation on the ground to implement its modernist policies such as taxation, mass conscription, education, public health, and economic planning. To achieve these goals, states had to first keep track of individual subjects. They often did so through personal registers, property records, and censuses, to enhance legibility, or the ability of states to understand real facts on the ground. These policies generally require a high degree of quasi-voluntary compliance, since there is a limit on how much direct coercion states can use to extract such information from the public with any sort of accuracy. Thus, the question arises of how states can induce such compliance from potentially recalcitrant groups, and how conflicts within society shape their proclivity to comply with identification and enumeration.

Therefore, the third chapter shifts our focus to the relationship between state and society, and how social cleavages can drive compliance. While state policies can attempt to extract compliance through methods of political control to build state capacity, ongoing conflicts and cleavages often constrain, shape, and enable the extent to which groups on the ground will comply with such policies. Thus, "How Settlement and Inter-Ethnic Conflict Shapes State Capacity" focuses on relationship B in the diagram and explores the drivers of compliance with Japanese-led state-building in Manchuria. I examine the strategies that states utilize in expanding

state capacity through exploiting ethnic conflicts and cleavages between its subjects, finding that conflict can induce cooperation with state-building efforts from some groups but not others, due to different incentives arising from conflicting property rights institutions.

While states often employ violent coercion to establish a monopoly over the legitimate use of force as a prior to establishing other instruments of infrastructural power, these two efforts are often at tension. Not only do states face such agency problems with coercive agents or constraints on their ability to gain mass compliance for their policies, but also incur costs from employing violence when attempting to exercise political control. The fourth chapter titled "How Repression Undermines Infrastructural Power" shows that repression by police forces retards their ability to ascertain accurate information about the population. This relationship, another aspect of relationship B as outlined in 1.1 is tested by analyzing the legacies of arbitrary Chinese repressions against Korean settlers in warlord-era Manchuria. The analysis suggests a relationship between anti-Korean repression and lower state capacity in the subsequent period. Further analysis also suggest that this relationship is partly driven by the inability to recruit quality candidates.

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Fending Off Shield and Sword: How Strategic Purges of State Security Personnel Protect Dictators

2.1 Introduction

How can authoritarian leaders employ purges to maintain control over their security services, and prevent adverse collective action, such as coups, collusion, cover-ups, and other forms of collective malfeasance from them? The fundamental problem of repression is that the agents of repression, once empowered, can turn on their betters, usurping power or even deposing their leader. The question of why agents of domestic coercion do not turn on their leaders, and what measures principals take to prevent this from happening is an important topic in political science. Even now, President Vladimir Putin, himself once a Soviet state security official, has allegedly begun to repress his own military and security apparatus over their failures to topple the Ukrainian government in the 2022 Russian invasion of Ukraine (The Moscow Times, 2022).

Existing theoretical works have suggested some explanations for when and to what extent an autocrat should engage in a purge of members of the security apparatus. They rightly focus on important individual-level characteristics, such as motivation and performance (Wong and Chan, 2021; Kim, 2021; Montagnes and Wolton, 2019) or ascriptive characteristics (Harkness, 2016), whether they are first-generation elites who entered power with the leader (Goldring and Matthews, 2021), as well as the binary principal-agent relationship between individual officials and the leader (Wong and Chan, 2021; Montagnes and Wolton, 2019; Herreros, 2006), or as the relationship between a single leader and a unitary military (or other armed organ of the state) (Sudduth, 2017). Research also sheds light on the effectiveness of elite purges; purging raises coup risk (Bove and Rivera, 2015), but successful purges increase the incumbent's tenure (Easton and Siverson, 2018).

Furthermore, many theories explain *why* a leader may purge, but say less about who exactly gets purged, especially as the purge extends to the lower levels, such as

Svolik (2012). While such explanations reveal much about the reasons and mechanisms of purges, in contrast to qualitative descriptions of actual purges, they tend lack specific explanations for how relationships *between* officials drive both the motivation to purge and who gets targeted in a purge.

This paper argues that leaders can target both high- and low-ranking individuals to preemptively undermine collective action capacity within cliques when purging the security apparatus. The principal can repress networks of individuals who are capable of engaging in adverse collective action, rather than accurately detecting and repressing actual malfeasance. While other less violent and costly strategies are available, and indeed were utilized under Stalin, this internal mass purge strategy suits an environment characterized by low information about the agents, in addition to a willingness and ability to repress[1].

To test my theoretical argument, I analyze individual-level career data for 36,896 Soviet security officials at the lower levels of the NKVD, during the period of Stalinist mass terror, from 1935 to 1940. Of these officials, I classify 2,269 as purged. Fitting a Cox Proportional Hazards (CPH) model while controlling for factors that are likely to have driven the purges, such ethnicity, rank, region, location, and service branch, I find that factional ties to purged high-ranking officials drive the purges of low-ranking officials. While this empirical test does not conclusively affirm the collective action explanation, it shows that the relationships between officials are clearly driving repressions alongside the existing explanations. Combined with qualitative evidence about the nature of personal relationships between low-level officials and the nature of these purges, this points towards the importance of collective action capacity as an explanation for why such purges target the low level officials that they do, alongside existing explanations. These results highlight the need to conduct further research

[1] This paper analyzes the rational strategies that a leader might use to purge an apparatus– to whether, why, and when these networks actually pose a threat is left to future research.

on individual relationships and potential collective action capacity in the study of purges and authoritarian consolidation.

2.1.1 Understanding Purges Within The Coercive Apparatus

This theoretical and analytical contribution engages with several important literatures in political science and history. The "institutional turn" in the study of authoritarian politics provided key insights into the function of "seemingly democratic" authoritarian institutions once thought to be mere window-dressing. However, as Pepinsky (2014, 650-651) notes, authoritarian regimes are not limited to engaging in "regime survival and general public policies," and the problem of managing the internal workings and motivations of domestic coercive organs has been understudied. Only recently have works such as Greitens (2016), Piotrowska (2018), Tyson (2018), and Policzer (2009) begun to address this issue. In trying to fill this lacuna, this study focuses on the use of political terror *within* coercive organs. It also explores how internal mass purges may be used to constrain collective action within the security services against the principal. Reviewing the literatures on purges, authoritarian coalitions, and coup-proofing, I find that existing works point towards the importance of tempering collective action by low-level officials in the coercive organs for regime security, yet mechanisms to manage such collective action capacities have been understudied.

This work also contributes to the authoritarian coalitions literature, which explains how leaders interact with regime elites (Mesquita et al., 2005; Svolik, 2009; Boix and Svolik, 2013). This literature does not specify the basis upon which elites may credibly stand up against the leader. In contrast, this paper shows that regime security elites may derive power from relationships with lower-ranking individuals in the service, gaining a capacity for collective action; it also shows how principals may undermine such capacity.

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Recent research in China has also shown how purge-like campaigns have been used in intra-elite politics. Works have shown how anti-corruption campaigns have been used as vehicles of intra-factional competition (Zhu and Zhang, 2017), and retirements of patrons can retard the careers of their clients, demonstrating the hierarchical nature of patron-client relationships (Shih and Lee, 2018). These works further the understanding of the nature of authoritarian cliques in the civil bureaucracy, yet they are unable to uncover the low-level logic of centrally directed purges. Manion and Li (2020) goes a step further in this direction by showing how local officials respond to purge-like environments instigated by the center by going out of their way to promote candidates with a visible lack of factional ties. These works strongly suggest that principals care deeply about the collective action potential of informal ties within the civil bureaucracy–a concern which should be even more pressing in the case of the coercive organs, which retain the capability to use organized violence against the principal.

Given the nature of the argument revolving around the possibility of an existential threat arising from the security services, this work also extends existing research on coups and coup-proofing by relaxing assumptions such as unitary branches/units, and by focusing on those who would be called upon to support or oppose a coup, were one to transpire.

The literature has shown that leaders successfully employ measures such as *counterbalancing*, or the creation of units under separate command from the formal military to increase the cost of cooperation in the event of a coup, and *stacking* (Quinlivan, 1999; De Bruin, 2018), the placement of co-ethnics (Harkness, 2016), or the exclusion of potential rival ethnicities, even at the cost of increasing the likelihood of civil war (Roessler, 2011), or family members in key command positions to decrease coup risk, even at the cost of competence (Pilster and Boehmelt, 2011). Sudduth (2017) integrates both the coup-proofing and autocratic coalitions literatures, find-

ing that autocrats tend to purge senior military officials when they are temporarily weakened, as a step towards consolidation and personalization of power–an explanation that fits neatly into the case of Stalin's rise to power. Furthermore, works such as Matthews (2022) have shown that regimes which employ political officers to monitor their military hierarchy are less coup-prone. This last mechanism of coup-proofing suggests that controls over networks of lower level officials are seen as vital for preventing violent opposition–lending credence to the importance of *other* strategies of controlling such officials–such as systematic purges of factional groups inside the security services.

While studies abound of elite purges, the mechanism behind purges within state security organs at the lower levels have been less studied, as the literature tends to take military formations as unitary. However, the success of coups frequently rest on whether junior officers, and even enlisted personnel will follow the incumbent or the coup plotters; in the case of the 1991 Russian coup attempt, fence-siting by low-level unit commanders contributed to the failure of the coup (Singh, 2014, 210). Such instances demonstrate the importance of lower-level group dynamics for the success of coups led by senior officials.

Furthermore, coup-proofing measures in the literature are mostly cogent to preventing coups from senior officers and other high-level elites. They tend to underplay the role that junior officers and their cliques play, even if these coups are less likely to be successful (Singh, 2014, 71,148), rarer, and more likely to be violent (De Bruin, 2019)[2]. The need to uncover the micro-mechanisms through which autocratic principals may prevent cliques in the junior ranks become even more crucial when studies have found trade-offs between general strategies to prevent senior and junior coups, at least for the military (Albrecht and Eibl, 2018).

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[2] De Bruin (2019, Appendix 9) shows that around 39% of coups leaders are generals, 30% are majors or colonels, 18% are below, and 13% are non-military.

Greitens (2016) extends this literature with a focus on domestic security institutions, arguing that autocrats shape their coercive organs according to the dominant perceived threat in the beginning, and that coup-proofing measures implemented in the beginning are likely to stick, which can prove to be less effective for regime security once new threats arise. My work expands on our current understanding of how leaders manage their coercive organs by explaining how purges can be used to shape coercive institutions, not just at the leadership level, but down to the lower ranks.

This paper also contributes to the body of historical and social scientific work on the Stalinist purges. Historians and social scientists commonly attribute Stalin's actions to his flawed personal psychology (Haycock, 2019; Service, 2005; Rancour-Laferriere, 1988; Tucker, 1992; Robins et al., 1997). According to these accounts, his brutality and need to control stemmed from deeply irrational impulses. Such psychological accounts of repression see no strategic logic. They treat observed regularities as epiphenomena of a warped individual psyche.

An alternative literature demonstrates the rational-strategic nature of Stalinism. Historical works such as Kotkin (2014, 2017) show that Stalin's actions stemmed from ideological faith and rational calculation. Further social scientific research demonstrates that Stalinist terror is compatible with rational strategic action (Herreros, 2006; Gregory, 2009; Gregory et al., 2011; Sudduth, 2017; Montagnes and Wolton, 2019). These explain when and what type of official gets purged. Yet, they treat purges as mechanisms of control between one principal and many subjects who do not interact with one another strategically.

Finally, we shall see that cliques that form the basis of *potential* plotting and collective action inside a security apparatus. The structure then explains purges at the individual level. This explanation has implications for our understanding of the specific strategies that principals employ when targeting victims in a purge, especially of those that extend to the lower levels, and presents an explanation that

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includes the relationships *among* subordinates rather than focusing solely on the binary relationships between the principal and its agents.

2.2 The Logic of Purging by Association

The logic of preventing collective action by dismantling social structures that have the potential to engage in collective action against the leader explains the purges of low-ranking security officials. An autocratic principal requires certain forms of collective action from the security apparatus but not others. In particular, the apparatus must maintain security and repress enemies, but not revolt against the principal or undermine its prerogatives. To this end, principals must enable and motivate agents to conduct security tasks, controlled through a formal hierarchy. To do so, he delegates monitoring to high-ranking officials who then manage subordinates. On paper, these officials have power by virtue of their assigned rank, and control their subordinates through formal, hierarchical relationships, indicated by the solid black lines in Figure 2.1. These officials may, however, form networks of relationships that cut across the official hierarchy for material gains and mutual protection, as indicated by the dotted blue and red lines in the same figure. Vatlin et al. (2016) describes these networks in the following manner:

> Despite party purges and repression, bureaucratic cliques full of "our people" constantly expanded to guard against external foes. In each clique, members knew enough about one another to cultivate an atmosphere of mutual respect and fear. Moreover, clan activities did not stop at the office but extended into members' free time, too. (Vatlin et al., 2016, 14)

Such networks potentially enable them to engage in collective action against the leader, from outright coups and subversive activities to more mundane forms

of adverse collective action, such as collusion for collective personal gain, shirking, stealing, and covering up malfeasance.

In the pre-purge period, these workers are incentivized to form and participate in such networks for both material gains and safety, which may then become a liability when the situation changes. Once a purge begins, prompted from above, it will become difficult for an individual worker to hide his past relationships, especially if they are inferred from professional ties. From a leader's point of view, these cliques can pose a structural threat. Potential remedies include non-repressive methods such as forced retirements, rotation, and counterbalancing. A leader with sufficient skill and cunning may however, be able to repress security officials without being threatened by adverse collective action from the coercive organs.

How do such cliques contribute to collective action against the leader? As the literature on mass revolts and preference falsification have shown, a key component behind an individual's willingness to participate in risky behavior is how much he thinks others will do likewise (Kuran, 1989, 1991). In a repressive environment, loyalty pledges will be near-universal; even if one is inclined to intrigue, signalling disloyalty is deadly. Thus, openly engaging in adverse collective action proves difficult due to preference falsification. Yet, if private cliques exist where members maintain strong mutual relationships, the collective action problem can be solved *within the clique.* If individuals are grouped in cliques, which have solved their internal collective action problems, it becomes easier to organize them, compared to organizing among unconnected individuals. Works such as Crabtree et al. (2015) suggest that in addition to dyadic or individual-level variables, such networks enhance mass opposition by providing a conduit for opposition-inducing information.

If a higher-ranking official plots against the principal, this very clique structure enables the official to find a sufficient number of co-conspirators. The greater and surer such a structure is, the more effectively it will oppose the principal. Ideally, the

autocratic principal would either prevent the cliques from forming at all or optimally purge nascent cliques in order to maintain the loyalty and effectiveness of the coercive apparatus. However, given the secretiveness of such cliques, a principal can be none the wiser as the cliques engage in adverse collective action. He can suddenly face the consequences of subterfuge, or be undermined in the longer run through other forms of collusion that undermine control over the security organs. In a large and dispersed apparatus, quotidian workers are too numerous, and connections among them barely discernible from the heights of power. Furthermore, in preventing subterfuge as it occurs, discerning genuine reports from those imagined or contrived can be futile. Given this possibility, a sufficiently well-organized clique is a structural threat against the principal, *even if no adverse collective action exists.*

In the presence of such cross-cutting clique structures, the principal must detect and undermine the effective cliques spread through all levels of the apparatus. When purging perceived potential enemies in the higher ranks, detecting and purging a high-ranking target's associates at the lower level allows the autocrat's agents to imperfectly infer members of the cliques described earlier. A further reason why leaders may purge in this manner is the possibility that, once decapitated, others from a given clique will inevitably rise up the ranks while maintaining these cross-cutting relationships, and still have access to the networks that supported a previous high-ranking clique member, rather than the whole network falling apart with the annihilation of its central member.

Figure 2.1 illustrates how such purges may play out. The solid lines show the official hierarchy in a bureaucratic apparatus. However, if cross-cutting ties exist between officials in different ranks, these groups may engage in collective action that is difficult to control for the principal. Imagine that "Head of Region A" is purged for suspicion of treason, and his immediate ties (shown in blue in the top diagram) are severed. However, as the middle diagram shows, the red ties between the lower level

FIGURE 2.1: Diagram to Illustrate the Factional Logic of Purging by Association

officials remain and they can still engage in collective action. Therefore, those who are thought to be tied to "Head of Region A" are further purged, for example, "Officer A2", "Officer B1", and "Sub. 8". While this does not eliminate the entire clique, it nonetheless severs enough of the ties between the low-level officials to undermine the

threat posed by this clique–as seen on the bottom diagram. Siegel (2011) presents a similar logic for why less network structures with more horizontal ties maintain collective action capacity even after removals of leadership (described as a "village" network), necessitating the repression of lower-level individuals. This logic applies even when the selection of elites is arbitrary, since the threat does not merely come from the perceived treachery of the elite official, but rather is multiplied by the structural threat that his clique poses. Thus, an observable implication would be that *a low-ranking official's risk of facing repression should increase if this official's higher-ranking connections face purges.*

What are the scope conditions for such targeted purges? They are likely to occur when the leader has reason to purge, and at least has a reasonable expectation he can implement it. Costly measures such as purges could be avoided if alternative forms of control, such as appointments, rotation, and the placement of political officers are relatively efficient (Hassan and O'Mealia, 2018; Woldense, 2018; Matthews, 2022). Alternatively, leaders can make sure to appoint loyalists to crucial positions, such as swing districts in an electoral authoritarian context (Hassan, 2017). In contexts where elections are less crucial, leaders can appoint loyalists, such as those with regional and family ties, to strategic positions that have the potential to cause or prevent coups (Quinlivan, 1999). Examples include the appointment of direct relatives by Saddam Hussein to lead key paramilitary formations, both to prevent coups by the paramilitaries themselves, and to forestall coups by other armed formations (Blaydes, 2018, 42). Finally, if more information about individual motivations and actions are available, punishment may be more individually targeted, whereas less individual-level information leads to collective punishment (Blaydes, 2018, 13).

While it may be possible to rotate higher-ranked individuals to undermine their ties with their subordinates, they frequently brought "their people" along with them, and also maintained ties across postings based on earlier connections. Furthermore,

the lower in the organization one goes, the more difficult and costlier it is for the leader to rotate officials. If one believes that cliques go down to these levels, then it becomes much more costly to use rotations, and much more difficult to restrict appointments to those with assured loyalties to the leader. In the Stalinist case, these strategies of rotation and appointment of loyal group members, be they people with shared ethnicity or spotless records, were undoubtedly utilized from the start. However, at the time during and immediately following the Great Purges, Stalin demanded additional measures to maintain control over the coercive organs. Given the patterns of the purges that extended down to the lower ranks demonstrated in this paper, the evidence points towards a strategy from above to structurally eliminate threatening cliques that was used to undermine collective action capacity on top of the baseline use of appointments and rotations.

An autocrat also faces a loyalty-competence tradeoff, where loyalty comes at the cost of skill and effectiveness (Egorov and Sonin, 2011). Therefore, whether a leader chooses to purge depends on the leader's assessment of current cadres and the quality of the replacements (Montagnes and Wolton, 2019). Here, the quality of the replacements increased over time as the Soviet state educated more individuals, in contrast to the problem of purging qualified officers in the Red Army. The "Old Chekists", who became security officials during the 1918-1922 civil war era were generally less educated; many were barely literate (Pringle, 2004), with the caveat that other sources describe the new recruits as "untested" (Viola, 2017, 175). Thus, the internal NKVD purges provides an example in which the loyalty-competence tradeoff is less acute, enabling a more focused and precise study of how social connections drive purges.

2.2.1   The NKVD During and After Stalin's Great Purge

Stalin's purges provide a fruitful example with which to test the proposed logic of purging officials. Stalinism may have been an outlier in terms of its breadth and severity of repression. However, it was not exceptional in terms of its underlying logic. History abounds with examples of leaders purging their own security apparatus.[3] The logic of these purges will have to be tested with further research.

From 1936 to 1938, Stalin conducted the Great Terror, a bloody purge of both state and society. Many citizens were falsely accused and executed or sent to forced-labor camps (Getty and Naumov, 2002, 71-73,209). The NKVD, which ran the police, security services, and the camps, implemented this terror.

On paper, the NKVD followed a strict rational-bureaucratic hierarchy with varying degrees of oversight by the parallel party hierarchy at different points in time; under the law, it was subordinated to the People's Commissar of Internal Affairs, who reported directly to Stalin. The GUGB (Main Directorate of State Security) and the local UGB (State Security Directorate) offices were the main organs carrying out arrests and repressions (Memorial, 2017). Offices corresponding to the different levels of territorial administration comprised the territorial organs of the local bodies, with offices established down to the district level in some cases.

As with all other Soviet state organs, factional politics and relationships of mutual interest ran rampant throughout the entire apparatus, with various cliques that cut across the official hierarchy struggling for influence and security. For low-ranked officials, these cliques served as a vehicle for obtaining promotions and favorable transfers, as well as for avoiding repression through providing mutual cover. In turn,

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[3] For example, in 1966 Tito dismissed his state security chief Aleksandar Rankovic, followed by a purge and reorganization of Yugoslav state security (Dimitrijević, 2019, 24-26). In recent years, President Erdoğan of Turkey implemented thorough purges of the Turkish security forces, the bureaucracy, and the judiciary following the 2016 coup attempt (Bekdil, 2017). The dismissals of Iraqi security officials by the Shia-led postwar government also constituted a broad purge (Fisher, 2010).

high-ranked officials could rely on their low-ranked clients for support against their rivals (Vatlin et al., 2016, 14). Such factionalism (with varying combinations of material and ideological motivation) was not limited to the Soviet case; similarly structured cliques and patronage networks are depicted in analyses of the contemporary Chinese Communist Party (Keller, 2016; Jiang and Zhang, 2020; Jiang, 2018), contemporary Turkish security forces (Waldman and Çalışkan, 2019), and the Imperial Japanese Army in the 1930s (Crowley, 1962).

While it terrorized the rest of society, the NKVD also purged its own. NKVD chiefs Yagoda and Yezhov were successively deposed until Stalin settled on fellow Georgian Lavrenty Beria, who was not purged until after Stalin's death in 1953. Under Yezhov, high-ranking security officials were also replaced frequently, and many were subsequently shot (Pringle, 2004).

> Memorial's study suggests that 2,273 security officers were arrested in the twenty-three months that Yezhov commanded the service, 1,973 for alleged counterrevolutionary crimes. Of the more than 250 senior Staire Chekisti (Old Chekists) identified in the Memorial study as members of the Yagoda generation, few survived the blood-letting of 1937–1938. (Pringle, 2004, 118)

Many low-ranking NKVD officials were also arrested and sent to camps or shot outright, though many survivors were released to serve in WWII. The official rationale for these arrests was that these workers had contravened Soviet law by abusing suspects during the Great Terror or engaged in treasonous activities, as the following quote from an official reproduced in (Khlevniuk, 2003, 32) shows:

> We have purged the NKVD only of those who, in committing such offences, had demonstrated initiative and malice and were motivated by selfish and hostile intentions.

However, given that illegal procedures were universally used, almost all NKVD officials were guilty of violating Soviet law. Thus, these purges were *not* due to lapses of performance, as can be plausibly argued for civil officials in charge of production with more informative quotas. Hence, Stalin's purges provide a good case for exploring this paper's theoretical question. Given an already high rate of repression during the mid- to late-1930s, it was not difficult for the local state security offices to over-fulfill "production quotas" of repression, since each additional repression carried a relatively low marginal cost, even if the absolute cost of repression as such was often quite high. This analysis can therefore examine the roles of factional ties in these purges.

In order to operationalize the logic of purging by association in this context, I take the purges of high-ranking officials as given, and examine whether the structural logic plays out in the lower ranks. If the theoretical framework presented is valid, and it applies to the case of the NKVD, then it should follow that a purged leader is seen as a threat not just as an individual with command over the official hierarchical apparatus that could be used against the principal, but rather as a focal point in a network that is capable of adverse collective action. Therefore, lower-ranking associates of this individual would be purged, even those who are not directly under their command at the time. Conversely, from the perspective of the lower-ranking official, the risk of repression increases as connections to repressed superiors increases, thereby raising the likelihood of being considered as part of a potential conspiratorial coalition network. Thus, political connections with purged high-ranking officials should predict purges of lower-ranked individuals.

Hypothesis: *Lower-ranking security officials are likelier to be purged if they are politically connected to purged higher-ranking officials.*

2.3 Data

In the analysis that follows, personnel data come from the information on Great Purge era NKVD personnel compiled by A. N. Zhukov as *Personnel of the USSR State Security Agencies. 1935-1939* (Memorial, 2017). The data are compiled in wiki-format by NGO Memorial, with a page for each recorded individual, detailing career advancement and purge information available from personnel documents. A time-series dataset is then generated from these entries, with one row for each official-year. The year range was selected due to the availability of reasonably complete data, and to conduct analysis across periods with consistent rank and hierarchical systems.

The dataset profiles 39,950 security personnel scraped from the Memorial website, but some consist of single mentions that provide insufficient information for this study. Out of the total, 37,277 provide reasonably complete information on their career history, and 36,757 on locations and ranks, which is used in the main analysis. Data on important variables such as ethnicity are more scant, with the number of individuals with complete data diminishing to 9,826 when including ethnicity. Nonetheless, the main results still hold. The dataset on low-ranking officials is in a time-series format where each row is a unique combination of an individual and a year. The dataset on high-ranking officials is a list of all officials that served as republic-level or oblast-level executives by location, and records the date at which they were repressed, if they were repressed. If an official is in the high-ranking dataset, he is excluded from the low-ranking official dataset.

The 39,950 individuals documented on the website constitute a near-comprehensive list of personnel given "special ranks" under the hierarchy used from 1935 to 1943. These ranks were given to security workers, as a separate system from other organizations such as the Army. Such ranks were also awarded to some non-security officials, such as firefighters, who were subordinated to the NKVD; conversely, they excluded

some individuals associated with state security, such as low-ranking camp guards and clerical/technical staff. To illustrate, 67 percent of UGB-GUGB-NKVD (main state security organ) employees received special ranks (Memorial, 2017). However, core cadres of the state security apparatus were almost always awarded special ranks.

In principle, almost all assignment of "special ranks" were recorded in the dataset, resulting in the almost 40,000 individuals. However, details on transfers and positions for lower-level officials require documents from the NKVD of the Union republics and the UNKVD of *Kraii* and *Oblasti*, which is not always available (Memorial, 2017). For example, Alfredov, Nikolay Dmitrievich was awarded the rank of Sergeant GB (State Security) on April 25, 1938 according to Order NKVD SSSR Nr. 1002 OT 25.04.1938. However, we do not know where or in what capacity he served, meaning we would discard entries like this from our analysis. These lacunae naturally result in higher rates of exclusion for those working in the lower ranks of the territorial organs. Given that this is purely based on the availability of local documents, instead of attempts to hide repressions or to misrepresent the bureaucratic record, there is no reason for this sample to systematically bias the results.

The outcome variable is deduced from records of dismissals, restricted by the reason of dismissal. The foreword to the database in the Memorial website states that those dismissed according to Art.38 (a) or (b) of the Main Directorate of State Security (GUGB) regulations [4] at the period were most likely purged[5] (NKVD, 1935; Memorial, 2017).

This outcome variable provides a conservative measure of repression, since not all purged individuals would be recorded under articles 38(a) and (b). For example,

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[4] "In addition, in some cases, the reasons for dismissal may be:(a) the verdict of the court or the decision of the Special Meeting of the NKVD of the USSR (b) arrest by judicial authorities."

[5] "The indication of articles 38A or 38B in the orders of dismissal meant dismissal in connection with a conviction or arrest" (Memorial, 2017). Other forms of removal are considered in the appendix, and do not seem to be positively associated with factional ties.

FIGURE 2.2: Summary (Frequency of Observations and Purge Events)

The upper right diagram shows the distributions of years observed per individual, that is to say, how long an individual shows up in the dataset. The upper left diagram shows the number of individuals observed for each year. The lower two figures show the frequency of low-ranking purges, and the percentages they make up of observations present that year. The lower right figure shows the percentages of low-ranking officers present that year that have at least one connection to a high-ranking officer who has been purged.

FIGURE 2.3: Summary (Information at End of Period)

The plot on the left summarizes categorical attributes of the sample. The label is followed by a count and the percentage. This summary is for the latest observation available for each unique individual in the final dataset. For Nationality, "Other" denotes individuals who were listed as belonging to one of the smaller ethnicities that were aggregated for ease of presentation, and each ethnicity is treated separately in analysis. "Other Territorial" is disaggregated in the dataset at the republic level, but aggregated for ease of presentation. "Non Territorial Organs" is also disaggregated by branch for analysis. "Birth" shows distribution of birth years for those available, and Party Membership shows the distribution of the year in which the worker joined the Party for those who obtained membership at some point.

if a worker was first dismissed according to other articles, and then shot, or purged extra-judicially, he would not show up according to this measure. Works such as Viola (2017) and Vatlin et al. (2016, 77) that focus on detailed qualitative analyses of internal purges in local branches show that the repressions were conducted as official judicial punishments for contravening Soviet law, either for counterrevolutionary plotting or for contravening official regulations for investigation, indicating that most repressed security workers were not repressed extra-judicially.

From printed and online resources, I then obtain information on the identities and

fates of most of the Krai/Oblast (sub-republican administrative units) level NKVD executives within the Russian Soviet Socialist Republic (SSR) and the Republican-level NKVD executives for other constituent republics of the Soviet Union during that period.[6]

Using these data, I use a measure developed in the Chinese bureaucratic promotions literature to measure political connections between higher- and lower-ranked officials. Keller (2016) infers ties from promotion, coding a low- or high-ranked official as having ties if a superior promotes a subordinate. I therefore infer a connection between a low-ranking official and the incumbent regional boss if the former is promoted during the tenure of the latter. A low-ranking official is tied to a purged high-ranking official if any of the connected high-ranking officials are purged, and ties to purge officials also carry on over time. Alternatively, ties to purged high-ranking officials is also measured as the proportion of a low-ranking official's connected high-ranking officials who have been purged. A section in the appendix illustrates how this would work from an example in the dataset.

These are noisy signals for genuine relationships which also only reveal vertical ties, but not horizontal ones. That being said, those in charge of purging will also likely have noisy information regarding such ties. Furthermore, an empirical link may mis-identify a case where there is no genuine connection, and a genuine tie may be missed by this measure. This is likely to generate downward bias in the estimated effects, unless the data systematically over-identify false connections for individuals who are purged, or under-identifies connections for individuals who are not purged. While not possible to rule out entirely, further specifications in the appendix that subset the data by rank and republic finds that the results do not appear to be driven by systematic over-representations of individuals in lower or higher ranks, or by observations from constituent republics outside of the Russian SSR.

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[6] The executive data were coded from Mozokhin (2020)

2.4 Analysis

Using a Cox Proportional Hazards (CPH) model, I model the effect of promotion ties on individual purges. A CPH model predicts the time left until an individual experiences an event, based on individual-variant characteristics; the individual falls out of the sample once the event happens. Here, the unit of analysis is the individual lower-ranked official. The dataset is restricted to 1936-1939 period, given that the focus of the Memorial dataset. A large number of fixed effects are employed in order to control for the possibility that locations and individual characteristics systematically affect repression. Control variables include location, ethnicity, current party membership, and rank. The location information refers to the individual's assignment location for that year. It is coded as Republic, which is a high-level territorial unit of the USSR, and available for most observations. Alternately, it is coded as Location or Branch, which classifies the service to which the individual belonged at the time,[7] and if he belongs to the territorial organs of the NKVD, at the lowest administrative level at which data is available, which for most cases is Krai or Oblast [8]. A full list of ranks, ethnic groups, and republics included in the dataset is provided in the appendix.

$$\lambda(t|Z(t)) = \lambda_0(t)exp(\beta'Z(t)) \tag{2.1}$$

The CPH model with time-variant covariates is specified in formula 2.1, where $\lambda(t|Z(t))$ is the hazard at time t, which depends on the value of the covariates at the time $(Z(t))$, and the effects βs, which are constant over time (Zhang et al., 2018, 2).

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[7] The branch categories excluding territorial organs are as follows: NKVD Schools, Railways, Troops, Concentration Camps, Military Okrugs (war-time military districts), Central Organs, Political Officers attached to military units, Prison service, and Okrugs (territorial districts for border guards).

[8] Krai and Oblast are at the same administrative level; other district categories at this level include Autonomous Oblast and Autonomous Republic.

Standard errors are clustered at the individual.

2.4.1 Results

The estimation yields a strong, positive relationship between ties with purged offi-
cials and the hazard of being purged. These results are mostly robust to alternate
specifications, which can be seen in the appendix. The independent variables are
either a dummy variable, which equals 1 if any connected high-ranking official has
been purged, or the proportion of connected high-ranking officials who were purged.[9]

The reported coefficients are exponents of the estimated βs, which indicate hazard
ratios. They show the proportional increase in the hazard for a one unit increase
in the independent variable. Thus, in Model 4 of Table 2.1, the hazard increases
by a factor of 1.46 when at least one of the official's past bosses has been purged.
The first two models in Table 2.1 show strong correlations between the measure of
connected bosses getting purged and the purge of low-ranking state security workers,
absent other covariates. The third and fourth models control for location at the
republic level, current party membership, and rank dummies; the results remain
significant at conventional levels, except when all controls are used, and the purge
connection is measured as a dummy. The fifth and sixth models show that the results
hold even when controlling for ethnicity, which may be significant given the alleged
ethnic background (e.g. campaigns against foreigners such as Germans and Poles
or national minorities such as Balts and Jews) for some of the purges. However,
controlling for ethnicity significantly reduces the sample size, since a large portion
of the individuals in the dataset lack ethnicity information. The seventh and eighth
models show that the previous results are somewhat robust to location fixed effects

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[9] To illustrate the proportion measure, if the current year is 1939, and one is connected to four
high-ranking official, and a connected official was purged in 1938, and another connected official is
purged in 1939, the measure would be $\frac{2}{4} = 0.5$. Further explanation is given in the appendix in the
section titled "Example to Illustrate Promotion Ties".

at a lower level. For this specification, controls for republic are not included, since they are constituted by linear combinations of the lower-level location fixed effects. Controlling for location guard against the possibility that Stalin was ordering the NKVD to simply purge by location (e.g. randomly purge individuals stationed in Moscow without worrying about connections); that alternative would result in similar correlations, since the boss would be purged along with current subordinates. These results are significant and reject the null hypothesis of no associations between ties to purged higher-ranking officials and the purges of lower-ranked officials.

The prediction plots in Figure 2.4 show that the predicted hazards increase significantly with the proportion of purged bosses for model 3 in Table 2.1. This is also the case for the purged boss dummy for model 4, where the baseline is a Lieutenant GB, Russian SSR at 1938. These risks can be interpreted as hazards ratios. For example, the risk of repression increases from 3.85 to 4.7 as the proportion of present and bosses purged increases from one quarter to three-fourths, meaning that the probability of purge increases by 1.22. For Model 4 in Table 2.1, those with purged connected bosses are 1.46 times as likely as those without purged connected bosses to become purged, with the risk increasing from 3.49 to 5.1. Additionally, the Kaplan-Meier plots in the appendix show that by the end of the period, the differences in the chance of survival for the entire period between the group with connections and without connections is about 5 to 10 percent, depending on the model specification.

2.4.2 Robustness Checks

The CPH model relies on the proportionality assumption, which assumes that individuals all share the same hazard function. Section A of the appendix tests for the proportional hazards assumption, and while finding violations of these assumptions, finds that they hold for the variables of interest.

Furthermore, as analysis in the appendix shows, the results are robust to fitting

Table 2.1: Effect of Promotion Ties to Purged Leaders on Low-Ranking Purges

	Dependent variable:							
	Dismissed under Art.38(a) or (b)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Proportion of Connected								
Leaders Purged	4.26***		1.49***		1.94***		2.03***	
	(0.15)		(0.13)		(0.15)		(0.15)	
Connected Leaders								
Purged Dummy		2.30***		1.46***		1.75***		1.82***
		(0.11)		(0.11)		(0.13)		(0.13)
Clustered at Individual	X	X	X	X	X	X	X	X
Republics			X	X	X	X		
Location or Branch							X	X
Ethnicities					X	X	X	X
Party Membership			X	X	X	X	X	X
Rank			X	X	X	X	X	X
Nr. of Individuals	36896	36896	36757	36757	9826	9826	9821	9821
Observations	84,442	84,442	83,651	83,651	27,574	27,574	27,576	27,576

Note: Cox Proportional Hazards model. The reported coefficients are hazard ratios. The standard errors are for the original coefficients.

*p<0.1; **p<0.05; ***p<0.01

FIGURE 2.4: Prediction Plots for Promotion Ties

a linear probability model instead of a hazards model, limiting the analysis to observations in the Russian SSR, where republic-level documents should be more easily available to central archives, demonstrating that the results are not being driven by a systematic lack of data outside of Russia. Another possible source of bias is rank; given the distribution of ranks in the dataset, it is clear that higher ranked individuals are over-represented. These individuals are also more likely to be purged; results in the appendix show that the main results are largely robust to limiting the sample to different rank levels. I also deal with the possibility that the purges simply targeted bosses and their immediate subordinates by controlling for immediate bosses in the appendix–the results still hold though the purge of one's immediate current boss also increases one's likelihood of being purged. A section in the appendix also demonstrates how alternative explanations, such as type selection, opening up the ranks for promotion, and inter-factional conflict are insufficient to explain the empirical results or compatible with my thesis.

2.5   Conclusion

Whereas past studies on purges to control authoritarian coercion have not applied the logic of collective action through social ties, this study reveals how purges based on social network ties were used to control low-ranking security officials. The analysis suggests that the purges of low-ranking security workers are systematically related to their factional relationships. The study thus elucidates the mechanisms underlying the logic of clique-based purges of the coercive organs. This is a perennially recurring phenomenon in the interaction between autocratic principals and their coercive organs.

It also contributes to literatures on authoritarian institutions and authoritarian elite coalitions by offering a micro-level test of the implications of existing elite coalition theories, suggesting that cliques are a basis for elite power in a state. It extends

the literature on coup-proofing by examining methods of undermining collective action within a given security apparatus at the lowest levels. It provides a first glance into purges of coercive state security organs, a phenomenon that has been scarcely studied on a systematic basis in the authoritarian politics literature. As such, the paper contributes to a new research agenda focusing on modeling the management and control of coercion under authoritarianism.

Future research must explore the micro-logic of purges in other regimes in order to gain an understanding beyond the especially notorious Marxist-Leninist cases. There is also a need to explore the individual-level logic of collective action within security forces. For example, the internal workings of attempted coups and conspiracies; how and when individuals join in; how such connections are correlated with underlying networks that enable collective action. The paper raises the question of whether initial coup coalitions correspond to pre-existing clique networks.

Furthermore, future theoretical and empirical research must clarify the scope conditions to specify when leaders are likely to implement purges that target clique structures down to the lower levels. In the present case, targeted purges occurred in parallel with other common strategies such as stacking, counterbalancing, and rotations. However, the security apparatus was quite consolidated in the NKVD, unlike other cases where the security organs would be spread across multiple organizations with unclear and overlapping responsibilities (Greitens, 2016)–would similar purges occur in security organizations organized along such lines? Furthermore, in cases with even stronger ethnic stacking or the appointment of family members, such as in the case of Syria under the Assads, would we expect to see similar strategies–or are such security organs the *result* of targeted purges, for such regimes? The present paper shows the logic of purging down to the lower levels, and demonstrates a case in which this occurs–yet this result is insufficient to understand the conditions under which purges extend to the lower levels and when they remain elite purges, which

calls for future cross-case analysis.

3

Appeal to a Higher Power: How Settlement and Inter-Ethnic Conflict Over Property Rights Shape State Capacity

3.1 Introduction

Ethnic conflict is a pressing issue for governments across the world today, and will likely continue to be a problem for many governments in the coming years. "Sons of the Soil" (SoS) conflict is a particular type of conflict. SoS are defined as "populations that are culturally dominant in a region of a country, demographically subordinate to the dominant culture of that country, and threatened by the migration of settlers from the dominant culture into their historical homeland" (Acharya et al., 2018, 2). A third of ethnic civil conflicts worldwide for the period between 1945 and 2008 were of this type (Fearon and Laitin, 2011). Fearon and Laitin (2011) has shown that such conflicts tend to last longer than other forms of ethnic conflict, and can linger on at low intensity for decades, sometimes leading to more overt forms of interethnic violence. The causes and consequences of such conflicts are a pressing issue for researchers and practitioners today, and much of the research on SoS conflicts have focused on its causes, and the determinants of violent escalation. However, the consequences of such conflicts on state capacity have been understudied.

Understanding the consequences of such conflicts for state's ability to build capacity and project power to establish order allows us to address several questions. It allows us to understand one way in which states can take advantage of conflicts on the ground beyond the usual divide-and-conquer schema, and highlights how property rights institution affect this process.

This paper shows that the effect of threats to property rights arising from such SoS conflicts on compliance to state efforts to increase state capacity can differ across groups, depending on the land tenure institutions (LTIs) pursued by each group. When groups compete over land, they are often not only competing over the land itself, but also over the patterns of ownership and governance. Two common types of LTIs include individual ownership and collective ownership, where the former is often

administered by formal states and the latter is administered by collective bodies, such as tribes led by traditional elites. In a conflict where indigenous and migrant groups are in conflict over land, where the former practice collective land ownership and the latter pursue individual property rights over land, this paper shows that threats to their property rights should create incentives for migrants pursuing individual property rights to increase their compliance to state efforts to increase its ability to enumerate the population. This is because the individual property rights that they seek necessarily must be enforced by the state, and because they lack other authorities to seek these rights from, such as traditional elites. In contrast, indigenous groups attempting to defend their collective property rights do not change their compliance to state efforts to increase state capacity as legibility. This is because challenges to their property rights are countered through collective institutions that administer their lands, mainly traditional elites.

I identify two important sources of threats to property rights, mainly demographic displacement and the nature of inter-group relations. For the former, the threats should become less acute for migrants as they displace the indigenous people, as the latter lose the ability to assert their rights by force. For the latter, greater social integration between the groups should decrease the threat that one group poses to the other, by enhancing the trust and understanding between the two groups.

This paper tests this theory in the context of Han-Mongol conflict in Eastern Inner Mongolia during the Manchukuo period. There, Japanese colonial authorities were attempting to expand state capacity in a context of a long-standing SoS conflict between Mongols who practice collective land ownership administered through Banners and feudal elites, and Han migrants who sought individual property rights over their stakes. The empirical analysis shows that areas where demographic displacement was more complete, and thus eradicated the abilities of Mongols to challenge Han land claims, Han compliance to Japanese attempts to enhance enumeration were

lower, resulting in lower quality census data, measured through age heaping in the manner proposed by Lee and Zhang (2016). Similarly, areas with greater residential integration at the village level, and thus where there were lower mutual threats, saw lower levels of compliance to state enumeration by Han. In contrast, these variables did not have significant correlations with compliance by Mongols.

3.2 Literature on Ethnic Conflict and State Capacity

The conventional literature on the relationship between factors such as civil wars, ethnic conflict, and ethnic diversity on state capacity returns mixed results. In contrast to Tilly's bellicist theory on the effect of interstate competition (Tilly, 1992), Besley and Persson (2008) has shown that civil conflicts tend to undermine fiscal state capacity. Similarly, a line of literature on the consequences of ethnic diversity tends to find negative relationships between ethnic diversity and state capacity. Further works also demonstrate how diversity undermines state capacity by increasing the costs of acquiring information (Magiya, 2020; Johnson and Koyama, 2017; Charnysh, 2022) and by decreasing incentives for providing indiscriminate public goods [1], or that less legible minorities receive fewer public goods (Charnysh, 2022). However, there has been further push-back on this idea through works such as Singh and Vom Hau (2016); Wimmer (2016), which argue that the relationship is spurious, or that the relationship between the presence of ethnic minorities and lower state capacity is endogenous (Pardelli and Kustov, 2022). Alternatively, Charnysh (2019) shows how heterogeneity created demand for third-party enforcement, which enhanced state capacity in the long run.

This paper contributes to the literatures that explore the relationships between state capacity and ethnic land conflicts and property rights institutions by demon-

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[1] For example, Alesina et al. (1999); Habyarimana et al. (2007), to cite a few representative examples out of a vast literature.

strating that the variations in state capacity are often driven by the threats faced by these groups and the nature of that their stakes in that conflict. By doing so it highlights the need to dis-aggregate across groups, and to build theories that can address the variation in the nature of the interactions between state power and the constituent ethnic groups in a society. This article also follows past work in emphasizing the need to measure state capacity not only across territorial units, but also across different categories of people in each geographical area.

3.3   Indigenous people, Migrants, and Land Tenure Institutions

In this framework, following the SoS conflict literature, I posit that there are two groups competing over land, migrants and indigenous people. "Migrants" are defined as those identifying as belonging to the demographically dominant ethnicity that is engaged in settlement in a frontier area, and "indigenous" as those who have traditionally lived in the area in question.

Furthermore, each group may practice and pursue different land tenure institutions (LTIs). Two common forms in such contexts are customary/collective and individual. The former involves some sort of collective ownership of land that is administered through traditional elites, similar to the "neocustomary" land tenures described in (Boone, 2017) [2]. For the latter, land is parceled out into individual, alienable plots administered by the state. Of course, other LTIs are possible but we focus on these forms given how common they are for SoS conflicts.

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[2] Boone (2017) draws a similar distinction to the one made here for determinants of SoS conflicts in Africa. In this framework, land tenure is either "statist" (where the state directly assigns land use rights to individuals, similar to the idea of individual land ownership in this paper) or "neocustomary" (where the state recognizes some intermediary authority, such as tribal leaders, to assign land use rights to residents, similar to collective ownership). When there is migration and land scarcity under "statist" regimes, conflict is more likely to occur, since the migrants and natives are likely to fight over access to the state to assert their claims. In contrast, migration under "neocustomary" regimes remains manageable for the indigenous group, since the migrants are only able to settle on the terms of the indigenous leaders, and are unable to sufficiently threaten the indigenous groups to result in escalated conflict.

Borrowing from the discussion of common property in McKean (2000), here, the land is the *good* in question, and is the same for both customary/collective and individual. However, the two LTIs differ in the form of *rights* and *ownership* practiced over a given piece of land. Individual property rights are when rights to flow and stock from the land are both parceled into individual plots. In contrast, under collective/customary LTIs, the rights to *stock* are intact and not parceled.

Thus, logically, there are four possible combinations of LTIs across the two groups. This paper focuses on the case in which indigenous groups practice collective ownership under customary land tenure and migrants practice and pursue individual land ownership guaranteed by state power–an arrangement that is not uncommon in many SoS conflicts, as examples presented in section 3.4.6. In the following, I demonstrate that when the migrants practice and pursue individual land ownership, and the indigenous people practice and pursue collective LTIs, then mutual threats between these groups have different implications on the compliance the state is able to obtain from each group in key policies intended to expand state capacity, leading to lower quality census data for these groups.

3.3.1   *Threats to Property Rights*

In this setup, there are thus three players: migrants, indigenous groups, and the state. The migrants seek to assert and defend their individual property rights over parceled plots of land, while seeking to avoid onerous demands by the state such as high taxation, land and output expropriation, military conscription, corvèe labor, and other such onerous demands imposed by state power. In contrast, the indigenous people seek to protect existing collective property rights, administered by their traditional elites, while also seeking to avoid state demands detailed above. The state seeks greater legibility over its land and and its subjects and to build capacities to mobilize resources, tax outputs, and encourage production in order to pursue its

other goals.

The main threat against the migrants' property rights can come from the indigenous groups re-asserting their right to this land, either by repossession, re-extension of administration, taxation, or rent collection. The migrant seeking to defend a piece of individually parceled land from countervailing claims by indigenous individuals, groups, and authorities may seek to defend these property rights through the state's mechanism for protecting individual property, such as registration and adjudication. In doing so, he must submit to various forms of state enumeration as he becomes known to state power, and willingly does so in order to defend himself against the claims against his property rights. When the perception of such a threat wanes, the migrant is now subject to a greater danger from demands by the state. Thus, as these threats subside, the migrant will be less willing to submit to state enumeration, and the state's legibility over the migrant will suffer as a consequence.

Two factors should drive such threats: the degree of demographic replacement and the integration of the migrant with the indigenous population, if they still remain. In the first instance, short of projecting power against numerically superior migrants or receiving favorable adjudication from the central state power, indigenous commoners, elites, and organizations will have a difficult time contesting property claims where migrants are in the overwhelming majority simply due to the lack of numbers. In contested areas, as will be discussed below, there can instances of violence by both sides, which becomes physically difficult once the last of the indigenous residents leave for good. Thus, as demographic replacement of the indigenous groups with the migrant groups becomes more complete, the threats against the property rights of the migrants would decrease [3]. Figure 3.1 shows the general move from lower

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[3] A similar argument has been made in the racial threat literature regarding relations between whites and nonwhites in the United States, where increasing nonwhite populations are perceived by whites to decrease the whites' abilities to socially control nonwhites. For example, the liquidation of largely black public housing projects in Chicago led to a substantial decrease in white turnout

to higher proportions of migrants and how this would lead to lower state capacity over migrants through the process.

FIGURE 3.1: Divergent Demographic Replacement Processes and Implications for State Capacity

In the second instance, the relationships on the ground between the indigenous and migrant groups should matter for the security of the latter's property rights. If relations are contentious and acrimonious, the migrant ought to feel a greater danger for his property rights and be more favorably inclined to submitting to state power than he would under a situation of neighborly relations and mutual respect. One driver and indicator of good relations can be residential segregation. The literature on the relationship between threat perception and inter-ethnic relations, largely in contemporary urban contexts, provides mixed results for the effect of group concentration on the degree to which such groups are better integrated into the host society, and the degree to which original residents perceive the newcomers as a threat [4].

for adjacent districts (Enos, 2016).

[4] For example, Rocha and Espino (2009) shows that Anglo threat perception of Latinos in US cities is not affected by group size in segregated cities but has a negative effect in integrated ones. The posited relationship between segregation and perceived threats to settler property rights also parallels the racial contact hypothesis, which posits that repeated contact with outgroups decreases

How should such settlement patterns described above affect the indigenous? When their property rights are threatened by migration and settlement, indigenous people who have established collective property rights over land should have more reason to resort to indigenous and traditional institutions upon which these property rights are based. In contrast, if a state is attempting to implement land registries and other forms of individual property rights over land, then migrants attempting to claim private and parceled individual property rights over indigenous land are likely to resort directly to formal state authorities.

Given these different incentives, migrants who wish to protect their property rights must by the nature of this interaction make themselves visible to the state, given that property registration requires the identification of the subject. Thus, the state's ability to ascertain accurate information about the party appealing directly is likely to increase, whereas appeals through traditional collective ownership institutions are not likely to increase the state's ability to do so.

The above theoretical discussion provides the main hypothesis of this paper:

Demographic Replacement Hypothesis: Areas where demographic replacement of indigenous with migrants are further along should lower the state capacity over migrants but not over indigenous.

Segregation Hypothesis: Areas with more residential segregation should have higher state capacity over migrants but not over indigenous.

3.3.2 Conceptualizing State Capacity as Legibility

While state capacity has been conceptualized in various ways, it has often been characterized as the capacity of a state to ascertain, extract, control, and administer a given territory. However, another way to consider state capacity is the state's ability to ascertain and control people. This paper explains how patterns of conflict arising

prejudice against them (Paluck et al., 2019).

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from migration and settlement can affect a colonial state's ability project power and ascertain information about its subjects. This study conceptualizes state capacity as legibility (Scott, 1998; Lee and Zhang, 2016), or the ability of a state to ascertain accurate information about its subjects, using a method for analyzing the accuracy of censuses using the phenomena of age heaping, proposed in Lee and Zhang (2016), and used in works such as Osorio et al. (2018); Charnysh (2022). Focusing on legibility is appropriate in a situation where state power is often weak, and the state must take basic steps to enumerate its subjects as a basic prerequisite to exercising other aspects of state power, such as taxation, conscription, and public goods provision. A discussion of the particular significance and validity of this measure for the case at hand is given in the data section.

3.4   Historical Background

3.4.1   Han Settlement into Mongol Lands as SoS Conflict

Table 3.1: Demographic Displacement in Inner Mongolia

Period	Mongols	Han Chinese	Total	% Mongol
Late 16th Century	1,090,000	705,000	1,795,000	61%
Early 19th Century	1,030,000	1,000,000	2,150,000	48%
1912	877,946	1,550,948	2,403,179	37%
1937	864,429	3,719,113	4,630,576	17%

Note: Figures are from Wang (2013, 25). These figures are for all of Inner Mongolia, including the western part which is not covered in this paper. However, these trends are representative of Eastern Inner Mongolia as well. The figures likely encompass the current extent of the Inner Mongolia Autonomous Region which also excludes regions covered in this paper that were permanently alienated from Mongol control through settlement.

3.4.2   Timeline of Relevant Events

In the historical Han-Mongol context, while Mongols preferred to not live near Han, and often moved away from areas of mixed settlement if their means allowed, wholly

FIGURE 3.2: Provinces and Major Cities (1940) and Railways (1932)

The map on the left shows the borders and the locations of the administrative centers of the provinces of Manchukuo at the time of the 1940 census. The left map shows the locations of the major cities, as designated in the census, as well as the state of the railways in 1932 at the founding of Manchukuo. Additional lines were subsequently constructed and all non-South Manchurian Railways lines came under Manchukuo National Rail control during the 1930s. Rail lines were taken from "The Manchuria Yearbook 1932-33" available online from the Library of Congress (LCCN32007091).
Thick borders designate province borders and thin lines designate county borders. This map was generated with partial reference to Avila-Tapies (2016) and maps from the 1940 census report.

Han settlements meant the creation of a parallel society outside of the Mongols' control, whereas intermixing allowed Mongols to culturally integrate Han migrants into the host society (Borjigin, 2017, 210-211). Mixed residence may also indicate that the migrant has come on the host's terms, be he a Mongol aristocrat or commoner, as opposed to wholesale and large-scale land development which was largely an enterprise run by Han provincial and county authorities and resulted in the creation of homogeneously Han agricultural villages. The contrast between the lower and upper routes in Figure 3.1 shows the contrast between these different forms of settlement and their implications for state capacity outcomes.

In the end, Mongols became displaced from much of their original territories. While this tendency was largely stopped through Japanese intervention, we can see that there should be separate paths of migration and displacement which leads to

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Table 3.2: Timeline of Notable Events

1636	Foundation of the Ch'ing Dynasty
Mid-19th Century	Beginning of large-scale Han settlement
1891	Chintantao Incident
1905-06	Ruso-Japanese War
1906	Creation of Kwantung Army and South Manchurian Railway
1911	Hsinhai Revolution (fall of the Ch'ing Dynasty)
1911	First Manchuria-Mongolia Independence Movement
1912	Foundation of the Republic of China (ROC)
1916	Second Manchuria-Mongolia Independence Movement
1928	Chang Tso-lin assassinated by Kwantung Army
1929	Gaada Meyiren's Uprising
1931-33	Manchuria Incident
1932	Foundation of Manchukuo (Beginning of Japanese rule)
1937	China Incident begins
1938-39	Mongol Lands Nationalized
1940	Conscription Law Introduced
1940	Manchukuo Census Conducted
1941	Greater East Asia War declared
1945	Soviet Incursion (fall of Manchukuo, end of Japanese rule)

different implications for legibility outcomes over the migrants.

The conflict over the Mongol Lands between Han migrant settlers and Mongols contains an ethnic dimension due to the long history of ethnic relations since the Ch'ing-era policies which cemented the identification of Mongols with particular banners and further reified their distinctiveness from the Han[5]. The Ch'ing

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[5] Ethnic tensions between Han and Mongols existed since before this time, for example under the Yuan Dynasty, but for we focus on the Ch'ing period since they most directly affected the ethnic and land dynamics we study here.

Dynasty politicized Mongol identity by coopting Mongols into the ruling coalition above Han subjects, though these privileges were curbed in the late Ch'ing under the New Policies in the late 19th century (McCaffrey, 2011). After the end of the Ch'ing Dynasty in 1911, ethnic differences were further politicized due both to republican Han nationalism and the anti-Mongol policies implemented under the warlord period in the 1910s and 1920s (Wang, 2022), alongside the rise of Mongol nationalist intellectuals who called for a united and modernized Greater Mongolia, who joined both Manchukuo and CCP governments (Atwood, 2002).

Under the Ch'ing Dynasty, most of Manchuria was restricted from Han settlement as a reserved homeland for the Manchu People, the primary ruling ethnicity, as well as their Mongol allies, who were considered to be important military assets for the Ch'ing (Edmonds, 1979, 601).

The Ch'ing organized Mongol lands into Banners in the 17th century, which were both quasi-tribal organizations and territorial administrations, constituting a set of Mongol subjects and assigned grazing lands, administered by hereditary-aristocratic princely elites, with Banner heads called Jasag. These Banners were further grouped into Leagues (Di Cosmo, 2012, 180). For the purposes of this study, "Mongol Lands" (*meng-di*) will refer to the territories assigned to semi-autonomous Mongol territorial units by the Ch'ing Dynasty that were later incorporated into Manchukuo in 1932, including those that later fell out of Mongol ownership and/or administration. Japanese colonial officials tasked with Mongol administration also employed such concepts when dealing with Han-Mongol land conflict. The analysis is confined to this area only.

The rest of Manchuria was also administered distinctively from China proper and were ruled by the Generals of Fengtien (later known as Liaoning), Kirin, and Heilungkiang under the Ch'ing (Shao, 2011, 26). Under the Banner system, Mongols belonging to that Banner notionally owned these lands collectively, and could not

be excluded from use of that land for pasture, agriculture, and settlement (Borjigin, 2017, 97).

Over time, local Mongol elites as well as the Imperial government allowed Han farmers to settle into the region as stop-gap solutions to various problems, such as decrease in revenues, excess agricultural population, and famine. By the 19th century, the Russian Empire had expanded to the Far East, and was threatening to colonize Manchuria, which was still sparsely populated. After Primorie was ceded to the Russians in 1858, the Ch'ing opened up Han immigration into the region, and many settled into Manchuria as freeholders, peasants, farm workers, and migrant workers (Reardon-Anderson, 2000, 505-507).

Official "openings" of land for exclusive agricultural use within these banners involved the alienation of commonly held land into individualized plots, which were sold by provincial administrators of adjacent Ch'ing or Republican provinces (either from China proper or from the Four Northeastern Provinces), with the profits divided between the Jasag and the Han provincial administrators. In many instances the Han-settled land was converted to county administration, similar to sub-provincial administrative units in China proper, leading to the co-existence of "dual administration" systems for Han and Mongols (Borjigin, 2004, 49,51). In the Mongol lands, many of these county lands paid "Mongol Fees" to the Banner administration as taxes or rents. These systems were carried over into the Republican period after 1911-1931, and presented administrative problems for Japanese authorities under Manchukuo from 1932-1945.

These developments displaced many Mongols and they were forced to migrate into more remote areas or take up sedentary agriculture, often both. It is not entirely clear how many Mongols, if any, took up individual titles for sedentary agriculture as opposed to accessing land through the traditional collective systems. As Table 3.1 shows, both the absolute number and the proportion of Mongols decreased vis-a-vis

the Han, who increased in absolute numbers, from the 16th to the 20th centuries. Han settlement and assertion of individual land rights prevented Mongols from accessing what was previously their collective and non-excludable right over collectively owned land. Thus, land conflicts between Han and Mongols were often conflicts between collective property rights of the Mongols belonging to the Banners, and the individual property rights of the Han settlers, as well as a conflict over displacement and the ability of Mongols to continue their way of life in lands that they considered to be theirs. During this time, there were several incidents of violent conflict between Han settlers and Mongols, as the former came to outnumber the latter in many locales and conflicts arose over political power. For example, in the Chintantao Incident, several hundred thousand Mongols were massacred by Han rebels in Josutu League in a 1891, forcing many Mongols to flee to northern areas and take up agriculture (Borjigin, 2004, 55).

Following the 1911 revolution and the downfall of the Ch'ing Dynasty, the Banners were incorporated into the provinces of Jehol, Kirin, Heilungkiang, and Fengtien. Banners generally retained their princely rulers, but under the Republic of China (ROC), Mongol privileges were slowly eroded, land tended to be alienated into Han ownership by indigenous elites to pay off debts, and Inner Mongolia became a patchwork of Han-dominated counties and Mongol-dominated Banners (Hirokawa, 2005, 22-23). By the Manchukuo period in the 1930s, a large number of Mongols, likely a majority, practiced some sort of sedentary agriculture (Borjigin, 2014, 364).

Under the late Ch'ing and later the Republican governments, state power tended to side with the Han settlers, leading to escalating conflict in the areas of settlement. While Inner Mongolia has largely been pacified under the Communists (especially compared to other minority areas under their rule, such as the Uygur and Tibetan regions), from the late Ch'ing to the foundation of the People's Republic of China (PRC), the SoS conflict in Inner Mongolia often turned deadly and the Mongols

attempted to assert their independence or autonomy multiple times.

3.4.3 Manchukuo Period

Under these turbulent circumstances, the Kwantung Army (the quasi-autonomous Japanese Army garrison tasked with defending the Kwantung Leased Territories and the South Manchurian Railway Zone formed in 1906) sought to co-opt Mongol aspirations in order to separate Eastern Inner Mongolia and Manchuria from China proper, and supported nationalist movements in Inner Mongolia via Mongols trained in Japanese military academies in the 1910s and 20s (Hirokawa, 2005, 24). With the onset of the Manchurian Incident in 1931 and the foundation of Manchukuo in 1932, the Kwantung Army had promised aristocratic Banner elites and young nationalists that the Mongols will be given autonomy and protections against Han incursions.

The new Japanese-led state prevented further reclamation into the Mongol Lands and proclaimed ethnic harmony as a foundational principle. However, they also prioritized the creation of a strong, effective state with extensive territorial control in order to foster economic development for Manchukuo to serve as an example for reforms in Japan, to function as a base for industrial production and resource mobilization for military endeavors (Duara, 2004, 64-71). Thus, the Japanese authorities had to play a careful balancing act between the Mongols and the Han, and choose whose claims to uphold and in what form (i.e., individual or collective). They had to limit Han settlement and protect the interests of their Mongol allies without engendering too much opposition from the Han, and also to minimize the disruption of agricultural production.

With the creation of Manchukuo, a large part of the Mongol lands were incorporated into the Hsingan Provinces administered by the Hsingan Office (outlined in red in Figure 3.4), as a provincial-level special administrative region for Mongols. This demarcation was made by Japanese technocrats who adjudicated between areas

FIGURE 3.3: Administrative Units of Manchukuo and Extent of Mongol Lands (1940)

These maps summarize ethnic administrative units at the provincial and sub-provincial levels. It also shows the historical extent of Mongol territories prior to Han settlement. The map on the left shows the distribution of Banners and Counties in Manchukuo, as of 1940. Banners are sub-provincial level administrative units for Mongols, whereas counties are sub-provincial administrative units for other races, such as Han and Koreans, and are equivalent to counties in China proper. The map on the right shows the distribution of "Mongol Lands" in blue, or the entirety of the territorial extent of Mongol banners under the Ch'ing Dynasty. As can be seen with a comparison of the left map with the right map, many counties were carved out of this territory. Manchukuo also created provincial-level administrative units for Mongols, or the Hsingan provinces. As can be seen, the Hsingan Provinces contained both banners and counties, and some banners lay outside of Hsingan. Maps include rail lines as of 1932 and settlements designated as cities in the 1940 census.

where traditional Mongol ways of life could be preserved, and areas where settlement had gone too far to be reversed.

While Hsingan represented a province-level areas reserved for Mongols, it included cities and non-Mongol counties with large Han populations, and there was already extensive Han settlement within these areas. Furthermore, some Mongol Banners lay outside Hsingan, and many Han-dominated counties were not incorporated into Hsingan despite originally being Mongol lands due to the advanced status of Han settlement (Hirokawa, 2005, 28-30). For example, the capital city of Hsinking is located in Changchun county, which lay within the former Mongol lands, yet county administration was maintained and it was not incorporated into Hsingan since it was already overwhelmingly Han and the whole county was already extensively cultivated.

Under the ROC and into Manchukuo, Banners continued to exist as county-level administrative units for Mongols, still ruled by their traditional aristocratic leaders. Thus, within the former "Mongol Lands" colored in blue in the right diagram of Figure 3.4, there existed former Mongol lands that lay within the Hsingan Provinces, and those that lay within non-Mongol provinces, though no Mongol Banners existed outside of the former Mongol Lands. Furthermore, both Hsingan and non-Hsingan province areas contained both Banners and Counties (red and green areas in the map on the left, respectively), with Banners constituting the county-level administrative unit for ethnic Mongols, and counties generally set up to administer Han. Thus, there was an overlapping province-level and county-level administration reserved for Mongols.

Through the 1930s, the Japanese authorities sent research teams to compile data on the actual land use, tenure, and relations in order to adjudicate conflicts over land and extend state power to these key regions.

The Japanese authorities had been trying to "modernize" land registries across the entire country. In the Mongol Lands, they sought to transform land ownership from a patchwork of overlapping taxation and usufruct rights, conflicting property claims, and inconsistent land titles to clear ownership, implement uniform land taxation, and to improve Mongol governance by employing Japanese-educated Mongol bureaucrats in the place of hereditary aristocrats [6]. From 1938 to 39, the lands claimed by the Banner princes and other feudal elites were nationalized, and the incomes from the land were turned into tax revenue, permanently alienating these lands from Mongol control, though lands were set aside as private property for individual aristocrats (Hirokawa, 2005, 310-11). Thus, the aristocratic elites lost their

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[6] The Japanese officials in this case were not trying to preserve Mongol common property *per se*, but rather wanted to prevent further encroachments by the Han to preserve the Mongols and to resolve the ethnic conflict between Mongol and Han. It seems that Japanese officials preferred plots registered to individuals without overlapping rights but had a hard time navigating the complex disputes and existing property rights institutions in the mixed areas.

direct control of Banner administrations, but maintained their status as traditional elites, and as representatives of the interests of their respective Banners. Throughout this process, Japanese authorities had to resolve disputes and overlapping claims and land disputes that often had ethnic dimensions. Therefore, Mongols facing conflict with Han could resort either to their aristocratic elites and traditional institutions (upon which, ultimately, their collective ownership of the Banner land was based), or to the state apparatus directly, be it the Banner or County office. For the Han, there was little recourse besides the Banner or County office to claim a land title.

Land claims in Manchukuo were tied to personal identification. While the ROC had Japanese-style land registration laws on the books, government officials would often issue multiple titles for one piece of land in order to pocket registration and transactions fees, and the registries were not kept updated or consistent. The receipt for the title would be issued to landholder, but the registries were not available for public verification (Shimizu, 1941, 193). Following Japanese reforms, the new authorities attempted to make titling consistent, make the land registry available to the public, and resolve conflicting claims. Under the new system, roughly based on land registration programs implemented in other Japanese colonial administrations such as the Kwantung Leased Territories, landowners were given notice to apply for a new land title. To successfully register, dispute, inherit, sell, transfer, and otherwise amend the land registry, the government required the the applicant to attach a document verifying the applicant's identity issued by the local police based on "strict investigation" (Matsuda, 1946), which would likely be based on local registrations, including the registration information generated from the 1940 census described below. Thus, those seeking state protection for their claims to land needed to comply with other institutions intended to identify and register individuals.

The following two vignettes shows cases where the mechanism proposed appears to be at work, followed by a sub-section on comparative cases from contemporary

FIGURE 3.4: Provinces and Major Cities (1940) and Railways (1932)

The map on the left shows the borders and the locations of the administrative centers of the provinces of Manchukuo at the time of the 1940 census. The left map shows the locations of the major cities, as designated in the census, as well as the state of the railways in 1932 at the founding of Manchukuo. Additional lines were subsequently constructed and all non-SMR lines came under Manchukuo control during the 1930s. Rail lines were taken from "The Manchuria Yearbook 1932-33" available online from the Library of Congress (LCCN32007091).

Africa which show similar dynamics at play in other land conflicts.

3.4.4 Motivational Vignette 1: Prince Ündür and Mongol Resistance to Han Settlement

The uprising of Prince Ündür Yangsanjab (?-1941)'s Mongol Banner Army against the reclamation of the "Hsi-Chia Wasteland" from this period is illustrative of the dynamics outlined in the theory section. This case shows the availability of the traditional Mongol elites as both leaders and representatives of Mongol interests in inter-ethnic conflicts over land in this period, and the tendency of ordinary Mongols to turn to such elements when competing with Han over land.

Prince Ündür Yangsanjab was one of the princes of the Horchin Left Middle Banner (also known as Darhan banner, now in the Inner Mongolian Autonomous Province under the administration of Tongliao City), adjacent to Liaoning (Fengtien)

Province. In 1930, the ROC Liaoning Province land reclamation officials started surveying the last arable lands in the "Hsi-chia Wasteland" in this banner for sale to Han Settlers. Part of this area was already under cultivation by Mongols, and most of the arable land of the Banner had already been settled by Han by 1930. Therefore, further settlement would have threatened the very existence of the Mongols in the Banner (Borjigin, 2017, 111).

Moreover, the survey teams sent to measure the land to be sold were protected by an armed force that terrorized the locals and looted their property. In response to these developments, traditional elites such as Banner princes and religious leaders such as the 9th Panchen Lama appealed to the ROC authorities to stop the land reclamation, representing the interests of ordinary Mongols. When this was to no avail, Prince Ündür used his right to maintain a small militia to protect his residence and fight bandits to recruit Mongols into the Mongol Banner Army and prevented land surveys by force. The basis for Prince Ündür's resistance was his authority as one of the hereditary elites of the Darhan Banner, and was further incentivized to take such drastic measures to preserve the Banner as an administrative institution led by aristocratic elites.

In the end, the ROC Liaoning Province forces were able to quell the Mongol Banner Army and carried out the survey work in preparation for settlement. However, with the Manchurian Incident, the Japanese forces prevented the sale of land (Borjigin, 2017, 109-145).

3.4.5   Motivational Vignette 2: Han Settlers Turning to the State

Detailed information about particular disputes and individual cases from the Han point of view are difficult to come by. However, there are some records from Japanese and Chinese sources that illustrates the phenomenon of Han settlers attempting to secure their individual property rights through appealing to state power.

First, Tsai (1983, 63) cites a Ch'ing Dynasty record, showing that a lawsuit by Han Chinese farmers in the mid to late 19th century disputed a rental increase implemented by the Mongol Princes. Subsequently, the Ministry of Dependencies in the Ch'ing court ruled in the Mongols' favor in 1885. Upon this, the Han tenants appealed to the *provincial governor* in an attempt to force the Mongol princes to maintain the previous rates [7].

Additionally, this phenomena can be seen in Japanese documents surrounding the nature of land tenure and ownership in the Mongol Lands. A section of the 1935 report on the nature of the Mongol Lands in Jehol-Chinchow classifies the nature and origins of different forms of Han alienation of Mongol Land. Of these, one type was land in which Han peasants refused to pay rents to Mongol princes who theoretically owned that land, and de facto converted the land to individually parceled property. The report notes how such phenomena often occurred with the cooperation of the *county officials* despite being illegal. Furthermore, a similar type of land is a type in which the Han refused to pay rents due to the destruction of rental agreements during the Chintantao incident. Such landholds were later converted to perpetual leases without rent, which was de facto individual property, due to the collusion of *county and province officials*, especially under the warlord Tang Yu-ling during the Republican period (Jehol Province Office, Civil Administration Agency, Banner Services Department, 1935, 26-28).

3.4.6 Comparative Cases: Similar SoS Conflicts in Africa

The case studied in this paper is not particular to Manchuria, but rather share similarities with conflicts between indigenous people and migrants elsewhere, whereupon

[7] On jurisdictions, McCaffrey (2011, 535) notes that during the late 19th century, in the Mongol Lands, Han-Han disputes were settled by Ch'ing magistrates in a manner similar to adjudications in China Proper, Mongol-Mongol disputes were settled by Mongol law administered by the Jasag, and mixed disputes were settled by the Ministry of Dependencies which was a department of the Ch'ing government in charge of Mongol affairs.

the parties advocate for different land tenure institutions. In some of these cases, indigenous attempt to reassert their collective property rights institutions and the migrants attempt to assert or preserve individual claims to plots when land becomes scarcer in a region that saw considerable in-migration. For example, Boone (2014) contains several case studies that show remarkable similarities with Han-Mongol conflict in Eastern Inner Mongolia. In her framework, land conflict under neocustomary land regimes, where the state supports tribal and lineage elites of indigenous groups over claims from migrants, enables the conflict to be contained locally and is of lower intensity. For these cases, the claims made by both sides are similar to the ones made by Han and Mongol, especially in the *form* of land tenure institution that both sides advocate. The indigenous (in Boone's terminology autocthone) elites tended to assert the collective land ownership rights and attempted to renege on the migrants' earlier land use rights, which were sometimes even structured as freehold, and regain the lineage/tribal control over these lands. In contrast, the migrants often caved and were disinherited or attempted to appeal to the state to defend their investments and property rights in these regions. Examples from Boone include the case of migrant farmers in neocustomary lands in western Burkina Faso and western Ghana, among others.

In western Burkina Faso, land administered by ethnic Bwa and Bobo indigenous lineages were lent out to mainly ethnic Mossi in-migrants from other parts of Burkina Faso. In the 1970s and 1980s, land became dearer with the increase in population, and indigenous land claimants attempted to extricate the Mossi settlers, whereupon the Mossi appealed to state officials, who did not intervene heavily, and most of the disputes were settled in the favor of the indigenous (Boone, 2014, 101-105).

In western Ghana, outsiders had gained access to lands controlled by chieftancies for use in cocoa production intended for export. They had done so through purchase or farm-sharing contracts with documented transactions and land surveys, where

ownership was thought to be individual and similar to freehold. By the 1990s, mot of the cocoa farms were owned by outsiders. After indigenous also began to farm cocoa for export, land competition between indigenous and migrants intensified, and many indigenous chiefs reneged on earlier contracts and gradually eroded the migrants' property rights (Boone, 2014, 115-122).

3.5   Data and Measurement

3.5.1   Proportion and Distribution of Racial Groups in Manchukuo

The main data come from the 1940 Manchukuo census, which contains data on age distributions by nationality and race[8] and gender at the city/county/banner level. This census contains age cohort data on 210 administrative units, including counties, banners, and cities in 19 provinces and one special municipality (the capital city of Hsinking).

The population composition of Manchukuo according to figures compiled in the census are shown in Figure 4.4. As the diagram shows, the overwhelming majority of the population were Han Chinese, who numbered nearly 12 million, followed by Mongols and Bannermen. Bannermen, Han, Mongol, Hui, and Other Manchu are categorized as belonging to "Manchurian" nationality in the census (that is to say, people in Manchuria as opposed to ethnic Manchu), to be distinguished from "Japanese" who are citizens of the Japanese Empire, divided into mainlanders (from mainland Japan), Koreans, and "Other Japanese" (i.e., Taiwanese). The administrative categories divide residents into Japanese and Manchurian because the question of unified Manchukuo citizenship was never solved, largely due to Japanese laws preventing dual citizenship and the potential for losing de facto privileges of Japanese citizen-

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[8] "Manchurians" subdivided into Manchu Banner people (the composition of this group is not entirely clear, but Bannermen were composed of Manchus, Han, and Mongols who were given this status under the Ch'ing–these are probably mostly Manchu), Mongols, Han, and Hui, "Japanese" subdivided into metropolitan (that is, from Japan proper), Korean, and other Japanese (likely mostly Taiwanese). Additionally, there are foreign nationals, and stateless persons.

FIGURE 3.5: Population Composition of Manchukuo (Mongol Lands)

Nationality and Race in the Mongol Lands
(Total: 13,296,850)

- Manchu (Bannermen) (1.51 %) 200,562
- Manchu (Han) (89.42 %) 11,890,335
- Manchu (Mongol) (7.71 %) 1,025,550
- Manchu (Hui) (0.37 %) 48,671
- Manchu (Other) (0.04 %) 4,657
- Japanese (Mainland) (0.47 %) 62,179
- Japanese (Korean) (0.32 %) 42,183
- Japanese (Other) (0 %) 82
- Foreign (0 %) 330
- Stateless (0.17 %) 22,301

Manchu refers to locals, i.e., not foreigners, stateless, or Japanese Citizens. Before the founding of Manchukuo they would likely be citizens of the Republic of China. Bannermen are likely ethnic Manchu though they may include non-Manchu Bannermen. Japanese refers to Japanese citizens, including colonial subjects (mainly Koreans and Taiwanese). As the chart shows, the majority of the population in the former Mongol Lands are made up by Mongols and Han.

ship (Endo, 2007). Finally, there are foreigners, or citizens of third countries, and "stateless", most of whom were white Russian refugees who settled in Manchuria[9]. The geographic distribution of the main ethnic groups of note, Han Chinese and Mongol are shown in Figure 3.6. Unsurprisingly, Han Chinese are the majority in most of Manchuria, though there are some Banners that retained a Mongol numerical majority.

3.5.2   Age Heaping as a State Capacity Measure: The 1940 Manchukuo Census

I compute the main outcome variables, state capacity at the county level for the racial group of interest, using a measure of state capacity as legibility presented in (Lee and Zhang, 2016). This measure uses the Myers' Blended Index (MBI) for age heaping, which quantifies the degree to which the distribution of ages in a census reflects

[9] These totals listed in the aggregate tables are not consistent with the sums of the data in the census reports, and the counts for the counties do not add up to province totals. This appears to be a common feature of older statistical reports.

FIGURE 3.6: Han-Mongol Ratio in the Mongol Lands

The diagram shows the proportion of Mongols compared to Han across Counties and Banners in the Mongol Lands according to the 1940 census, with 1932 rail lines and major cities indicated on top.

the "natural" distribution of ages in a population, based on the assumption that lower-quality enumeration will result in "age heaping", or the phenomenon whereby ages are rounded up or down due to the inability of the state or the individual to accurately assess their correct ages. They are often rounded to multiples of five, ten, resulting in an excess of these digits– for example, a low capacity state may round a 37 year old's age to 35 or 40 due to a lack of information (though MBI is agnostic about which digit the heaping happens on). The index is computed by taking the percentage of the subset of the population ending in each digit (i.e., the number of individuals whose ages end with 0, so those who are aged 10, 20, 30, 40, and so on in

the dataset), and taking the deviation of the percentage of each terminal digit from the expected value (10 percent for each terminal digit), and is summarized by adding the absolute value of all of the deviations for each terminal digit, and dividing by half. A perfectly even distribution would yield a score of zero, with higher MBIs indicating greater age heaping, which in this case is used as an indicator for lower quality census data. This measure should be robust to most demographic shocks, since these would likely be spread across different *terminal digits* even if they may be concentrated in age range. For such events to affect MBI score, the range would have to be quite narrow. For example, in a situation with a MBI score of 0, if all 1 year-olds are removed, this would increase the MBI, though not by so much, since all

11 year olds, 21 year olds, 31 year olds, etc, would balance out the number of those with the terminal digit of 1. That being said, very small populations can produce wildly high MBIs that are largely meaningless for our analysis, so observations where the population or sub-population is below 100 is excluded from analysis.

The analysis for the effect of diversity as such uses the entire sample, whereas the analysis on Han-Mongol conflict focuses on lands that traditionally belonged to Mongol Banners, which saw ongoing Han settlement.

FIGURE 3.8: Distribution of MBIs By Race

3.5.3   Determinants of Age Heaping

Multiple factors are known to cause age heaping, and heaping has been used as an indicator for different phenomena. In economic history, it is often used as a measure of numeracy, while political science has been using it as a measure of state capacity (A'Hearn et al., 2021). What then, are the relevant factors for causing heaping in this case? First, I will convey the precursors to and implementation of the census, whereupon I will discuss its significance for causing age heaping. I argue

that for the case of intra-group variation in heaping among Han and Mongols, the general variation in age heaping arises from a combination of (a) improper methods of filling out census forms that used estimates by the enumerators and compilers, (b) intentional avoidance by residents (especially to avoid conscription), (c) prior exposure to high-quality state registration. I argue that (b) is the main driver of the relationship shown here, as alternative specifications of the main analysis show that plausible measures of prior state capacity and Japanese efforts to strengthen local state organs are not major determinants of variation in state capacity. There were incentives to especially misrepresent ages and hide young men due to the concurrent introduction of conscription, yet these incentives were likely constrained by prior exposure to registration due to the threat of verification.

Age heaping serves as a viable proxy for compliance to enumeration by providing a measure that provides a combination of avoidance and exposure to prior state capacity, which determines the degree to which the state is able to ascertain accurate information about the population. In this setup, inter-ethnic conflict leads to differential incentives to divulge information to register land, affecting prior exposure. As the subsequent section will illustrate, the prior exposure shapes avoidance by serving as a threat of external verification for information proffered by residents for the census. Additionally, prior state capacity also shapes prior exposure to registration, since high-capacity states are more likely to be able to obtain personal registrations from residents. Improper enumeration, or errors by low-quality officials in obtaining or processing the data are also likely to be shaped by prior state capacity. Prior state capacity is a potential confounding variable that is partially addressed in analysis by controlling for units that contained concessions that were directly governed by the Japanese prior to the formation of Manchukuo.

3.5.4 Prior Population Registrations and Surveys

Prior enumeration is likely to affect the final quality of a given census, given that people who have been enumerated are more likely to give up their true information, are more likely to know such information, and provides a way to verify or at least a threat of verification for those who may wish to avoid being enumerated or may not want to fully comply with enumeration.

Under the Ch'ing, theoretical population tabulations were conducted using household registries. Following the 1911 revolution and the rise of warlord government in Manchuria, the authorities conducted multiple population surveys and registration drives in order to better ascertain the nature of their populations (Suleski, 2002, 84). Thus, those with ROC citizenship would have been registered and given identification.

Mongol Banners traditionally did not have the same comprehensive household registration systems that counties did, as their main registration systems were registries of Mongol males belonging to that banner which was to be used for military mobilization. Taxation was traditionally conducted either through obtaining tax moneys on the land via intermediaries, directly taxing tenants through land registries, and through semi-feudal levies on the Mongols' herds and livestock extracted through semi-tribal organizations and given to aristocratic elites. In a survey of administrative practices of Mongol Banners in Kirin and Heilungkiang from 1934, Japanese researchers found that some banners began to keep registries of all residents, while others did not do so (Manshukoku Minseibu Chihoushi, 1934). Additionally, individual accounts also talk of people registering as Mongols, Manchu, or Han under the Ch'ing and ROC (Borjigin, 2017, 204-205).

When the Japanese founded Manchukuo in 1932, the new government retained most of the existing local government institutions, including the civil administration

and the police, though Japanese subordinates (who had the final say in local governance) were appointed to assist county and banner heads, who were either local executives under the previous regime, or were recruited from local ethnic groups (Tsukase, 1998, 42).

Starting in 1934, yearly surveys of population registries were conducted in order to ascertain the general contours of demography. In 1937, personal registration was expanded to require bi-annual checks for those in good standing, and more frequent ones for suspicious individuals (i.e., known oppositionists, communist sympathizers, opium addicts, criminals, usurers, etc.) (Bong, 2010, 45). In practice, the official internal history of the Manchukuo Police notes that these regulations were not always followed, and summaries were often tabulated on the basis of self-reported forms or by tabulating existing registration files instead of confirming the information in person (Manshukoku Chianbu Keimushi, 1942, 406). Novelist Jung Chang (b. 1952) provides one of the precious few first-person accounts of such registration drives, albeit second-hand through her Communist mother. She claims in her semi-autobiographical novel *Wild Swans* that in the case of these registration checks in the 1940s, a policeman would come through the neighborhood loudly announcing that he was conducting a registration check, which gave people plenty of time to flee or hide, and did not conduct the searches thoroughly because he too was anti-Japanese (Chang, 2008, 54).

3.5.5   The 1940 Census

In early 1940 prior to the census, the Manchukuo government announced a new conscription law, which enforced universal conscription examinations starting at age 19, with those selected to serve for 3 years for the ages of 20-23. This was a switch from earlier volunteer/quota recruitment (Oikawa, 2014, 29). Possibly because of this and other corvee duties, there is a visible dearth of young men in the age pyramids

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constructed from the 1940 census, although not as abruptly as one would expect. Given that the age range for conscription is rather narrow, avoiding enumeration to avoid conscription would cause age heaping, since ages ending with 9, 0, 1, 2, and 3 would be artificially underrepresented, though the ranges could have gotten get wider if one wanted to avoid conscription in the near future. The wider the range, the less it would affect age heaping. That being said, the conscription quotas were rather low, at 0.26-0.44% of those aged 18-45 years old between 1941 to 45 (Oikawa, 2014, 34).

The 1940 census, unlike the previous registry tabulations, was to be conducted on a strict basis of actual confirmation through the return of census forms by heads of households, to be conducted concurrently. Voluntary enumerators were assigned to specific census tracts and they were to hand out census forms and then to collect these forms by the specified deadline. It is not entirely clear who these enumerators were, but they were likely local civil officials and police. Then, province-level administrations were to partially tabulate these census forms, and then the census administration under the Department of Civil Affairs were to tabulate the final figures (Beal, 1945, 246).

The census form asked for names, family compositions, ages, relationships, sex, race/nationality, place of permanent residence for travelers, and military status (Beal, 1945, 249). It is not entirely clear the extent to which respondents could get away with lying on these forms. On the one hand, the self-reported nature of the census forms would enable whoever answered to misreport by leaving out family members of a certain age range, misreport ages to avoid conscription, or to use approximations for the ages of family members, etc. On the other hand, the fact that this census was also to serve as the basis for universal household registration implied that the information entered into these forms could be verified. Warlord-era registration information could be used to verify information about the Manchurians. There

was also a fine for refusal to return census forms or for false information, further incentivizing truthful reporting, or at least reporting information that was consistent with what was previously given to the authorities. It is not known if this was actually credible or enforced—US law also stipulates fines for not returning census forms, yet this is not a credible threat due to lack of enforcement.

Thus, such means of noncompliance by Manchukuo residents would likely result in age heaping. This would likely be compounded by prior avoidance of local civil registrations. In turn, a lack of prior state capacity to enforce registrations would also likely undermine the ability of the state to force residents to answer truthfully in the 1940 census.

A history of Manchukuo published after the war by Japanese nationals who returned from Manchukuo to commemorate their service notes that the census was largely successful in thoroughly surveying the residents of Manchukuo through sending enumerators to localities (Manshukokushi Hensankankokai, 1970, 56-58). In contrast, the official internal history of the Manchukuo Police (published in 1942), bemoaned that the pre-census registrations and the universal civil registrations based on the 1940 census both suffered from a reliance on self-reported information and lacked independent verification through an "investigation of actual conditions". The same history also partly blamed the relatively low level of education for many police officials, which hindered their ability to process registrations and engage in administrative tasks, even when the main task of the police forces switched from active combat and counterinsurgency to administration and regular policing (Manshukoku Chianbu Keimushi, 1942, 406).

Taken together, these facts show that the variation in MBI within ethnic groups, across localities was likely caused by a combination of avoidance, prior registrations or lack thereof, and the administrative competence of the local police authorities. The following analysis focuses on the avoidance aspect as driving the variation in

MBI scores across regions for a given ethnic group. While impossible to rule out entirely, some controls for prior state capacity are introduced in the analysis.

3.5.6 Cultural Factors Driving Age Heaping

Within each ethnic group, cross-regional variation in age heaping is likely not caused by cultural factors, though education and numeracy may be a driver. Some cultures value knowing one's own age more than others, and different cultures have systems of counting them, yet given that we are comparing within groups, across locations, these cultural differences should not substantially affect the age heaping measures.

The Han, even the illiterate, know their birth years through their system of zodiac calendars, which by combining 12 year and 10 year cycles are able to specify years in 60 year cycles. Thus, by knowing one of sixty zodiac combinations, an enumerator can ascertain the ages of individuals through a simple conversion table (Jowett and Li, 1992, 429-433).

In contrast, some ethnic groups are not known to care or know about their particular ages very much. For example, postwar censuses carried out by the Communists showed that age heaping was generally low among Han Chinese, even in areas with low literacy rates, whereas heaping was substantial for Turkic peoples in Xinjiang, even among the literate, likely because these cultures did not particularly value knowing one's age (Jowett and Li, 1992, 434-435). The Mongols also do not seem to have such issues with age counting. Communist-era Inner Mongolia did not see particularly egregious age heaping, though may be an outcome of the Japanese administration (Jowett and Li, 1992, 429,431). Outside of Inner Mongolia, the 1926 Soviet census of the Buryat-Mongolian SSR (BMSSR), which was 44% Buryat-Mongol (most of the rest were Russians, making up 53% of the population) saw a particularly low level of age heaping; using Whipple's Concentration Index, the BMSSR had the lowest degree of age heaping in the entire Union, despite being

a relatively remote region (Kantner and Kulchycka, 1957, 7).

Thus, generally, cultural factors are likely not great drivers of variation in age heaping for this case. What more, the comparisons being made are confined to within each ethnic group, rather than across them, which should not drive the results.

3.5.7 Residential Segregation Measures

In addition to the static population distributions, the population data at the city, town, or village level are used in order to measure county/banner-level segregation. Borjigin (2017, 210-211) notes that while Mongols were able to integrate Han who moved into Mongol villages, all-Han settlements created an entirely alien society and did not allow Han to integrate into local Mongol society, creating greater conflict.

The 1940 census provides population counts by gender and age for all cities, towns, and villages, which allows the researcher to construct segregation measures, though it is not possible to find out where exactly in the counties and banners these settlements were located, or to compute MBI at that level, since they only provide totals rather than age cohorts. For this analysis, four common measures of segregation are used, dissimilarity, exposure, entropy, and GINI. The particular derivations are elucidated in the appendix section titled "Segregation Measures", but in short, dissimilarity measures the even-ness with which demographic groups are distributed, that is to say, how much the population distributions within villages in a banner or county deviates from the banner/county average. The score varies from 0 (highest integration– all villages have the same ratios of ethnic groups as the county or banner) to 1 (lowest integration– complete segregation; all groups live in ethnically homogeneous villages). Exposure measures potential contact, and differs from dissimilarity in that it accounts for the relative sizes of each group, and can be computed differently from the perspective of these different groups. The higher the score is, the more that the group in question will be exposed to members of

the same group relative to other groups. The Entropy index is a weighted average of the degree to which groups are evenly represented in each area. and the GINI index is a score of the deviation from an even distribution computed by deriving the weighted mean of all the differences across pairs of sub-county/banner units, as a proportion of the maximum weighted mean difference (Massey and Denton, 1988, 285). Figure 3.9 illustrates the distribution of the aforementioned segregation measures, with exposure computed for both Mongols (M) and Han (H) separately.

3.5.8   County Age and Police Data

County age measures the length of time that a county has been officially established as a county, and is taken from gazetteers and online sources for each county. Police data counts the number of police in each county for 1931 under ROC, as well as 1934 and 1938 for the Manchukuo period, in addition to the number of Japanese policemen deployed to the county as a measure of costly Japanese investment in training and administrative capacity. Data for 1931 and 34 come from *The Overview of Manchukuo Police, 1935*, and the 1938 data comes from the *Police Statistical Yearbook Nr. 2 (1940)*. For 1931 and 1934, the proportion of paramilitary police used to combat banditry and insurgency are also provided.

3.6   Empirical Analysis

3.6.1   Demographic Replacement

In order to test the Demographic Replacement Hypothesis, this section shows the differential effect of demographic displacement on state capacity across Han migrants and indigenous Mongols. The analysis shows that as Han displace Mongols, legibility over Han *decreases*, while having no effect over MBI for Mongols. Table 3.3 shows the results for this analysis. While territories comprising 73 Manchukuo Banners and Counties originally belonged to the Mongols, areas where there were less than 100

FIGURE 3.9: Summary of Segregation Measures

The Dissimilarity Index measures the deviation of the distribution from an even distribution, where each city, town, or village reflects the population makeup of the county/banner. The Entropy Index, like dissimilarity, measures departure from evenness, but measures evenness by the weighted average of the departure of the entropy of a given sub-unit from the entropy of the unit of analysis (i.e., county or banner). The GINI index measures "he mean absolute difference between minority proportions weighted across all pairs of areal units, expressed as a proportion of the maximum weighted mean difference, which occurs when minority and majority members share no area in common" (Massey and Denton, 1988, 285). Unlike dissimilarity, is sensitive to all "transfers of minority and majority members between areas", instead of just those between over-and underrepresented areas (Massey and Denton, 1988, 285).Exposure measures the degree to which the member of minority group X is exposed to members of group Y.

mongols resided were excluded given that MBI can become erratic at low sample sizes. Controls are added for territories adjacent to the South Manchurian Railways, which contained Japanese-administered concessions from before the creation of Manchukuo, for type of administrative unit (county or banner) given the longer history of thorough household registrations in the former, and population density. Looking at models 1 through 3, we see that the effect of percent Han on is insignificant without controls, but is significant and positive at the one percent level for model 2, and at the ten percent level for model 3. In contrast, there is no effect for Mongols. Taking model 2 as an example, increasing from the first quartile of proportion Han (65.5%) in the same to the third quartile (97.4%) increases the MBI by 0.17, which is a 0.62 standard deviation increase in Han MBI (which indicates a decrease in legibility/state capacity).

Table 3.3: Effect of replacement on MBI

| | Dependent variable: | | | | | |
| | MBI (Han) | | | MBI (Mongol) | | |
	(1)	(2)	(3)	(4)	(5)	(6)
Percent Han	0.12	0.53***	0.45*	0.38	0.29	−0.48
	(0.15)	(0.18)	(0.24)	(0.39)	(0.51)	(0.48)
SMR Adj. Ter.		0.01	−0.01		−0.55	−3.48***
		(0.19)	(0.34)		(0.54)	(0.67)
Unit Type (County)		−0.08	−0.10		0.28	−0.004
		(0.08)	(0.12)		(0.24)	(0.24)
Population Density			0.0002			0.01***
			(0.002)			(0.003)
Ethnic Province Dummy		X	X		X	X
Province Dummy		X	X		X	X
Observations	59	59	59	59	59	59

Note: *p<0.1; **p<0.05; ***p<0.01

3.6.2 Residential Segregation

Table 3.4: Effect on MBI (Segregation, Han)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
							Dependent variable:					
							MBI (Han)					
Dissimilarity	−0.34* (0.19)				−0.35* (0.19)				−0.41* (0.23)			
Exposure (Han)		−0.14 (0.20)				−0.51** (0.23)				−0.37 (0.31)		
Entropy			−0.77** (0.35)				−0.54 (0.41)				−0.93 (0.56)	
GINI				−0.85** (0.36)				−0.81** (0.36)				−0.89** (0.43)
SMR Adj. Territory					0.04 (0.20)	0.01 (0.19)	0.03 (0.20)	0.02 (0.19)	0.03 (0.34)	−0.06 (0.34)	−0.14 (0.33)	0.02 (0.34)
Admin Unit Type (County)					0.01 (0.08)	−0.07 (0.09)	−0.005 (0.08)	0.01 (0.08)	0.01 (0.12)	−0.08 (0.13)	0.01 (0.12)	0.02 (0.12)
Population Density									0.0004 (0.002)	0.001 (0.002)	0.001 (0.002)	0.0003 (0.002)
Ethnic Province Dummy					X	X	X	X	X	X	X	X
Province Dummy									X	X	X	X
Observations	59	59	59	59	59	59	59	59	59	59	59	59

Note: *p<0.1; **p<0.05; ***p<0.01

Table 3.5: Effect on MBI (Segregation, Mongol)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
							Dependent variable:					
							MBI (Mongol)					
Dissimilarity	−0.48 (0.51)				−0.54 (0.52)				−0.14 (0.46)			
Exposure (Mongol)		0.41 (0.32)				0.43 (0.47)				−0.45 (0.47)		
Entropy			0.45 (0.98)				0.26 (1.12)				−0.73 (1.10)	
GINI				−0.89 (0.99)				−1.08 (1.00)				−0.57 (0.86)
SMR Adj. Territory					−0.51 (0.54)	−0.57 (0.54)	−0.55 (0.55)	−0.54 (0.54)	−3.30*** (0.68)	−3.52*** (0.68)	−3.36*** (0.66)	−3.26*** (0.67)
Admin Unit Type (County)					0.35 (0.23)	0.22 (0.25)	0.31 (0.23)	0.34 (0.23)	−0.06 (0.24)	0.03 (0.26)	−0.05 (0.24)	−0.05 (0.24)
Population Density									0.01*** (0.003)	0.01*** (0.003)	0.01*** (0.003)	0.01*** (0.003)
Ethnic Province Dummy					X	X	X	X	X	X	X	X
Province Dummy									X	X	X	X
Observations	59	59	59	59	59	59	59	59	59	59	59	59

Note: *p<0.1; **p<0.05; ***p<0.01

When looking at the effects of the four different measures of segregation in tables 3.4 and 3.5 , the analysis yields similar results. None of the segregation measures

have significant effects over Mongol MBI, but show negative effects on MBI for most of the measures and specifications for Han legibility, although some are not significantly different from zero (models 2 and 7 are insignificant at 10 percent level and models 1 and 5 are only significant at the 10 percent level). This largely supports the Segregation Hypothesis, as it shows that settlement patterns characterized by residential segregation (and therefore less integration, and greater potential threats to Han property rights) are associated with higher levels of state capacity for migrants but not native groups.

Substantively, when looking at Table 3.4 Model 12, increasing GINI from the first to the third quartile (0.28 to 0.38) results in a 0.08 decrease in Han MBI, or 0.3 of a standard deviation increase in state capacity.

3.7 Conclusions

This analysis presents evidence on the differential effect of perceived threats to property rights over land on different groups' compliance to measures intended to enhance state in a context with competing land tenure institutions. The paper demonstrates that such threats can improve the state's capacity to ascertain information about the migrants without affecting its ability to do so for the indigenous people.

Works such as Boone (2017) show how such institutions shape the onset and the nature of such conflict when land becomes scarcer. The current paper's empirical and theoretical contributions highlight the obverse phenomena–how such institutions within group shape their relationships with state power in a conflict situation. It does so by highlighting the different effects of land tenure institutions in how groups comply with state efforts to expand power when facing threats against their claims to land, upon which livelihoods rest in agrarian societies.

This work adds to the growing body of literature that questions a simple relationship between ethnic conflict and state capacity, showing how threats can be exploited

by states to extend its control over particular groups. Such a strategy of exploiting conflicts between migrants, indigenous groups to decrease avoidance to expand state power are likely used by state-builders elsewhere, and warrants investigation as a driver of state formation, especially the given the prevalence of similar contrasts in land tenure regimes identified by Boone (2017). Finally, migrations and frontier settlements, along with the conflicts that arise from such movements are likely to increase during the 21st century, and become especially acute with increasing pressures from climate change. The role that states play in such conflicts, as well as the manner with which states are shaped by these conflicts will become even more important in the coming years.

How Repression Undermines Infrastructural Power

4.1 Introduction

Police are vital organs for states seeking to monopolize legitimate violence and govern territory and people. Due to their nature as law enforcement, police carry the dual roles of upholding both the despotic (powers political elites can exercise without "routine, institutionalized negotiations" with elements of civil society) and infrastructural powers of the state (power to "actually penetrate civil society" and to actually implement political decisions on the ground) (Mann, 1984, 188-89). On the one hand, they act as the primary means through which state power exerts violence or the threat thereof upon the majority of its subjects. Simultaneously, as street-level bureaucrats (Lipsky, 2010) they are tasked with administrative work, such as registration, enumeration, adjudicating regulatory violations, settling disputes, and the like. To fulfil both tasks, police often must enmesh themselves within the communities they preside over to have a fine understanding of the communities that they serve.

Thus, when security forces such as police engage in violent repression, they often undermine their own ability to uphold infrastructural power. While degraded relationships between police and social elements drive of negative consequences of repression for state power, engaging in repression also has repercussions for the organization itself. Using a police apparatus for violent repression can retard its ability to engage in routine administrative tasks effectively. Potential causes for this phenomenon are norm spillovers and adverse selection. For the former, some forms of repression involve the bending or outright disregard for existing rules and regulations that may result in the erosion of norms for careful rule-follwing. Furthermore, such measures can discourage higher-skilled individuals from joining the forces, despite such skills being vital for non-repressive tasks. These two factors may be mutually reinforcing. Thus, when police are used for violent repression, there may be internal

costs in infrastructural power for the apparatus tasked with such repression.

This paper shows the plausibility of such a relationship by analyzing the case of Chinese state-led repressions against Korean settlers in Manchuria, in the late 1920s and early 1930s under the rule of the Fengtien clique led by warlord Chang Hsueh-liang (in power 1928-1932), which saw the heavy involvement of local police forces. Following military action by elements of the Japanese Army in 1931-32 that led to the foundation of the state of Manchukuo under Japanese guidance in 1932, the same police forces were integrated under Japanese command and supervision. While Japanese officials took up important command and advisory positions, the bulk of the policemen and police officials remained local, i.e. largely Han Chinese, since the new authorities could not afford to replace existing police forces. This study finds that despite the heavy Japanese guidance and reforms implemented since 1932, repressions in the prior period is strongly associated with lower state capacity, operationalized as legibility or the ability of the state to ascertain information and nature of the majority Chinese population. Legibility is measured using data from the 1940 Manchukuo census following the method proposed in Lee and Zhang (2016), which uses age heaping as a measure for data quality, hence a proxy for legibility. The census was conducted under Japanese guidance but implemented by local authorities, often the county-level police. The Manchukuo census gives age cohort data by race at the county level, allowing for a differentiated measure of state capacity across different groups in the same location.

The available data suggest some mechanisms to explain *how* repression may have led to lower quality enumeration. While not entirely conclusive, province-level data suggests that these repressions led to the inability to recruit quality candidates. Furthermore, the locations where the repressions happened saw greater investment in efforts to enhance the *quality* of local police officials, measured in literacy (such counties were assigned with a greater number of Japanese police officials, who were

costly investments in the improvement of local police forces given the scarcity of Japanese personnel) under Manchukuo. In contrast, there were no significant differences between repression and non-repression areas in the *quantity* of police forces, despite an overall increase in the number of policemen, suggesting that this was an issue of quality, rather than a quantity. Finally, there was also no significant effect of the magnitude of subsequent insurgency and counterinsurgency measures, suggesting that underlying anti-Japanese sentiment was not the major driver of this relationship.

Strikingly, the Manchurian case demonstrates that these effects are not shaped by the relationships between the state apparatus and members of repressed groups, but is likely due to the effects of repression on the state apparatus. This can be seen, for legibility is not undermined for the repressed minority group (Koreans) but for the Han Chinese residents, who were not subject to the repression, and in fact often took part in it.

While this research design is unable to establish causal connections between these factors, it shows some suggestive correlations that highlight the potential for further research on the costs that state organs may incur upon conducting repression or use of force.

4.2 Literature on Repression and State Capacity

How does systematic repression directly shape state capacity? The by now vast literature on strategies of repression have demonstrated that strategies of repression are heavily shaped by the capacities of the state attempting to extend control. For example, Liu and Sullivan (2022) employs the contrast between infrastructural and despotic power proposed in Mann (1984) to demonstrate how temporary lapses in infrastructural power lead to more overt forms of repression, rather than surveillance and prevention to forestall opposition. Lower state capacity has also been shown to

be associated with greater abuse due to agency loss and inability to police (Englehart, 2009). Furthermore, the degree to which the state's coercive organs, such as police, gendarmes, paramilitaries, and the military, are disciplined, organized, and controlled also shape the manner in which the state is able to use repression.

That being said, there has been much less research on the converse relationship–how repression shapes the security organs that enact it, and how states are shaped by repression as such. Tilly (1985) famously theorized that interstate competition and war were the drivers of modern state formation in Western Europe. For civil conflicts, greater state capacity has been shown to contain contagion from nearby conflicts (Braithwaite, 2010), and Sobek (2010) reviews the literature, finding that works tend to support the negative effect of state capacity on the onset of civil conflict, while Thies (2010); Gibler and Miller (2014) have shown that civil conflicts tend to undermine state capacity, while state capacity does not affect civil war onset. This research focuses not on the effects of *conflict* on state capacity, but rather, on the institutional costs that the state administrative and coercive organs pay when exercising naked coercion that is incurred within these institutions, aside from the usual costs paid in the loss of trust, avoidance, and other forms of state evasion (Scott, 2010), or the potential for increased opposition and insurgent activity.

As a more direct test of the effect of repressions on state capacity, Osorio et al. (2018) shows that in the case of Mexico, histories of targeted, clandestine repression have a mixed relationship with different aspects of state capacity.

Furthermore, there has also been considerable research in the recent years on the medium to long-term consequences of repression reviewed in Davenport et al. (2019). This research contributes to that literature by demonstrating the effects that repression has on the state apparatus itself, rather than on those subject to the repression or on its relationship with state authorities and administrative organs.

Thus, this paper shows that when states engage in violent repression using police

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forces , they face trade-offs in their abilities to conduct such administrative tasks, in this case, conducting the census, which is an important aspect of a basic state capacity–legibility, or the ability of a state to ascertain accurate information about the population. Furthermore, the paper also argues and shows suggestive evidence that these effects may be due to a decline in administrative rule-following and a relative inability to recruit skilled officials.

4.3   Police Repressions and Administrative State Capacity

When a state engages in violent repression against mass elements, it often (though not always) results in unintended backlash from the subjects of repression, as reviewed in Davenport (2007) and Balcells and Stanton (2021). Thus, repression is often costly and can have consequences that are detrimental for the power engaging in it. In this research, I propose that repression not only undermines state-society relations, but also can also create negative dynamics in the case of police forces that can undermine its abilities to engage in skill-intensive but routine administrative tasks that are important for their role as street level bureaucrats that uphold infrastructural power.

In particular, this should undermine state capacity as legibility, or the ability of the state to ascertain information and nature of the population through means such as the census (Scott, 1998). Accurate information gathering requires not only good relations between state and society, but also for officials to be thorough, careful, numerate, and literate in carrying out these tasks, as well as adherence to norms and regulations set out in the original program (for example, in creating data from conducting a census instead of simply aggregating existing population registers[1]).

Thus, independently of degraded relations between state and society, repression is likely to undermine these abilities through two mechanisms. First, when vio-

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[1] For regions with existing population registries, censuses are often costly exercises in verifying the registry information, creating statistical outputs to formulate policy, and the tabulated results often contradict each other.

lent repression is conducted in an extra-legal manner, or when legal justifications are abused to justify such repressions, it should undermine the rule-following norms within these organizations. Second, such repression is likely to retard recruitment of high-quality officials who are numerate and literate enough to successfully engage in administrative tasks. This is particularly costly for states facing insurgencies, as police forces have been shown to be more effective at pacifying insurgents than militaries and militarized police forces in the long run due to their superior abilities to embed themselves with the local population, build relationships, and gain information about the rebels (De Bruin, 2022).

Repression-Administrative Capacity Hypothesis: Police repression retards the administrative capacity of that apparatus.

4.4   Mechanisms

How would such repressive actions undermine norms? Particular forms of repression may manifest which encourage shirking and undermines norms that promote careful rule-following. Repression may be strictly controlled and sanctioned, as would be the case in which a person threatening a third party is attacked with lethal force. Alternatively, official rules can exist for more violent forms of repression–in the case of Manchukuo, police were allowed to shoot on sight during active combat through a legally sanctioned suspension of due process (Kato, 1968, 93). However, when tasked with some repressive action, organs on the ground may choose or be forced to break the existing rules and either abuse them or ignore them entirely. In the former case, existing regulations may be used as justifications for repressive actions (i.e., tax non-payment) even when there is no violation. In the latter case, police in some countries such as Brazil are known to engage in entirely extrajudicial killings to combat criminal elements.

When repression takes such *rule-bending* forms, it can potentially undermine

norms of rule-following and assiduous execution of prescribed tasks even in other spheres of police work. The literature on behavioral spillovers highlights the possibility of "norm spillovers", or when norms enforced or broken in one sphere of life in a given person can affect those in another (Keizer et al., 2008). It also highlights the possibility of "moral spillovers" – Mullen and Nadler (2008) shows that subjects who are shown violations of norms are more likely to engage in deviant behavior themselves–if norms of rule-following and procedural adherence have been built up in an organization, but that apparatus engages in repression that undermines other regulations and norms, then there may be spillovers to rule adherence in other spheres, such as routine administrative tasks or attempts at state enumeration that police are also tasked with that require effort and rule-following. Conversely, improvement in one administrative sphere has been shown to enhance administrative capabilities in other spheres (Charasz and Vogler, 2021). Thus, other things being the same, repressions that occur according to existing regulations or policies should have a smaller negative effect on long-term state capacity than repressions that abuse existing rules and procedures.

Administrative Procedures Hypothesis: Repression that is justified by an abuse of procedural norms will be associated with lower legibility than repression that is conducted according to policy.

Finally, repression can discourage recruitment of high-quality officials into the apparatus, leading to lower administrative capacity in the long run. Where police recruitment is local, this should lead to variation in the quality of recruitment at the local level. While direct combat against bandits and insurgents may not require such skilled officials, tasks that support infrastructural power require aforementioned skills such as literacy and numeracy which is necessary for states to control populations and establish power in the long run. There is suggestive evidence in the existing policing and conflict literature that associates educational levels and willingness to

use violence. In police studies of use of force, higher educational attainment has been associated with lower levels of excess force across multiple studies, an effect that has been attributed to better communication skills and superior discernment in the use of force (Rydberg and Terrill, 2010; Paoline III and Terrill, 2007).

In studies of rebel recruitment, low levels of education have been associated with higher levels of recruitment for rebel groups. Furthermore, lower educational attainment has been associated with higher individual propensity to join rebel groups, where the use of violence and force as one might conduct in repressive actions. This is attributed to opportunity costs, as high-cost rebel participation is less worthwhile for those with more education, who have better alternatives to joining rebel groups (Tezcür, 2016; Humphreys and Weinstein, 2008).

Thus, it is plausible to think that with higher levels of education comes reluctance to engage in violence, either or both through psychological reluctance to engage in violence, or by increasing opportunity costs of costly violent participation. Therefore, units that engaged in such violent repressions may attract fewer recruits with the requisite qualities for high-quality administrative work, as mentioned above, resulting in lower quality administrative outcomes down the line. One may ask whether police actions atrocious enough to deter recruitment of high-quality officials might not also be those that undermine state-society relations–however, not all of society is composed of high-quality official material, and in this case mostly likely not, and the *threshold* of participation for cooperating with state enumeration is likely much lower compared to that of pursuing policing as a career.

Self-Selection Hypothesis: Localities that saw more repressions should see less improvements in educational attainment of new recruits.

Furthermore, if better-educated officials and those who are more suited for administrative work are more likely to be rule-following, then these two factors should be mutually reinforcing. Repression can beget both direct dissuasion for higher

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skilled individuals, and the norm erosion resulting from the repression can further dissuade such individuals from joining the force. This proposition is not tested given the limitations of the case and data, but it would be an interesting topic for future research.

In testing these propositions, it is difficult to separate the effects of repression on the apparatus engaged in it and its effects on relations between the police organ and mass elements. To resolve this issue, I test these hypotheses on a case where the repressed group make up a small minority in most of the regions covered, and given the relations between the majority and the minority, should plausibly rule out the possibility that repression caused revulsion among the majority that may undermine state-society relations, at least for the majority.

The subsequent section introduces the case of Koreans in Manchuria repressed by Chinese warlord police, and the effect of these repressions on the quality of censuses conducted by the same police forces under subsequent Japanese rule, followed by a discussion of the data sources. The analysis section tests the Repression-Administrative Capacity hypothesis and the Administrative Procedures Hypothesis using county-level repression and census data, followed by a province-level test of the Self-Selection hypothesis, followed by an exploration of alternative explanations. The final section concludes and outlines an agenda for future avenues of research on the apparatus side of the costs of employing repression.

4.5 Korean Settlement in Manchuria

Korean settlement into Manchuria began with migrations from Joseon Korea (then still a tributary of the Ch'ing) into the bordering areas starting in the late Ch'ing period, which was at first forbidden but was later encouraged to counteract the Russian threat. From 1870 to 1907, Korean administrative organs were operating across the border to govern the settlers in the region of Chientao, or Gando in

Korean (see Figure 4.2. In 1905, Korea became a protectorate of the Japanese Empire, and Koreans in Manchuria fell under Japanese protection. The Japanese used this fact as a pretext to exclude Chinese and Russian influence from the region, and expanded consular, colonial, and police presence in Gando and surrounding areas, and forced concessions such as extraterritoriality and immunity from Chinese administration. By 1910, the Korean population in Manchuria had expanded to over 100,000 (Matsumura, 1970, 63,71).

Korean migration was based on the expansion of wet rice farming. Unlike the traditional dry-bed agriculture focusing on millet, soy, and wheat, novel techniques utilized by the Korean migrants allowed them to achieve yields several times that of traditional dry-farming methods, making Korean tenants attractive to local Han landlords, though the Korean farmers themselves tended to stay poor (Lee, 1932, 203-204). With paddy creation and irrigation, once thin lands became veritable food machines under the productive genius of Korean migrants.

Despite their advantage in wet rice farming and role in the expansion of Japanese influence, many of the Koreans who settled in the region were those who had faced economic hardship in Korea proper, or were driven to exile because of their opposition to Japanese colonialism. Therefore, Gando became a hotbed for Korean nationalist insurgents, and Chinese officials were often reluctant to repress these elements despite agreements requiring them to do so. In 1920, the Japanese military conducted the Gando Expedition to repress the insurgency and expanded diplomatic, consular police, and military presence in the area (Esselstrom, 2006).

The total number of Koreans in Manchuria had grown to approximately 700,000 by 1930 according to the Japanese Ministry of Foreign Affairs (MOFA) (Consulate General of Japan at Fengtien, 1931, 188) and grew to nearly 1.45 million in 1940, according to the census. Figure 4.1 shows the change in the distribution of Koreans

in Manchuria between 1930 and 1940[2]. The 1930 population counts are from a MOFA Report on anti-Korean repressions by the Chinese authorities, and the 1940 population data is from the 1940 Manchukuo Census (Consulate General of Japan at Fengtien, 1931). As the figure shows, Koreans are most heavily concentrated along the Korean border, with a heavy concentration in the region of Gando (Chientao).

FIGURE 4.1: Korean Settlement and Population Change 1930-40.

4.5.1   Anti-Korean Repression Campaigns

In 1927, General Chang Tso-lin, who was leader of the Fengtien Clique that ruled over Manchuria was assassinated by elements of the Japanese military due to being difficult to control and for his failurs against the Chiang Kai-shek forces. He was succeeded by his son the "Young Marshal" Chang Hsueh-liang, who the Japanese thought may be more pliable due to his opium addiction. However, he turned out to be more difficult than his father–he implemented various anti-Japanese campaigns despite earlier cooperation between the Fengtien Clique and elements of the Japanese

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[2] There were a large number of Koreans unaccounted for by the Japanese authorities, either because they failed to report to local authorities or because they lacked household registration under GG Korean administration. A discussion of this issue and the Japanese state's attempts to extend registrations among Koreans not registered as such can be seen in Endou (2011). This paper does not address the registration rate, but rather the quality of the data collected for those who were counted.

FIGURE 4.2: Provinces of Manchukuo (1940) and the Korean Majority Province of Gando

state. These measures included restrictions and repressions against Korean settlers, which included pogroms, refusal to rent land or renew rental contracts, expulsions, pressure to naturalize, closure of ethnic schools, and pressure to sinicize by wearing Chinese clothing instead of Hanbok. These measures were also encouraged by the Nanking government's increasingly anti-Japanese stances and intensified after Chang Hsueh-liang swore allegiance to the Nationalists and nominally joined Chiang Kai-shek's Nanking government in 1928 (Matsumura, 1970, 74-75). Following a particularly well-publicized dispute in July 1931 over irrigation rights near Changchun, called the Wanpaoshan incident, Japanese consular police and Chinese authorities intervened and resolved the dispute in favor of the Korean settlers following Japanese pressure. The backlash to this incident resulted in violent rioting against Chinese residents in colonial Korea. This incident contributed to the rising Sino-Japanese tensions in the leadup to the Manchurian Incident (Pratt, 1983).

Finally, in 1931, the Kwantung Army (Japanese field army stationed in Manchuria to defend the Kwantung Leased Territories and SMR Concessions) staged a false-flag attack on the South Manchurian Railway (SMR). Acting independently of the Army and the civilian government in Tokyo, they put all of Manchuria under its own control, declaring the foundation of the new puppet state of Manchukuo in 1932. The Japanese government eventually relented to the Kwantung Army officers and passed additional funding for the action and recognized Manchukuo as an independent country (Matsumura, 1970, 70-76).

4.5.2   Continuity of Police Institutions Under Manchukuo

Prior to the foundation of Manchukuo, police departments and militarized police units at the provincial and county level were organized under the auspices of the Northeastern Political Council of the ROC. With the foundation of Manchukuo, the Police Bureau, headed by Masahiko Amakasu (who was an ex-Military Police com-

mander of the IJA and infamously ordered extrajudicial killings of leftists during the 1923 Kanto earthquake) was set up by the Kwantung Army under the auspices of the Manchukuo Civil Affairs Ministry. This apparatus took charge of all domestic police organs (excluding Japanese extraterritorial police forces such as those of the Kwantung Government-General (GG) and MOFA). Police power was assigned to the central government but the police departments were put under the administration of provinces, with a separate system for Mongolian regions. The police apparatus included a territorial administrative police in parallel to militarized police units and militarized strike forces, normally commanded by the local administrations, to combat banditry and insurgency in cooperation with the military (Makuchi, 1996, 18-28). Japanese personnel were assigned to both types of police organizations for guidance and supervision. In 1937, Japan returned extraterritorial rights to Manchukuo and the Japanese police forces operating in Manchukuo (some 5000 personnel with equipment) were handed over to the Manchukuo police (Makuchi, 1996, 33-38).

4.6 Data

The data employed from this analysis mainly come from four sources. First, data on repression is taken from a Japanese Ministry of Foreign Affairs report on the topic. Demographic and economic data on Koreans are also extracted from the selfsame report. Second, pre-Japanese rule era Chinese population data is taken from from the 1931 Northeast Yearbook published by the Fengtien clique warlord government. Third, police data for both Japanese and ROC periods are taken from Manchukuo police overviews and yearbooks. Finally, outcome data on state capacity as legibility under the Japanese period is measured using the 1940 Manchukuo Census.

4.7 Repression Events and Korean Population (1930-31)

The Japanese Foreign Ministry took great interest in cataloging and reporting these repression events through the network of consulates throughout Manchuria that served Imperial Subjects including Koreans. The Ministry compiled systematic data on repressions that occurred in 1930-1931 in the "Report on Repressions Against Koreans Residing in Manchuria", based on research conducted jointly by the Foreign Ministry, the Ministry of Colonial Affairs, the Korean GG, the Kwantung GG, and the SMR (Consulate General of Japan at Fengtien, 1931). This report provides the Korean population by county and consular jurisdictions in 1930 and a list of egregious incidents in which Koreans were targeted by ROC authorities, landlords, and Chinese mobs. The consular authorities had every reason to be thorough with this reporting. Firstly, this was an internal document as opposed to the many public newspaper reports, books, and articles produced at the time. The Foreign Ministry was in charge of protecting Korean residents who had fled from the repression and therefore had to ascertain accurate information to independently verify Korean complaints and claims by the Chinese authorities. Exhaustively cataloging these incidents also gave pretext for the consulate to expand power both by justifying the deployment of consular police to protect Japanese Imperial Subjects (as happened in Wanpaoshan), and by increasing its area of action vis-a-vis other Japanese agencies operating in the area, such as the Kwantung Army and the Korean GG. By September 1931, on the eve of the Manchurian Incident, Korean refugees under Japanese consular protection numbered 28,925 (Ministry of Foreign Affairs of Japan, 1931, 162). Doing so also justified their requests for additional funding for protecting and feeding the refugees for the duration of the crisis.

Repressions are all events reported in Consulate General of Japan at Fengtien (1931), and expulsions are the subset of these repression events that are categorized

as expulsions. Figure 4.3 summarizes the repression information contained in this source. The regions shaded in yellow show regions in which repressions and expulsions occurred. The second row shows the number of individuals affected by each measure, per number of Koreans in 1930. Events where the number of victims were not reported are assumed to affect one household, or five people. The bottom row reports the absolute number of individuals affected by these measures, with the caveat that the absolute number of naturalized is per consular jurisdiction rather than county.

Table 4.1: Summary of Repressive Events

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Median	Pctl(75)	Max
Expulsions	91	0.23	0.42	0	0	0	0	1
State Involvement	91	0.92	0.27	0	1	1	1	1
Policy Based	91	0.35	0.48	0	0	0	1	1
Procedural	91	0.18	0.38	0	0	0	0	1
Number Affected	91	19.63	58.74	0	5	5	5	500
ROC Province (Liaoning/Fengtien)	91	0.48	0.50	0	0	0	1	1
ROC Province (Kirin)	91	0.38	0.49	0	0	0	1	1
ROC Province (Heilungkiang)	91	0.13	0.34	0	0	0	0	1

4.8 Police Personnel Data 1931 (ROC) and 1934/1938 (Manchukuo)

Data on police personnel are taken from "Overview of Manchukuo Police" and the "Manchukuo Police Statistics Yearbook" which gives data on the number of police personnel by nationality (Japanese or Manchurian), rank, and unit or office for 1932 in the appendix, as well as the number of Republic of China police personnel by rank for each county for 1931 (Manchukuo Min. Civ. Affairs Police Bureau, 1935).

4.9 Measuring State Capacity: The 1940 Census

Under the Ch'ing Dynasty and the early Republic, household registrations existed in Manchuria at the local level, sometimes with parallel administrations for different ethnic groups. The Nanking government also published a population report that covered Heilungkiang and Liaoning provinces but not Kirin for 1928 as well. Following

the establishment of Manchukuo, statistical reports of household registrations were published from 1932 onward, but no census had been conducted until 1940, though the Beiyang government had conducted a population study in 1912 (Kanehashi and Yasutomi, 1 02, 7). The 1940 census was likely the most extensive and comprehensive census of the population in this region until the 1953 census conducted under Communist rule.

The 1940 census was also conducted in conjunction with new laws establishing standardized personal registration and the start of conscription, and can be seen as one aspect of a wider state and economic development program in a stage of development following an initial stage of pacification and consolidation.

The census reports data on age distributions by race[3] and gender at the city/county/banner level. This census contains age cohort data on 210 administrative units, including counties, banners, and cities in 19 provinces and one special municipality (the capital city of Hsinking). The distribution of Korean and Chinese populations across counties and banners is illustrated in 4.5 and the overall population composition of Manchukuo is illustrated in Figure 4.4.

The Manchukuo census standard date was set at October 1st 1940, in conjunction with the Japanese Empire-wide census, and its methodologies were largely taken from those used for the 1935 Kwantung Leased Territories census. On June 20th, the regulations for the conduct for the census were handed out to residents, and residents were to fill out and return these forms to patrolling enumerators (often the local policeman) by 9AM, October 1st 1940, with leeway until October 4th, after which fines were set for failure to report or false reports. The head of the household was responsible for filling out the census forms. There were many opportunities

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[3] "Manchurians" subdivided into Banner people (the composition of this group is not entirely clear, but Bannermen were composed of Manchus, Chinese, and Mongols who were given this status under the Ch'ing), Mongols, Chinese, and Hui, "Japanese" subdivided into metropolitan (that is, from Japan proper), Korean, and other Japanese (likely mostly Taiwanese). Additionally, there are foreign nationals, and stateless persons.

for residents to lie or conceal themselves, as most of the responses were voluntary (Kanehashi and Yasutomi, 1 02, 5-8). According to the 1940 Provisional Census Law of Manchukuo, county and banner magistrates were to oversee the conduct of the census within their jurisdictions, as well as the mayors of Hsinking Special Municipality and Manchouli, while locations where towns and villages have not been established, the census is to be conducted by police chiefs and those designated by the Prime Ministers as equivalent to mayors of towns and villages (Beal, 1945, 250). These individuals were to appoint Provisional Directors and Enumerators to distribute and collect the questionnaires (Beal, 1945, 251). It was also likely that some localities simply filled out existing information that they had on the residents, though the numbers generally do not correspond between the census and the personal registration tallies from the same year. There were also clear shortcomings with data processing. For example, in many cases, the numbers do not add up along rows and columns, especially for the Chinese populations.

This census cannot be considered to be particularly accurate, yet it should be sufficient to paint the general numerical distribution of ethnic groups across administrative units. Furthermore, the outcome of interest for this paper is not the "true" demographic makeup of Manchuria, but rather the variation in the quality of the data collected. In this way, using the measure of "legibility" from Lee and Zhang (2016) is useful in a context with generally low levels of such capacity and a great variation therein across the races and and across different areas. The data quality from this census is a reasonable proxy for how effectively the county-level administrations could enumerate each ethnic group in a given locale through the police and other organs, since it provides a fairly basic test of legibility, by obtaining information on nationality, ethnicity, age, and sex for all residents, and processing this data through the administrative apparatus.

Then the main outcome variables, state capacity at the county level for the racial

group of interest, are computed using a measure of state capacity as legibility presented in (Lee and Zhang, 2016). This measure uses the Myers' Blended Index (MBI) for age heaping, which quantifies the degree to which the distribution of ages in a census reflects the "natural" distribution of ages in a population, based on the assumption that lower-quality enumeration will result in "age heaping", or the phenomenon whereby ages are rounded up or down due to the inability of the state or the individual to accurately assess their correct ages. They are often rounded to multiples of five, ten, resulting in an excess of these digits– for example, a low capacity state may round a 37 year old's age into 35 or 40 due to a lack of information (though MBI is agnostic about which digit the heaping happens on). The index is computed by taking the percentage of the subset of the population ending in each digit (i.e., the number of individuals whose ages end with 0, so those who are aged 10, 20, 30, 40, and so on in the dataset), and taking the deviation of the percentage of each terminal digit from the expected value (10 percent for each terminal digit), and is summarized by adding the absolute value of all of the deviations for each terminal digit, and dividing by half. A perfectly even distribution would yield a score of zero, with higher MBIs indicating greater age heaping, which in this case is used as an indicator for lower quality census data. This measure should be robust to most demographic shocks, since these would likely be spread across different *terminal digits* even if they may be concentrated in age range. For such events to affect MBI score, the range would have to be quite narrow. For example, in an age distribution with a MBI score of 0, if all 1 year-olds are removed, this would increase the MBI, though not by so much, since all 11 year olds, 21 year olds, 31 year olds, etc, would balance out the number of those with the terminal digit of 1. That being said, very small populations can produce wildly high MBIs that are largely meaningless for our analysis, so observations where the population or sub-population is below 100 is excluded from analysis. Figure 4.6 shows the distribution of these MBI scores for

Koreans and Chinese across Manchuria.

Table 4.2: Summary Statistics

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Median	Pctl(75)	Max
Han-Korean Ratio (Prop. Korean)	121	0.07	0.16	0.0002	0.005	0.02	0.06	0.93
MBI All Residents	121	1.54	0.21	1.25	1.47	1.50	1.54	2.83
MBI Manchurians (Han)	121	1.54	0.24	1.23	1.46	1.50	1.54	3.16
MBI Japanese (Korean)	121	1.58	0.18	1.04	1.50	1.55	1.63	2.49
Naturalization Dummy	121	0.60	0.49	0	0	1	1	1
Number of Naturalizations (Consulate Dist.)	121	3645.38	9533.02	0	0	87	2395	44062
Naturaliztions Per Capita	121	0.07	0.09	0	0	0.004	0.2	0
Repression Dummy	121	0.31	0.46	0	0	0	1	1
Number Repressed	121	10.73	51.38	0	0	0	5	540
Number Repressed Per Capita	121	0.01	0.06	0	0	0	0.002	0
Expulsions Dummy	121	0.14	0.35	0	0	0	0	1
Number Expelled	121	1.27	4.76	0	0	0	0	30
Expulsions Per Capita	121	0.003	0.02	0	0	0	0	0

4.10 Analysis

Table 4.3: Effect of anti-Korean Repressions on MBI

						Dependent variable:						
				MBI (Korean)					MBI (Han)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Nr. Expelled Per Cap.	0.05 (0.80)		0.05 (0.80)		0.10 (0.79)		4.93*** (0.99)		4.93*** (0.98)		4.38*** (0.90)	
Num. Affected Per Cap.		0.16 (0.26)		0.20 (0.26)		0.15 (0.23)		0.64* (0.35)		0.68* (0.35)		0.47 (0.30)
SMR Adj. Territory			0.01 (0.06)	0.01 (0.06)	−0.02 (0.06)	−0.02 (0.06)			−0.08 (0.07)	−0.08 (0.08)	−0.03 (0.07)	−0.02 (0.08)
Admin Unit Type (County)			−0.08 (0.05)	−0.08* (0.05)	−0.25* (0.13)	−0.25* (0.13)			−0.09 (0.06)	−0.10 (0.06)	0.10 (0.15)	0.12 (0.17)
Population Density					0.001*** (0.0002)	0.001*** (0.0002)					−0.0002 (0.0003)	−0.0003 (0.0003)
Prop. Militarized Police (1934)					0.08 (0.11)	0.08 (0.11)					−0.15 (0.13)	−0.18 (0.14)
Police Per Cap. (1934)					2.58 (4.92)	2.93 (4.94)					−7.92 (5.58)	−7.28 (6.33)
Ethnic Province Dummy			X	X	X	X	X	X	X			
Province Dummy							X	X	X			
Observations	121	121	121	121	99	99	121	121	121	121	99	99
R²	0.0000	0.003	0.03	0.03	0.36	0.36	0.17	0.03	0.20	0.06	0.41	0.25
Adjusted R²	−0.01	−0.01	−0.01	−0.003	0.17	0.18	0.17	0.02	0.18	0.03	0.23	0.03

Note: *p<0.1; **p<0.05; ***p<0.01

The main analysis in Table 4.3 shows the effects of the anti-Korean repression campaigns in 1930-31 on state capacity as legibility in 1940 across Han and Koreans using an OLS regression where the outcome is the MBI score for the group in question. The odd-numbered models show the effect of number expelled per capita

Table 4.4: Effect of anti-Korean Repressions on MBI (Dummy)

						Dependent variable:						
	MBI (Korean)						MBI (Han)					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Expulsion Dummy	0.04 (0.05)		0.05 (0.06)		0.07 (0.06)		0.16** (0.07)		0.20*** (0.07)		0.06 (0.07)	
Affected Dummy		−0.02 (0.04)		−0.01 (0.04)		0.01 (0.04)		0.08 (0.05)		0.11** (0.05)		0.05 (0.05)
SMR Adj. Territory			−0.0003 (0.06)	0.01 (0.06)	−0.04 (0.06)	−0.02 (0.06)			−0.14* (0.08)	−0.11 (0.08)	−0.04 (0.08)	−0.04 (0.08)
Admin Unit Type (County)			−0.08* (0.05)	−0.07 (0.05)	−0.25* (0.13)	−0.26* (0.13)			−0.09 (0.06)	−0.12* (0.06)	0.12 (0.17)	0.10 (0.17)
Population Density					0.001*** (0.0002)	0.001*** (0.0002)					−0.0002 (0.0003)	−0.0002 (0.0003)
Prop. Militarized Police (1934)					0.08 (0.11)	0.08 (0.11)					−0.19 (0.15)	−0.17 (0.15)
Police Per Cap. (1934)					2.43 (4.87)	2.52 (4.92)					−8.53 (6.36)	−8.66 (6.33)
Ethnic Province Dummy				X	X	X	X	X	X			
Province Dummy							X	X	X			
Observations	121	121	121	121	99	99	121	121	121	121	99	99
R²	0.01	0.003	0.03	0.03	0.37	0.36	0.04	0.02	0.09	0.07	0.23	0.23
Adjusted R²	−0.003	−0.01	−0.001	−0.01	0.19	0.18	0.03	0.01	0.06	0.04	0.004	0.01

Note: *p<0.1; **p<0.05; ***p<0.01

(a sub-category of repression) and the even ones show the effect of number affected by all types of repression. For each dependent variable and independent variable combination, the first model is the baseline, the second adds controls for adjacency to the South Manchurian Railway, which provided higher quality Japanese-run administration in concession areas, administrative unit type (county or banner), and a dummy for the Korean majority province of Gando, followed by the third model which adds further controls for population density, proportion of militarized police in 1934, which were militarized units tasked with fighting bandits rather than regular policing, to account for the level of insurgency and anti-Japanese activities in the area, and finally a measure of police per capita. Table 4.4 shows that this effect is significant for two out of three specifications for expulsions and one out of three for all repressions. Substantively, taking model 10, presence of repression increases Han MBI by 0.46 standard deviations.

There is no significant long-term effect of this repression on the state capacity of Koreans– likely because Koreans, as Japanese subjects in a foreign country, fell under

the jurisdiction of a separate consular administrative and police apparatus run by MOFA, and personal registration based on household registration in colonial Korea. In contrast, models 7 to 12 show that for expulsions per capita, the repressions have statistically significant and positive effects on Han MBI, which is to say, lower quality data. This effect is significant at the five percent level for expulsions for all specifications, and significant at the ten percent level for the first two specifications. Thus the null is rejected for the main Repression-Administrative Capacity Hypothesis, demonstrating a correlation between the repressions and subsequent state capacity. The following analysis will shed some light into what exactly drove the relationship and suggest some mechanisms.

4.11   Mechanisms

Table 4.5: Effect of Different Repressions Types on MBI

| | Dependent variable: | | | | | | | | | | | | | | | | | |
| | MBI (Korean) | | | | | | | | | | | | MBI (Han) | | | | | |
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Policy Pc	0.34 (0.42)			0.38 (0.42)			0.37 (0.37)			−0.19 (0.57)			−0.16 (0.57)			−0.25 (0.48)		
Procedural Pc.		0.05 (0.80)			0.05 (0.80)			0.10 (0.79)			4.93*** (0.99)			4.93*** (0.98)			4.38*** (0.90)	
Non Procedural Pc.			0.17 (0.27)			0.21 (0.27)			0.16 (0.25)			0.14 (0.37)			0.17 (0.37)			0.10 (0.32)
SMR Adj. Territory				0.01 (0.06)	0.01 (0.06)	0.01 (0.06)	−0.02 (0.06)	−0.02 (0.06)	−0.02 (0.06)				−0.10 (0.08)	−0.08 (0.07)	−0.09 (0.08)	−0.03 (0.08)	−0.03 (0.07)	−0.03 (0.08)
Admin Unit Type (County)				−0.08* (0.05)	−0.08 (0.05)	−0.08* (0.05)	−0.25* (0.13)	−0.25* (0.13)	−0.25* (0.13)				−0.08 (0.06)	−0.09 (0.06)	−0.09 (0.06)	0.12 (0.17)	0.10 (0.15)	0.12 (0.17)
Population Density							0.001*** (0.0002)	0.001*** (0.0002)	0.001*** (0.0002)							−0.0002 (0.0003)	−0.0002 (0.0003)	−0.0002 (0.0003)
Prop. Militarized Police (1934)							0.08 (0.11)	0.08 (0.11)	0.08 (0.11)							−0.19 (0.15)	−0.15 (0.13)	−0.19 (0.15)
Police Per Cap. (1934)							2.95 (4.91)	2.58 (4.92)	2.93 (4.94)							−8.68 (6.39)	−7.92 (5.58)	−8.19 (6.42)
Ethnic Province Dummy				X	X	X	X	X	X									
Province Dummy							X	X	X									
Observations	121	121	121	121	121	121	99	99	99	121	121	121	121	121	121	99	99	99
R²	0.01	0.0000	0.003	0.03	0.03	0.03	0.37	0.36	0.36	0.001	0.17	0.001	0.03	0.20	0.03	0.22	0.41	0.22
Adjusted R²	−0.003	−0.01	−0.01	−0.001	−0.01	−0.003	0.18	0.17	0.18	−0.01	0.17	−0.01	−0.001	0.18	0.0004	−0.001	0.23	−0.004

Note: *p<0.1; **p<0.05; ***p<0.01

What type of repression drove this relationship? Table 4.5 tests for the Administrative Procedures Hypothesis by sub-setting the repressions to those designated as "policy", to those designated as "procedural" and "non-procedural". Policy simply indicates whether the dataset included an indication that this was justified according to official anti-Korean policy. The procedural and non-procedural repressions are

subset by whether the procedural rules were used in justifying the repressions, i.e., Koreans expelled for breaking existing regulations or not paying taxes. The model shows that the effect from the previous analysis is largely driven by procedural repressions, indicating support for the Administrative Procedures Hypothesis.

Another potential mechanism is a decline in recruit quality due to repression. This is especially indicative as Japanese-led reforms emphasized official retraining and recruiting educated candidates to enhance the administrative capacity of the Manchukuo police, largely staffed by locals (in theory, the Japanese officials were supposed to learn Chinese, and the local recruits were to learn Japanese, at least for officers, and some documents seem to have been produced bilingually or trilingually, to include Mongolian) [4]. Recruitment occurred at the provincial level, and policemen often served in their home counties. Most low-level recruits would be trained at provincial academies while Japanese and local candidates for management positions were trained in central academies (Makuchi, 1996, 39-46).

Ideally, there would be county-level indicators of police official and recruit quality across the ROC and Japanese periods, but the only available data is the literacy rate of police officials at the initial period and the literacy rate of new recruits in 1939 at the province level. Looking at the order of illiteracy rates of officials across provinces, the two provinces which did not see repressions were originally the second and third least literate, yet they come out on top, whereas some provinces that saw the repressions actually see an *increase* in the number of illiterate recruits relative to the baseline officials' illiteracy rate, despite the best efforts of the Japanese authorities. The two provinces without repression go from having high rates of illiteracy to recruiting only literate candidates by 1939. This pattern is repeated with Chinchow and Kirin

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[4] Manshukoku Chianbu Keimushi (1942, 128), a history of the Manchukuo police written by police officials in 1942, notes that the official stance was to obtain new recruits from the provincial seats, but that they often had to obtain recruits from the other cities, counties, and banners. It also notes that for Pinkiang and Heihe, recruits had to be assigned from other provinces for some periods.

which saw repressions. The least literate province of Pinkiang has seen considerable improvement in absolute terms, but still remains one of the least literate–in contrast, Fengtien and Antung, which were the most literate provinces in the initial period, see a slight decline in literacy among new recruits. Examining population-weighted averages, the provinces with repression saw a 10.5% improvement in literacy while the non-repression provinces increased the literacy of their recruits by 23.0%. While not entirely conclusive, this lends credence to the self-selection hypothesis.

Finally, analysis of police personnel data suggest that the Japanese implemented costly measures to rectify the county police units that engaged in these repressions, and that these measures were not able to rectify the lower capacities of these units. Models 10 to 18 of Table 4.6 show the consequences of prior repression on the proportion of Japanese police in 1934. This measure is a reasonable proxy for the amount of effort the Japanese authorities put into improving the local police organs, as the low-ranking Japanese officials assigned to the local police organs were intended to "provide guidance" at the municipal and county levels (Manshukoku Chianbu Keimushi, 1942, 56-57) . This is because Japanese police officials were few and far between, and were much more expensive for the Manchukuo government given higher Japanese salaries. Thus, they were a costly investments into local police reform. Results show that while the number of Koreans repressed overall did not drive the assignment of Japanese officials to county police units, expulsions and procedural repressions are positively correlated with receiving more Japanese officials. 1934 is an appropriate year for measuring effort, because after 1936, extraterritoriality was abolished in Manchukuo and many of the consular police personnel were incorporated into the Manchukuo police. Thus, the 1934 data is the most appropriate to measure Japanese effort. Models 10 and 13 show that there is a significant effect for expelled per capita on the proportion of Japanese police at the five percent level, though this effect is no longer significant after applying full controls. Models 12 and

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15 show the same for procedural repressions. In Table 4.7, models 1, 4, and 7, the proportion of Japanese police in 1934 is shown to have a *negative* effect on the census data quality, though the correlation is not significant with full controls. Given the higher quality of Japanese officials, this result is counter-intuitive, yet it supports the idea that they were sent to improve laggard police units yet were unable to improve them up to the standard of other counties.

Table 4.6: Effect of Repressions on Police (1934)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
									Dependent variable:									
	Pr. Militarized Police 1934									Pr. Japanese Police 1934								
Nr. Expelled Per Cap.	−0.77 (0.78)			−0.92 (0.72)			−0.52 (0.79)			0.14** (0.06)			0.13** (0.06)			0.03 (0.04)		
Nr. Affected Per Cap.		−0.10 (0.25)			−0.19 (0.23)			−0.10 (0.24)			−0.01 (0.02)			−0.004 (0.02)			−0.02 (0.01)	
Nr. Procedural Per Cap.			−0.77 (0.78)			−0.92 (0.72)			−0.52 (0.79)			0.14** (0.06)			0.13** (0.06)			0.03 (0.04)
SMR Adj. Territory				−0.15*** (0.05)	−0.15*** (0.05)	−0.15*** (0.05)	−0.07 (0.06)	−0.07 (0.06)	−0.07 (0.06)				−0.003 (0.004)	−0.003 (0.005)	−0.003 (0.004)	0.001 (0.003)	0.0004 (0.003)	0.001 (0.003)
Admin Unit Type (County)				0.26*** (0.07)	0.26*** (0.07)	0.26*** (0.07)	0.26** (0.13)	0.26** (0.13)	0.26** (0.13)				−0.01** (0.01)	−0.01** (0.01)	−0.01** (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
Population Density							−0.001** (0.0002)	−0.0005** (0.0002)	−0.001** (0.0002)							0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)
Police Per Cap. (1931)							−1.97 (4.93)	−2.15 (4.97)	−1.97 (4.93)							0.47* (0.25)	0.43* (0.25)	0.47* (0.25)
Ethnic Province Dummy				X	X	X	X	X	X				X	X	X	X	X	X
Province Dummy							X	X	X							X	X	X
Observations	99	99	99	99	99	99	99	99	99	104	104	104	104	104	104	104	104	104
R²	0.01	0.002	0.01	0.18	0.18	0.18	0.39	0.39	0.39	0.05	0.001	0.05	0.11	0.07	0.11	0.76	0.77	0.76
Adjusted R²	−0.0002	−0.01	−0.0002	0.15	0.14	0.15	0.22	0.22	0.22	0.04	−0.01	0.04	0.07	0.03	0.07	0.70	0.71	0.70

Note: *p<0.1; **p<0.05; ***p<0.01

4.12 Alternative Explanations

One issue with this analysis is that it lacks an explanation for what exactly drove these repressions in the first place. Japanese sources claim that this was mostly due to ROC anti-Japanese (return-of-sovereignty campaign) policies being implemented by the Fengtien clique through provincial and county governments, as well as the greed of Chinese officials who were covetous of the Koreans' property [5]. Table 4.8 tests plausible measures of pre-Japanese state capacity measures (police per capita,

[5] A Japanese report by the South Manchurian Railways catalogs reasons for anti-Korean repression. They summarize the main reason as the recognition that the "Koreans are the running dogs of Japanese imperialism and the avant-garde of Japanese invasion of Manchuria", and lists the following particulars. 1. Chinese fantasies about Japanese invasion of Manchuria-Mongolia, 2. Difficulty in negotiating over rebellious Koreans, 3. Effect of the [Chinese] "fever" for recovering national rights, 4. The rapacity of Chinese officials and warlords, 5. The increase of Chinese immigrants (South Manchurian Railways Economic Research Association, 1933, 61-62).

Table 4.7: Effect of Police Attributes on Han MBI

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
					Dependent variable:				
					MBI (Han)				
Pr. Jp. Police (1934)	9.27*** (1.47)			6.83*** (1.68)			1.79 (2.94)		
Prop. Militarized Police (1934)		0.01 (0.12)			−0.07 (0.12)		−0.20 (0.15)	−0.19 (0.15)	−0.17 (0.15)
Pr. Police Recruits Illiterate (1939)			−0.001 (0.01)			0.01 (0.01)			−0.11** (0.04)
SMR Adj. Territory							−9.34 (6.63)	−8.42 (6.34)	−8.43 (6.64)
Admin Unit Type (County)				−0.07 (0.07)	−0.10 (0.07)	−0.08 (0.10)	−0.03 (0.08)	−0.03 (0.08)	−0.01 (0.09)
Population Density				−0.05 (0.09)	0.09 (0.09)	0.05 (0.12)	0.11 (0.17)	0.12 (0.17)	0.11 (0.17)
Prop. Militarized Police (1934)							−0.0002 (0.0003)	−0.0002 (0.0003)	−0.0003 (0.0003)
Ethnic Province Dummy				X	X	X	X	X	X
Province Dummy							X	X	X
Observations	104	99	88	104	99	88	96	99	72
R²	0.28	0.0002	0.0002	0.34	0.06	0.11	0.15	0.22	0.26
Adjusted R²	0.27	−0.01	−0.01	0.31	0.02	0.06	−0.09	0.01	0.05

Note: *p<0.1; **p<0.05; ***p<0.01

Table 4.8: Effect of Prior SC Measures on Repressions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
									Dependent variable:									
	Nr. Expelled Pc.						Nr. Affected Pc.						Nr. Procedural Repression Pc.					
Police Pc. 1931	0.07 (0.57)		0.05 (0.58)		0.31 (0.76)		−0.44 (1.76)		−0.53 (1.78)		0.09 (2.33)		0.07 (0.57)		0.05 (0.58)		0.31 (0.76)	
Land Tax PC (1929)		0.001 (0.01)		0.001 (0.01)		0.003 (0.01)		0.01 (0.02)		0.01 (0.02)		0.02 (0.02)		0.001 (0.01)		0.001 (0.01)		0.003 (0.01)
SMR Adj. Terr.			−0.003 (0.01)	−0.002 (0.01)	−0.003 (0.01)	−0.003 (0.01)			−0.01 (0.02)	−0.02 (0.03)	−0.01 (0.02)	−0.02 (0.03)			−0.003 (0.01)	−0.002 (0.01)	−0.003 (0.01)	−0.003 (0.01)
Gando			−0.004 (0.01)	−0.003 (0.01)	0.002 (0.01)	0.002 (0.02)			−0.02 (0.03)	−0.02 (0.04)	−0.005 (0.05)	0.01 (0.05)			−0.004 (0.01)	−0.003 (0.01)	0.002 (0.01)	0.002 (0.02)
Proportion Korean (1931)					−0.01 (0.02)	−0.01 (0.02)					−0.03 (0.06)	−0.05 (0.06)					−0.01 (0.02)	−0.01 (0.02)
Observations	108	89	108	89	108	89	108	89	108	89	108	89	108	89	108	89	108	89
R²	0.0001	0.0005	0.003	0.002	0.01	0.005	0.001	0.002	0.01	0.01	0.01	0.02	0.0001	0.0005	0.003	0.002	0.01	0.005
Adjusted R²	−0.01	−0.01	−0.03	−0.03	−0.03	−0.04	−0.01	−0.01	−0.02	−0.02	−0.03	−0.03	−0.01	−0.01	−0.03	−0.03	−0.03	−0.04

Note: *p<0.1; **p<0.05; ***p<0.01

land tax, Gando (Korean-majority region), and proportion Korean), finding that the repressions were not correlated with these measures.

Another concern is that these areas may have been more anti-Japanese, or had more anti-Japanese officials in the county government. This would explain both the propensity to repress Koreans and to undermine Japanese state-building efforts under Manchukuo. While the underlying anti-Japanese sentiment is difficult to measure,

one proxy is the proportion of militarized police in the early years of Manchukuo. In this period, police forces at the county level consisted of regular administrative police, which engaged in "normal" policing duties, and heavily armed and mobile militarized police units which actively engaged in combat against bandits (many of them anti-Japanese insurgents) to assert the state's monopoly of violence in their region. Japanese authorities hoped to pacify these bandits and transition policing to administrative forms. Thus, the proportion that the militarized police in the county police apparatus is a reasonable indicator for the level of anti-Japanese sentiment immediately after the establishment of Manchukuo, and consequently an indirect proxy for the level of anti-Japanese sentiment in the immediately prior period. Models 1 to 9 in Table 4.6 shows that the repressions are not correlated with the proportion of militarized police, suggesting that underlying anti-Japanese sentiment was likely not correlated with the repressions.

4.13   Interpretation

Figure 4.8 summarizes the correlational relationships demonstrated in the analysis. As the solid arrows indicate, there is a relationship running from ROC anti-Korean repression to Han MBI through recruit quality, and it is speculated that adherence to administrative procedures also suffered from the erosion of norms, though this is not directly tested. Whereas these areas were not particularly anti-Japanese, as the lack of correlation with the militarization rate (as a proxy for immediate post-Manchuria incident anti-Japanese insurgency) shows, there was a significant effort by the Japanese authorities to post more (costly and rare) Japanese personnel to counties which saw repressions, an indicator that Japanese authorities saw the need for greater supervision and improvements in the local police personnel. Yet, there is no relationship between the proportion of Japanese personnel in a police apparatus and census quality, perhaps indicating that whereas Japanese reform efforts may

or may not have been effective, they were not able to overcome the handicap of the police units that engaged in the anti-Korean repression. These relations are merely suggestive and given the data, it is difficult to rule out reverse or causation or confounding.

Finally, it is possible to rule out the repression directly causing lower quality census data due to avoidance as a result of antagonisms generated by the repression, since the effect is seen for the majority Han who were not the subject of repression, unlike in most other studies on the consequences of repression. Thus, it is more likely that these effects are due to changes within the apparatus engaged in repression.

Further analysis in the appendix shows that the repression had no effects on aspects of governance that were run separately by the local tax bureau rather than the police. Using a differences-in-differences analysis, the analysis shows that the repressions had no effect on changes in land tax per capita. This further suggests that it was an issue with the police apparatus rather than other administrative organs not directly engaged in the anti-Korean repressions.

4.14   Conclusions

While the effectiveness of employing different forms of repression has been mixed in the empirical and theoretical literature, this research shows that the state faces an additional cost when employing certain forms of repression: it can undermine the repressing organ's ability to exercise infrastructural power, particularly in legibility. What more, this effect comes about not because of avoidance or evasion arising from degraded state-society relations, but rather likely due to faults on the part of the police apparatus. As such this paper contributes to the growing literature on the consequences of repression on state capacity, as well as the literature on repressions in conflict in general.

The conditions and particular mechanisms for when, how, and why repression

leads to a degradation of the state apparatus are important for understanding a state's decision to engage in indiscriminate repression, as well as implications for building administrative capacity in conflict situations, which has been shown to be vital for maintaining peace after the conclusion of intrastate conflicts.

Given the nature of the data and the case at hand, it is not possible to adequately causally identify causation. Furthermore, present analysis is able to provide only suggestive evidence of the mechanisms at hand. However, this suggestive evidence, along with the lack of present knowledge on the effect of overt repression on the organs engaged to conduct it demonstrates the need to study these mechanisms in future research, on cases that allow for better identification of causality and mechanisms.

This research agenda presents several challenges. First, the assignment of repression *on the apparatus conducting it* is almost always strategic, and therefore an appropriate case or a research design must be selected to account for this fact. Second, the effect of the repression on state-society relations must be separated from the effect of the repression upon the apparatus itself. Furthermore, the two mechanisms explored here, recruitment and adherence to internalized norms, can be better tested with internal administrative data of low-level police organs–a difficult proposition given the often secretive nature of police organizations–moreso for those engaged in illegal violent repression.

The top row shows the per capita prevalence of this type of repression in the region, and the bottom row shows the absolute number of that type of repression in the region. The left column shows data for all types of repressions present in the given county, and this data was taken from a list of repression events in the MOFA report. The right column shows the same for expulsions, which constitute a subset of the repressions shown in the MOFA report.

FIGURE 4.4: Population Composition of Manchukuo (According to P.7 of 1940 Census Report)

**Nationality and Race
(Total: 43,202,880)**

- Manchu (Bannermen) (6.2 %)
  2,677,288
- Manchu (Han) (85.35 %)
  36,870,878
- Manchu (Mongol) (2.47 %)
  1,065,792
- Manchu (Hui) (0.45 %)
  194,473
- Manchu (Other) (0.11 %)
  48,842
- Japanese (Mainland) (1.9 %)
  819,614
- Japanese (Korean) (3.36 %)
  1,450,384
- Japanese (Other) (0 %)
  1,497
- Foreign (0.01 %)
  3,732
- Stateless (0.16 %)
  69,180

FIGURE 4.5: Distribution of Population for Chinese and Koreans (1940)

FIGURE 4.6: Distribution of MBI scores for Chinese and Koreans

FIGURE 4.7: Literacy of Police Officials in 1934 and of Recruits in 1939.

FIGURE 4.8: Consequences for Repression on State Capacity Outcomes

Dotted lines indicate untested relationships. Solid lines indicate tested relationships. X indicates tested relationships with null results.

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Conclusion

The three papers presented in this dissertation demonstrate challenges faced by state-builders and the strategies that state principals utilize in trying to solve them. Substantively, the first paper shows how low-level security officials may be targeted during a purge. The second paper demonstrates how property rights institutions structure the manner with which ethnic conflict over land shapes the state's ability to gain compliance for their policies. The final chapter shows the negative effects of repression on regular administrative capacity.

These studies highlight several dynamics that structure the state's ability to carry out its policies within the state apparatus and in its relations with social elements. Yet, they also raise several points for future research.

First, on the use of selective purges in the security services, the present study highlights the importance of dis-aggregating analysis down to the individual level to understand the nature of the strategies employed by autocrats to manage their coercive organs. As this paper highlights one strategies autocrats may use among many, future research should do more to explain the trade-offs and complementarities across different strategies (such as ethnic stacking, counterbalancing, and so on), when leaders are likely to use one over another, and how these dynamics play out at the lower levels.

Second, on the interaction between land tenure institutions, ethnic land conflict, and state capacity, the paper presented here shows how different land tenure institutions may change the incentives for indigenous and migrants to submit to state enumeration. The results presented shows the importance of property rights institutions and the role of non-state institutions in how groups interact with the state.

Finally, the paper on the consequences of repression suggests that repression may have negative consequences on the police apparatus conducting the repression, especially in its capacity to engage in the routine administrative tasks necessary for the state to expand its infrastructural power. However, given the limitations of the

data available in the present case, future research would benefit from finding a case in which the assignment of treatment (repression) can be made random or subject to exogenous shocks, and where more data on the capabilities of the officials, adherence to norms, and recruit quality are available.

Appendices for Each Chapter

Appendix A

Fending Off Shield and Sword: How Strategic
Purges of State Security Personnel Protect
Dictators

A.1 List of Ranks, Ethnic Groups, and Soviet Socialist Republics in the Dataset

Ranks included in the dataset are 1935 regulation state security (GB) ranks, or their equivalents in other services such as the military or regular police. Unique ranks included in the data are, from low ranking to high ranking, Sergeant GB, Junior Lieutenant GB, Lieutenant GB, Senior Lieutenant GB, Captain of State Security, Major GB, and Senior Major GB, (there are higher ranks of state security, and ranks outside of state security ranks that are lower than Sergeant GB, but they are not included in the data analyzed since the analysis is focused on lower-ranked security personnel). They are operationalized as fixed effects, to control for the higher attrition rates for higher-ranking individuals.

The ethnicities in the dataset are Abazin, Abkhazian, Adyghe, Armenian, Astrakhan, Austrian, Avar, Azerbaijani, Baltic, Bashkir, Belarussian, Bulgarian, Buriyat, Chechen, Chinese, Chuvash, Czech, Dagestani, Dargin, Estonian, Finnish, French, Georgian, German, Greek, Hungarian, Ingush, Jew, Kabardian, Kalmyk, Karelian, Kazakh, Khanty, Kirgiz, Komi, Korean, Krimchak, Kumyk, Latvian, Lezgin, Lithuanian, Mari, Mingrelian, Moldavian, Mordvin, Nanai, Ossetian, Polish, Roma, Russian, Sakha, Serb, Swedish, Swiss, Tajik, Tatar, Turk, Turkmen, Udmurt, Uighurs, Ukrainian, Ulch, Uzbek, Vepsian, and Yakut, corresponding to official Soviet ethnic constructions.

The Soviet Socialist Republics (SSRs) in the dataset are Azerbaijani SSR, Armenian SSR, Belorussian SSR, Georgian SSR, Trans-Caucasian SSR, Kazakh SSR, Karelian SSR, Kirgiz SSR, Latvian SSR, Lithuanian SSR, Moldavian SSR, Russian SSR, Tajik SSR, Turkmen SSR, Uzbek SSR, Ukrainian SSR, and Estonian SSR.

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A.2   Example to Illustrate Promotion Ties

To illustrate how promotion ties are operationalized in the analysis, I use the career of David Volfson, a quotidian low-ranking official in the Arkhangelsk NKVD, summarized in Figure A.1. In 1936, a "promotion tie" is inferred between him and R. I. Austrin, the chief of the Arkhangelsk NKVD at the time, since at this time, Bogdanov is promoted to the rank of Jr. Lt. of State Security (GB[1]), from Sgt. GB. However, as Austrin is not purged at this time, Volfson is measured as having a "0" measure for both the dummy and the proportional measure for ties to purged high-ranked officials.

In 1937, Volfson is again promoted, this time to Lt. GB, under the new boss V.F. Dementiev, and Austrin is purged. Now, Volfson is tied to two high-ranking officials (Dementiev and Austrin), one of whom (Austrin) has been purged. At this period, Volfson has at least one tie to a purged official (Austrin), so the dummy measure for ties to purged officials is "1" and the proportional measure is 0.5, as only one of two connected officials has been purged.

In 1938, Dementiev was purged and replaced by a new boss Rasskazov, and Volfson is not promoted, so I do not infer ties between Volfson and Rasskazov. During this year, I still consider Volfson to be tied to Dementiev and Austrin, both of whom have been purged, so the dummy measure is again 1 and the proportional measure is 1 also. In the following year, Volfson himself is dismissed according to Article 38 (b) of GUGB regulations, therefore showing up as one of the "purged" in this analysis.

A.3   Alternative Explanations

Given that we lack a way to manipulate or precisely measure the underlying informal networks, causal claims regarding this explanation are fraught with difficulty and

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[1] (GB stands for *gosudarstvennoy bezopasnosti*, or State Security in Russian. State Security officials had a system of paramilitary ranks that were separate from the formal military.)

Career of David Volfson (Arkhangelsk NKVD)					
Year	Volfson's Status	Current Boss	Connections to High-Ranking Officials		Connections to Purged Officials	
					Dummy	Proportion
1936	**Promoted** to Jr. Lt. GB	R. I. Austrin	R. I. Austrin		0	0
1937	**Promoted** to Lt. GB	V. F. Dementiev	R. I. Austrin **(Purged)**	V. F. Dementiev	1	0.5
1938	Lt. GB	A. E. Rasskazov	R. I. Austrin **(Purged)**	V. F. Dementiev **(Purged)**	1	1
1939	**Dismissed** acc. Art.38(b)	V. I. Panfilov	R. I. Austrin **(Purged)**	V. F. Dementiev **(Purged)**	1	1
Source: https://nkvd.memo.ru/index.php/Вольфсон,_Давид_Наумович						

FIGURE A.1: Illustration of Promotion Ties

other explanations may seem plausible. Yet, certain alternative explanations can be ruled out or shown to be compatible with my thesis.

Montagnes and Wolton (2019) constructs a formal model that explores the determinants of the scope and brutality of a mass purge. It suggests that purges can be used to motivate officials and decrease the numbers of the "bad" type (mere opportunists instead of those intrinsically motivated to serve the regime), provided the replacement pool is sufficiently high-quality, and performance is a sufficient indicator of type. Montagnes and Wolton (2019) also find that the scope and severity of a purge depend on the quality of information available, the proportion of "bad" types in the system, and the quality of the "replacement pool".

However, under the framework of Montagnes and Wolton (2019), discriminate purges are impossible when information quality is low, or when performance is a poor indicator of type. The arbitrary mass repression of the Great Terror meant that neither the magnitude of the repressions nor the investigation files were good measures of ability. The NKVD forced false confessions to fulfill quotas. Thus, there was a sharp trade-off between reaching mass repression targets and producing "quality" repressions, either in the sense of repressing genuine opposition (Vatlin et al. (2016, 41) describes how purges undermined pre-existing informant networks), or even in "correctly" repressing individuals who belonged to prescribed categories. For example, there were cases where quotas forced officials to identify Ukrainians

as members of a Polish conspiracy, and peasants as Kulaks in order to meet targets (Viola, 2017, 118) (Vatlin et al., 2016, 41-42). Thus, when NKVD officials were first arrested for anti-Soviet conspiracies, and later for violating Soviet law, the former were entirely fabricated and the latter involved arresting specific officials for universal abuses. While the magnitude of repression may be used, and was perceived at the time as a signal for loyalty and competence, these officials were pressured to perform to the point of physical and mental exhaustion, with many NKVD officials committing suicide due to the mental strain. Under such pressure, the magnitude of repression can hardly be a signal for loyalty, and it is not clear what sort of competence can be measured by the number of individuals who officials could round up and implicate for entirely fabricated charges. These facts imply that the leadership did not have dependable information about the loyalties and abilities of their agents.

Association with a purged high-ranking officer may simply signal the low-ranking officer's undesirable qualities, such as laziness or disloyalty ("type selection"). I argue that the "type selection" explanation is compatible with the present paper's proposed theory and that it is difficult for this motivation to drive the results we see without incurring the collective action logic.

An alternative explanation would be that purging autocrats interpret low-ranking officials associating with or being exposed to "bad types" (i.e., agents whose preferences do not align with those of the principal or inherently lack in skill or motivation, depending on the argument) in the higher ranks either as (a) homophily,[2] where "bad types" associate with each other on their own, or (b) infection, where "bad types" transform their associates into "bad types". Both are plausible, since cliques of mutual interest are bound to form between agents sharing interests or preferences, and anti-party sentiments can spread through exposure. This explanation does not

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[2] Indeed, there is evidence that high-ranking clique patrons pulled strings to move their trusted clique members to be their subordinates in new assignments (Vatlin et al., 2016, 15). That being said, it is difficult to directly measure performance with the data at hand.

challenge our theory, since these "bad" types pose a threat both on their own, and as a network. A purging autocrat is likely to account for the effect of proximity in enabling collective action by "bad" types beyond their mere presence. It is possible but not plausible for autocrats to worry only about "bad" types who do not produce dangerous network effects. Examples of bad types that produce no adverse collective action-promoting network effects may include laziness and incompetence. However, given the prevalence of abuse, treason, espionage, and conspiracy charges, this too is unlikely. Furthermore, an important driver of low performance was the networked collective action in which networked officials would cover for each other and hide information form superiors–already a form of adverse collective action.

Another explanation offered for the purges of officials is that they were used to open up the higher ranks to credibly guarantee promotion for lower-ranking officials; the underlying objective was ostensibly to induce service and loyalty from young officials at a stage when their compensation was low (Svolik, 2012, 177). Yet, this explanation says nothing about the *identity* of purge victims, other than their seniority. In any case, during the 1930s, the NKVD was a growing service with plenty of promotion opportunities, especially for lower-ranked members entering the service. In 1935, the NKVD employed 22,893 persons (Petrov and Kokurin, 1997a, 108); by 1940, this number had grown to 32,163 (Petrov and Kokurin, 1997b, 112).

A common alternative explanation is that the low-level purges resulted from inter-factional conflict (Getty, 2013, 170-180). This phenomenon is likely one of the factors that enabled the factional purge logic outlined in this paper. As Getty (2013, 174) shows, Stalin intervened in such conflicts both to maintain the NKVD's effectiveness and to use these rivalries to combat clique strength, as when he used Beria and his clique to combat the clique of his predecessor, Nikolai Yezhov in 1938. Undoubtedly, inter-factional rivalries enabled these purges, but these struggles were also exploited as a part of Stalin's strategy to implement the logic of purges explored in this paper.

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A similar concern with the previous two concerns is that the purges of the lower ranks might simply be a way for the "winning" clique leader to bring his own entourage with him, which was a common and well-documented occurrence at all levels. Additional analysis in the appendix shows that this was indeed a systematic occurrence. However, the results are still robust to controlling for the purge of a current boss, demonstrating that the explanation presented in this paper holds net of the entourage issue. Furthermore, the appendix contains the frequency of transfers across ranks, finding the lowest two ranks to have considerably fewer regional transfers than higher ranks.

The foregoing alternative considerations all capture aspects of the phenomena. Yet, neither individually nor collectively do they rule out the explanation offered here.

A.4 Testing Proportional Hazards Assumptions

This section tests the Cox model assumptions. First, we plot Kaplan-Meier curves, which plot the probability of survival for members of a strata for the models from the main table from the paper (Table 2) that use binary independent variables (models 2, 4, 6, and 8). Strata 1 indicates no connections to purged bosses, whereas strata 2 indicates at least one connection to a purged boss. The plots show that whereas the strata overlap for the earlier periods (when there were few purges), they do consistently show a higher survival probability for those without connections to bosses, and the curves do not intersect, which is consistent with the assumptions for the Cox model.

We further employ the Schoenfeld residuals test to test the independence between residuals and time. Following (Park and Hendry, 2015) multiple transformations of time scales are used, without significantly different outcomes across the time scales. The insignificant chi-squared values for Model 2 from Table 2 in the main paper

(where the connections are operationalized as dummy variables) indicate that this is consistent with the proportional hazards assumption.

Extending this analysis to include the controls from model 4 of table 1 in the main text, with stratification for the republic and rank variables due to cox.zph's inability to conduct the test on the model as-is, we can see in table A.2 that the test does not find violations of the proportionality assumption for the main variable of interest (proportion of connected leaders purged) but finds indications of violations for the current party member dummy, as well as for the model as a whole.

A.5   Alternative Specifications

A.5.1   Rank Effects

The results may be the effect of some selection effects or other biases that involve the rank of the individual. Therefore, these robustness checks provide assurances that the results are largely robust to selecting from the lower (Sergeant GB, Senior Sergeant

Table A.1: Proportionality Assumption Test For Table 1 Models 1 and 2

	Schoenfield Residuals on Time (Scaled, Chisq (df))							
Time Scale:	t		ln(t)		1-KM(t)		Rank (t)	
Model:	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Proportion of Connected Leaders Purged	1.57		1.57		1.57		1.57	
p	0.69		0.69		0.69		0.69	
Connected Leaders Purged Dummy		0.56		0.56		0.56		0.56
p		0.81		0.81		0.81		0.81
Global chisq	0.157	0.81	0.157	0.81	0.157	0.81	0.157	0.81
Global p	0.69	0.81	0.69	0.81	0.69	0.81	0.69	0.81

Note: *p<0.1; **p<0.05; ***p<0.01 Stat. significance indicates violation of proportional hazards assumption.

Table A.2: Proportionality Assumption Test For Modified Specification of Table 1 Model 4

	Schoenfield Res. on Time (Chisq)			
Time Scale:	t	ln(t)	1-KM(t)	Rank (t)
Prop. of Connected Leaders Purged	0.32	0.32	0.32	0.32
p	0.57	0.57	0.57	0.57
Current Party Member	24.73***	29.76***	24.73***	29.37***
p	6.6e-07	4.9e-08	6.6e-07	6.0e-08
Global chisq	24.97***	30.03***	24.97***	29.63***
Global p	3.8e-06	3.0e-07	3.8e-06	3.7e-07

Note: *p<0.1; **p<0.05; ***p<0.01 Stat. significance indicates violation of proportional hazards assumption.

Table A.3: Frequency of Transfers by Rank

Sgt GB	Jr LT GB	Lt GB	Sr. Lt GB	Cap GB
4.2%	9.5% 14.6%	15.5%	18.3%	16.2%

GB, Junior Lieutenant GB) or higher ranked (Lieutenant GB, Senior Lieutenant GB, Captain GB, Major GB) subsets of the sample. The lower ranks select for those who have ever been in the lower ranks, and the higher ranks select for those who have ever been in the higher ranks.

Table A.4: Cox PH Model to Predict NKVD Member Purges (Jr Lt GB and Below)

	Dependent variable:							
	Dismissed under Art.38(a) or (b)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Proportion of Connected Leaders Purged	1.68***		1.52**		2.40***		2.80***	
	(0.19)		(0.22)		(0.28)		(0.30)	
Connected Leaders Purged Dummy		1.76***		1.67***		2.40***		2.77***
		(0.17)		(0.20)		(0.25)		(0.26)
Clustered at Individual	X	X	X	X	X	X	X	X
Republics			X	X	X	X		
Location or Branch							X	X
Ethnicities					X	X	X	X
Party Membership			X	X	X	X	X	X
Rank			X	X	X	X	X	X
Nr. of Individuals	28176	28176	28172	28172	5324	5324	5323	5323
Observations	61,078	61,078	60,732	60,732	14,721	14,721	14,720	14,720

Note: *p<0.1; **p<0.05; ***p<0.01
The reported coefficients are hazard ratios. The standard errors are for the original coefficients.

The robustness to restricting to the lowest ranks also provides limited assurances against the possibility that the results are largely driven by inter-factional conflicts. Given the relatively lower frequency of inter-regional transfers in the two lowest ranks, the sorts of positions these individuals occupy would be less likely to be subject to

Table A.5: Cox PH Model to Predict NKVD Member Purges (Lt GB and Above)

	Dependent variable:							
	Dismissed under Art.38(a) or (b)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Proportion of Connected Leaders Purged	1.61***		1.69***		1.99***		2.08***	
	(0.13)		(0.14)		(0.15)		(0.16)	
Connected Leaders Purged Dummy		1.67***		1.65***		1.82***		1.91***
		(0.12)		(0.12)		(0.13)		(0.14)
Clustered at Individual	X	X	X	X	X	X	X	X
Republics			X	X	X	X		
Location or Branch							X	X
Ethnicities					X	X	X	X
Party Membership			X	X	X	X	X	X
Rank			X	X	X	X	X	X
Nr. of Individuals	10942	10942	10908	10908	5441	5441	5437	5437
Observations	31,903	31,903	31,657	31,657	16,413	16,413	16,416	16,416

Note: *p<0.1; **p<0.05; ***p<0.01
The reported coefficients are hazard ratios. The standard errors are for the original coefficients.

purges conducted for the purposes of removing clients of rival bosses and replacing with one's own. Even so, we find the results are largely robust, and if anything, stronger than in the main analysis, or when the analysis is limited to the higher ranks.

A.5.2   Linear Probability Model

To demonstrate the robustness of this relationship, I have presented below a linear probability model as an alternative to the CPH model presented above. In all specifications, Table A.6 shows that there is a strong positive association with both measures of connections of purges with the outcome, using this alternative method. These models replicate the controls used for the main results, with the addition of year fixed effects due to the rate of purges among lower ranks increasing and then decreasing over time. Substantively, for the models on the top row where the main

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Table A.6: Linear Probability Model to Predict NKVD Member Purges (Promotion Ties)

			Dependent variable:					
			Dismissed under Art.38(a) or (b)					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Proportion of Connected Leaders Purged	0.02***		0.01***		0.02***		0.02***	
	(0.004)		(0.004)		(0.01)		(0.01)	
Connected Leaders Purged Dummy		0.02***		0.01***		0.02***		0.02***
		(0.003)		(0.004)		(0.01)		(0.01)
Republics			X	X	X	X		
Location or Branch							X	X
Ethnicities					X	X	X	X
Party Membership			X	X	X	X	X	X
Rank			X	X	X	X	X	X
Year FEs	X	X	X	X	X	X	X	X
Nr. of Individuals	37277	37277	37194	37194	9756	9756	9750	9750
Observations	95,652	95,652	95,295	95,295	31,757	31,757	31,749	31,749

Note: *p<0.1; **p<0.05; ***p<0.01

independent variable is the proportion of connected leaders purged, a change from having no connections to purged leaders to having all of one's connections purged increases probability of purge by three to six percent. Looking at the models where the main independent variable is the connected leaders purged dummy on the bottom row, the probability of a purge increases by about three to six percent when at least one of a low-ranking official's connections is purged.

A.5.3 Cohort Effects

A concern is that we are simply seeing the effect of a purge of those who entered the service earlier getting replaced by those who entered later; perhaps Stalin was simply replacing older, less educated and questionably reliable workers with new, Soviet educated and ideologically reliable ones (a phenomenon noted in the qualitative literature). To account for this, the following analyses in table A.7 replicate Table 1 in the main text and demonstrate that the main results (models 3, 4, 5, and 6) are robust to limiting the sample to those who were present in 1936. Thus, even if replacing lower quality personnel with higher quality personnel may have been a

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partial motivator, the main empirical results hold within each cohort, indicating that *selection* was driven by the clique mechanism.

Table A.7: Cox PH Model to Predict NKVD Member Purges (Present in 1936)

	Dependent variable:							
	Dismissed under Art.38(a) or (b)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Proportion of Connected Leaders Purged	1.45*** (0.12)		1.40** (0.13)		1.87*** (0.15)		1.90*** (0.16)	
Connected Leaders Purged Dummy		1.51*** (0.11)		1.41*** (0.12)		1.73*** (0.13)		1.73*** (0.14)
Clustered at Individual	X	X	X	X	X	X	X	X
Republics			X	X	X	X		
Location or Branch							X	X
Ethnicities					X	X	X	X
Party Membership			X	X	X	X	X	X
Rank			X	X	X	X	X	X
Nr. of Individuals	19585	19585	19546	19546	6495	6495	6495	6495
Observations	60,665	60,665	60,154	60,154	22,219	22,219	22,221	22,221

Note: *p<0.1; **p<0.05; ***p<0.01

The reported coefficients are hazard ratios. The standard errors are for the original coefficients.

A.5.4 Party Membership

Given the nature of the data, a possible issue may be that information on individuals with party membership may be systematically over-represented, which may bias our results. The following shows that when restricting analysis to party members and non-party members does not affect the results.

A.5.5 Russian SSR Only

Another source of selection bias may be the difference in the availability of documents regarding postings across republics. This analysis subsets the dataset to observations that were present in the Russian SSR (RSFSR) for that period. The main results

Table A.8: Cox PH Model to Predict NKVD Purges (Party Mems. Only)

	Dependent variable:							
	Dismissed under Art.38(a) or (b)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Proportion of Connected Leaders Purged	2.49***		1.99***		2.06***		2.09***	
	(0.14)		(0.15)		(0.15)		(0.16)	
Connected Leaders Purged Dummy		2.39***		1.82***		1.82***		1.86***
		(0.12)		(0.13)		(0.13)		(0.14)
Clustered at Individual	X	X	X	X	X	X	X	X
Republics			X	X	X	X		
Location or Branch							X	X
Ethnicities					X	X	X	X
Party Membership			X	X	X	X	X	X
Rank			X	X	X	X	X	X
Nr. of Individuals	9759	9759	9708	9708	8828	8828	8823	8823
Observations	27,893	27,893	27,643	27,643	25,302	25,302	25,304	25,304

Note: *p<0.1; **p<0.05; ***p<0.01
The reported coefficients are hazard ratios. The standard errors are for the original coefficients.

from the paper are reproduced, with the caveat that models that controlled for republics now no longer control for them, since the dataset is limited to Russia.

A.5.6 Controlling for Repression of Current Bosses

As was raised in the section concerning alternative explanations, one possibility is that the patterns that we observe are merely the product of high-ranking officials bringing their entourage with them, and the person replacing this boss purging subordinates of the previous boss in order to staff the apparatus with his own underlings. The following table shows that the effect still holds when reproducing the main table with the addition of a dummy variable for the current boss getting purged. Clearly, the purge of a current boss is highly correlated with the low-ranking official getting repressed himself for some specifications, reflecting this phenomenon. Yet, the coefficients for our main independent of interest still remain significant, indicating that

Table A.9: Cox PH Model to Predict NKVD Purges (Non-Party Mems. Only)

				Dependent variable:				
				Dismissed under Art.38(a) or (b)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Proportion of Connected Leaders Purged	1.25 (0.25)		0.64 (0.29)		0.52 (0.67)		0.55 (0.72)	
Connected Leaders Purged Dummy		1.28 (0.23)		0.71 (0.26)		0.60 (0.59)		0.60 (0.62)
Clustered at Individual	X	X	X	X	X	X	X	X
Republics			X	X	X	X		
Location or Branch							X	X
Ethnicities					X	X	X	X
Party Membership			X	X	X	X	X	X
Rank			X	X	X	X	X	X
Nr. of Individuals	27137	27137	27049	27049	998	998	998	998
Observations	56,549	56,549	56,008	56,008	2,272	2,272	2,272	2,272

Note:	*p<0.1; **p<0.05; ***p<0.01

The reported coefficients are hazard ratios. The standard errors are for the original coefficients.

relationships that cut across the hierarchy still matter for predicting the purges of low-ranked individuals.

A.5.7 Frailty Model

Given that there may be unobserved heterogeneity not controlled for in the original analysis, A.12 shows the results of a gamma frailty model fitted with different clusters (republics, ranks, nationality, and party membership). The covariates are the same as in models 5 and 6 of the main analysis, though it excludes whatever group the frailty is shared over for that model (i.e., for the models that cluster shared frailty for Republics, Republic is not controlled for). As in the main analysis, these results show positive and statistically significant relationships between the two connections measures and the risk of a purge for a low-ranking official.

Table A.10: Cox PH Model to Predict NKVD Purges (Prom. Ties, RSFSR Only)

	Dependent variable:							
	Dismissed under Art.38(a) or (b)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Proportion of Connected Leaders Purged	2.49***		1.99***		2.06***		2.09***	
	(0.14)		(0.15)		(0.15)		(0.16)	
Connected Leaders Purged Dummy		2.39***		1.82***		1.82***		1.86***
		(0.12)		(0.13)		(0.13)		(0.14)
Clustered at Individual	X	X	X	X	X	X	X	X
Republics			X	X	X	X		
Location or Branch							X	X
Ethnicities					X	X	X	X
Party Membership			X	X	X	X	X	X
Rank			X	X	X	X	X	X
Nr. of Individuals	9759	9759	9708	9708	8828	8828	8823	8823
Observations	27,893	27,893	27,643	27,643	25,302	25,302	25,304	25,304

Note: *p<0.1; **p<0.05; ***p<0.01
The reported coefficients are hazard ratios. The standard errors are for the original coefficients.

A.5.8 Alternate Outcomes

Additionally, we see the effects of ties to purged leaders on alternate career outcomes, and find that the dismissal types not associated with "purges" are either not strongly correlated with political connections, or negatively correlated. In the main analysis, the definition of a "purge" was restricted to any dismissal or dismissal altogether under articles 38 (a) and (b) of the GUGB regulations which is identified most closely with repression. In the dataset, there are six different types of ways in which individuals are officially removed from service: dismissed altogether, dismissed, retired, on reserve, died, and transferred to alternate work. Table A.13 shows the frequencies of these events (recall that 2269 individuals or 6.1% of officials were removed under the articles 38 (a) and (b) for the main analysis). Table A.14 presents separate CPH models fit for each different outcome, where the controls from the main model in

Table A.11: Cox PH Model to Predict NKVD Purges (Prom. Ties) w/ Current Boss Dummy

	Dependent variable:							
	Dismissed under Art.38(a) or (b)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Current Boss Purged	1.12**	1.12**	0.92	0.92	0.93	0.93	0.64**	0.64**
	(0.04)	(0.04)	(0.08)	(0.08)	(0.11)	(0.11)	(0.18)	(0.18)
Proportion of Connected Leaders Purged	2.20***		1.51***		1.95***		2.02***	
	(0.12)		(0.13)		(0.15)		(0.15)	
Connected Leaders Purged Dummy		2.19***		1.47***		1.75***		1.83***
		(0.11)		(0.11)		(0.13)		(0.13)
Clustered at Individual	X	X	X	X	X	X	X	X
Republics			X	X	X	X		
Location or Branch							X	X
Ethnicities					X	X	X	X
Party Membership			X	X	X	X	X	X
Rank			X	X	X	X	X	X
Nr. of Individuals	36896	36896	36757	36757	9826	9826	9821	9821
Observations	84,442	84,442	83,651	83,651	27,574	27,574	27,576	27,576

Note:	*p<0.1; **p<0.05; ***p<0.01

The reported coefficients are hazard ratios. The standard errors are for the original coefficients.

the paper are maintained but the dependent variable of interest is changed to these alternate outcomes. In Table A.14, we find that the results are mixed for "dismissed altogether", and strongly negative for "any removal" and "on reserve" with largely insignificant results for the others. While outside the scope of the main analysis, and possibly grounds for further research, it appears that whereas articles 38 (a) and (b) are strongly associated with repression associated with factional ties, other forms of removal are not so strongly associated with it.

A.5.9 Competing Hazards

How do competing hazards factor into purges? Of the outcomes possible, this outcome includes "Purge" as defined in the main analysis, and adds "dismiss altogether",

Table A.12: Effect of Promotion Ties to Purged Leaders on Low-Ranking Purges (Gamma Frailty Models)

	Dependent variable:							
	Dismissed under Art.38(a) or (b)							
Shared Frailty:	Republics		Ranks		Nationality		Party membership	
Controls:	(5)	(6)	(5)	(6)	(5)	(6)	(5)	(6)
Prop. of Connected Leaders Purged	1.94 *** (0.14)		1.95*** (0.14)		1.92*** (0.14)		1.49** (0.13)	
Connected Leaders Purged Dummy		1.46*** (0.11)		1.74*** (0.13)		1.75*** (0.13)		1.77*** (0.13)
Clustered at Individual	X	X	X	X	X	X	X	
Republics			X	X	X	X	X	X
Location or Branch Ethnicities								
Party Membership	X	X	X	X	X	X		
Rank	X	X			X	X	X	X

Note: Cox Proportional Hazards model. The reported coefficients are hazard ratios. The standard errors are for the original coefficients.
*p<0.1; **p<0.05; ***p<0.01

Table A.13:

Died	Dismissed	Dismissed Altogether	On Reserve	Retired	Resigned	Trans. to Alt. Work
242	862	4358	3786	178	5	226
0.7%	2.3%	11.8%	10.3%	0.5%	0.0%	0.6%

"dismiss", "put on reserve", "die", "retire", and "transferred to alternate employment" as possible "competing risks" for a state security officer. While most "purge" outcomes are also "dismiss" or "dismiss altogether" events, the competing hazards here are outcomes categorized such that removals according to Articles 38 (a) and (b) of GUGB regulations was separated to its own category (purge), unlike in the previous section. Furthermore, observations were restricted to those that began in 1936, as the statistical package is unable to deal with different starting times.

Using the same controls as model 4 from the main analysis with a Fine-Grey model in A.15, we find that in this setup, having a connection to a purged leader

Table A.14: Cox PH Model to Predict NKVD Member Purges (Promotion Ties, Alternate Outcomes)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
				Dependent variable:				
				Dismissed Altogether				
Proportion of Connected Leaders Purged	1.52***		1.10		1.24		1.25	
	(0.09)		(0.09)		(0.15)		(0.16)	
Connected Leaders Purged Dummy		1.45***		1.07		1.16		1.15
		(0.09)		(0.09)		(0.15)		(0.15)
				Dismissed				
Proportion of Connected Leaders Purged	1.14		0.51**		0.33**		0.28***	
	(0.28)		(0.29)		(0.47)		(0.47)	
Connected Leaders Purged Dummy		1.05		0.48***		0.35***		0.30***
				Retired				
Proportion of Connected Leaders Purged	0.00***		0.00***		0.00***		0.0000***	
	(2,978.42)		(4,470.92)		(1,357.53)		(454.61)	
Connected Leaders Purged Dummy		0.0000***		0.0000***		0.0000***		0.0000***
		(1,241.83)		(1,847.39)		(1,093.58)		(379.38)
				On Reserve				
Proportion of Connected Leaders Purged	1.31**		1.06		0.66*		0.63*	
	(0.12)		(0.12)		(0.23)		(0.24)	
Connected Leaders Purged Dummy		1.24*		1.02		0.63**		0.61**
		(0.11)		(0.11)		(0.22)		(0.22)
				Died				
Proportion of Connected Leaders Purged	3.43***		2.53***		2.09		2.35	
	(0.35)		(0.36)		(0.81)		(0.87)	
Connected Leaders Purged Dummy		3.10***		2.32**		1.73		2.01
		(0.33)		(0.34)		(0.78)		(0.84)
				Transferred				
Proportion of Connected Leaders Purged	0.93		3.57		0.00***		0.0000***	
	(0.92)		(0.91)		(3,698.83)		(373.80)	
Connected Leaders Purged Dummy		1.23		4.44		0.0000***		0.0000***
		(0.72)		(0.73)		(2,557.51)		(291.14)
				Any Removal				
Proportion of Connected Leaders Purged	1.00***		1.00***		1.00***		1.00	
	(0.03)		(0.03)		(0.05)		(0.05)	
Connected Leaders Purged Dummy		1.00***		1.00***		1.00***		1.00***
		(0.03)		(0.03)		(0.04)		(0.04)
Clustered at Individual Republics	X	X	X	X	X	X	X	X
Location or Branch							X	X
Ethnicities					X	X	X	X
Party Membership			X	X	X	X	X	X
Rank			X	X	X	X	X	X
Nr. of Individuals	36896	36896	36757	36757	9826	9826	9821	9821
Observations	84,442	84,442	83,651	83,651	27,574	27,574	27,576	27,576

Note: *p<0.1; **p<0.05; ***p<0.01

The reported coefficients are hazard ratios. The standard errors are for the original coefficients.

seems to have positive effects on purges, dismissals altogether, reserve, death, and transfers. The coefficients on their own are insufficient to understand the effect of the independent variable on the outcome, but rather show that an increase in the independent variable is associated with a higher risk of facing that outcome relative to others for those who are currently alive (Austin and Fine, 2017). Therefore, having a connection to a purged leader increases the likelihood of being removed as the result of a purge as defined here, as opposed to others, which may be an indication that political purges were also conducted through other means.

Table A.15: Fine-Gray Model to Predict NKVD Member Outcomes (Promotion Ties, Start in 1936 Only)

	Dependent variable:							
				Outcomes				
	Purge	Diss. Altogether	Dismiss	Reserve	Die	Retired	Transfer	Resigned
Connected Leaders								
Purged Dummy	2.17***	2.39***	0.99	0.57***	1.16	4.76***	7.38	4.88
	(0.12)	(0.09)	(0.28)	(0.12)	(0.32)	(0.17)	(0.72)	(0.76)
Clustered at Individual								
Republics	X	X	X	X	X	X	X	X
Location or Branch								
Ethnicities								
Party Membership	X	X	X	X	X	X	X	X
Rank	X	X	X	X	X	X	X	X
Nr. of Individuals	19546	19546	19546	19546	19546	19546	19546	
Observations	67274	66503	68287	65285	68481	68579	68443	68776

Note: *p<0.1; **p<0.05; ***p<0.01

The reported coefficients are hazard ratios. The standard errors are for the original coefficients. The controls are the same as in model 4 in the main model. Purge refers to dismissal under Articles 38 (a) or (b) of GUGB regulations, and Dismissed and Dismissed Altogether exclude individuals dismissed under these articles.

A.5.10 Alternative Tie Measures

Additionally, in order to examine the types of relationships that matter, the main results are shown using alternative tie measures. Table A.16 shows that the results are largely, although not entirely robust to using coworker ties, where ties are inferred between bosses and all of their subordinates, but not all of them. The results are

similar but not robust under full controls. Furthermore, table A.17 replicates the main results, where the promotion ties are only counted for those who share common ethnic groups, using the same categorization used in A.18. Under this measure, the results are largely consistent with those of the main analysis, suggesting that ethnic ties may be driving promotions and the formation of factional ties, which agrees with existing qualitative descriptions of the role that ethnic ties played in Soviet factional politics.

Table A.16: Cox PH Model to Predict NKVD Member Purges (Coworker Ties)

			Dependent variable:					
			Dismissed under Art.38(a) or (b)					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Proportion of Connected Leaders Purged	1.93***		2.34***		1.59***		1.11	
	(0.06)		(0.07)		(0.09)		(0.11)	
Connected Leaders Purged Dummy		1.73***		2.25***		1.63***		1.15
		(0.05)		(0.07)		(0.09)		(0.10)
Clustered at Individual	X	X	X	X	X	X	X	X
Republics		X	X	X	X	X		
Location or Branch							X	X
Ethnicities					X	X	X	X
Party Membership			X	X	X	X	X	X
Rank			X	X	X	X	X	X
Nr. of Individuals	37279	37279	37194	37194	9756	9756	9750	9750
Observations	95,820	95,820	95,325	95,325	31,783	31,783	31,775	31,775

Note: *p<0.1; **p<0.05; ***p<0.01
The reported coefficients are hazard ratios. The standard errors are for the original coefficients.

A.6 Descriptions of Connections Over Time

To provide some idea of the makeup of low-ranking officials used in this analysis, the following tables compare the relative frequencies of different ethnic groups in the NKVD on the whole, as well as for those who are identified as having ties to

Table A.17: Cox PH Model to Predict NKVD Member Purges (Ethnic Promotion Ties)

	Dependent variable:							
	Dismissed under Art.38(a) or (b)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Proportion of Connected Leaders Purged	4.26***		2.21***		1.88***		1.96***	
	(0.15)		(0.15)		(0.15)		(0.16)	
Connected Leaders Purged Dummy		4.00***		2.11***		1.82***		1.92***
		(0.14)		(0.15)		(0.15)		(0.15)
Clustered at Individual	X	X	X	X	X	X	X	X
Republics		X	X	X	X	X		
Location or Branch							X	X
Ethnicities					X	X	X	X
Party Membership			X	X	X	X	X	X
Rank			X	X	X	X	X	X
Nr. of Individuals	36896	36896	36757	36757	9826	9826	9821	9821
Observations	84,442	84,442	83,651	83,651	27,574	27,574	27,576	27,576

Note: *p<0.1; **p<0.05; ***p<0.01
The reported coefficients are hazard ratios. The standard errors are for the original coefficients.

high-ranking official, and those who have ties to purged high-ranking officials. Some of the ethnic categories have been collapsed for ease of presentation[3].

The following figures summarize the frequency of ties to purged high-ranking officials for low-ranking officials that are members of the following major ethnic groups (Russian, Ukrainian, Belarussian, Jewish, Baltic, and Georgian). These numbers should be taken with a grain of salt, given the small numbers of Balts and Georgians, and given the large proportion of the sample that lacks ethnicity information.

[3] Baltic subsumes the three Baltic nations; Caucasian subsumes all minorities in the Caucasus (Dargins, Lezgins, Ossetians, Ingush, Dagestanis, Kumyks, Avars, Abkhazians, Kabardians, Adyghe, Abazins, and Chechens) except Georgian, which is considered by itself given the known predominance of Georgians in the higher ranks under Beria; Central Asian subsumes Bashkirs, Tatars, Azerbaijanis, Kazakhs, Uzbeks, Kirgiz, Tajiks, Astrakhans, Turkmen, Uighurs, and Kalmyks; European includes people from Europe outside of the Soviet Union, containing Germans, Swiss, Bulgarians, Turks, Poles, Finns, Greeks, Swedish, Czechs, Serbs, the French, Austrians, and Hungarians; Far Eastern includes Buriyats, Ulch, Chinese, Sakha, Koreans, Nanai, and Yakuts; Finno-Ugric includes Komi, Udmurts, Mari, and Vepsians; Uralic includes Mordvins, Chuvash, and Khanty.

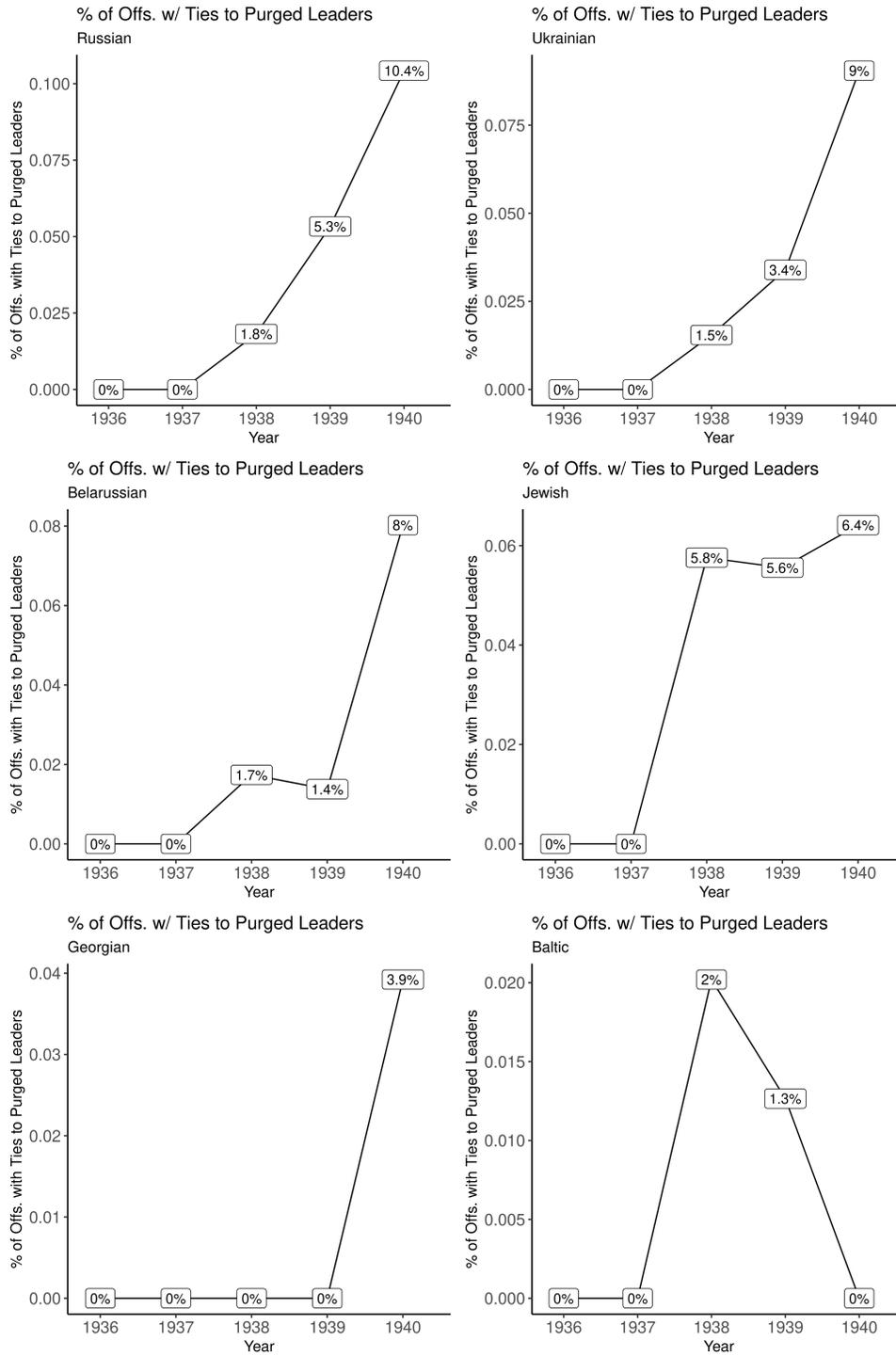FIGURE A.3: Summary of Ties to Purged Leaders Across Ethnic Groups

Table A.18: Ethnic Makeup of All Officials Over Time (in Percents)

	National Background	1936	1937	1938	1939	1940
1	Armenian	0.540	0.580	0.490	0.430	
2	Baltic	1.190	1.200	1.050	0.360	
3	Belarussian	1.240	1.270	1.230	0.950	
4	Caucasian	0.190	0.200	0.180	0.120	
5	Central Asian	0.560	0.560	0.540	0.390	
6	European	0.570	0.590	0.360	0.100	
7	Far Eastern	0.110	0.110	0.100	0.020	
8	Finno-Ugric	0.050	0.050	0.040	0.040	
9	Georgian	0.440	0.470	0.360	0.220	
10	Jew	4.320	4.680	4.240	2.800	
11	Karelian	0.020	0.020	0.020	0.010	
12	Moldavian	0.030	0.030	0.030	0.020	
13	Roma		0	0	0	
14	Russian	20.600	22.220	22.830	20.050	
15	Ukrainian	3.240	3.280	3.720	3.300	
16	Uralic	0.130	0.140	0.130	0.090	
17	No Information	66.770	64.580	64.650	71.080	

A.7 Expected Durations

Using the method described in Kropko and Harden (2020), which uses a generalized additive model (GAM) and nonparametric step-function approach (NPSF) to estimate expected durations for different scenarios using CPH models, I find that when comparing cases that are purged during the period, individuals not connected to purged leaders are estimated to live one to two months longer than those who are, among those who are purged. For the same scenario as used to predict the hazards in Table 1 Model 4 and assuming both individuals are alive in 1938, the NPSF estimate shows that an official who is unconnected to a purged official is expected to survive for 3.73 years, while an official who is connected to a purged official is expected to survive for 3.62 years. This amounts to a difference of about 33 days or one month. Using the GAM approach, the unconnected official is expected to survive

for 59 days into 1938, and the connected official is expected to survive 73 days into 1938, amounting to a difference of approximately two weeks. The estimates for both methods of expected duration are made using non-censored data, even though in this instance, the vast majority of cases are censored. Therefore, the comparisons are for those who face an event, and does not account for the possibility that the individual survives the whole period (becomes a censored case).

Appendix B

Appeal to a Higher Power: How Settlement and

Inter-Ethnic Conflict Over Property Rights State

Capacity

B.1 Additional Information

B.1.1 Examples of Han-Mongol Conflicts

In 1891, Han Chinese agricultural settlers in Jehol rose up against the Ch'ings and massacred many Mongols, resulting in tens of thousands of deaths and the displacement of many local Mongols to more remote areas in an event known as the Chintantao Incident (Borjigin, 2004). This long-term conflict also saw Mongol uprisings against Han settlement, such as Gaadaa Meyiren's uprising in 1929 against the reclamation of Khorchin lands (Borjigin, 2017, 165-176), and the uprising of Prince Ündür Yangsanjab's Mongol Banner Army against the reclamation of the Hsi-chia Wasteland on the eve of the Manchurian Incident (Borjigin, 2017, 131-146). There were also multiple attempts to establish independence or greater autonomy for Mongols, such as the First and Second Manchuria-Mongolia Independence Movemements led by Mongol leader Babuujab with the aid of Japanese and Outer Mongolian allies from 1911 to 1916 (Hatano, 2001) and the multiple attempts to separate Hulunbuir from the ROC with Soviet backing, as well as attempts by the Inner Mongolian People's Revolutionary Party to unify Inner Mongolia with the Mongolian People's Republic (MPR) (Atwood, 2002). Even after the defeat of Japanese rule in Manchukuo, Mongol nationalists founded the Inner Mongolian Autonomous People's Republic out of the ashes of Manchukuo and attempted to merge it and Western Inner Mongolia with the MPR, prior to the foundation of the People's Republic of China (PRC) (Borjigin, 2003). These conflict events are consistent with Fearon and Laitin (2011)'s theoretical description of how SoS conflicts lead to low intensity but long-term conflict and potential insurgency.

B.2   Measurement and Analysis

B.2.1   Segregation Measures

Using on census data at the sub-county/banner level, this paper computes measures of segregation as a potential measure of conflict. The four measures used are dissimilarity, exposure, entropy, and GINI. The formulae and explanations follow Massey and Denton (1988).

The Dissimilarity Index measures the deviation of the distribution from an even distribution, where each city, town, or village reflects the population makeup of the county/banner. It varies between 0 and 1, with 1 representing the situation where the maximum number of people must move to make each city, town, or village reflect the county/banner level makeup. It is computed thusly:

$Dissimilarity = \sum_{i=1}^{n}[t_i p_i - P|2TP(1-P)]$

Where n is the number of cities, towns, or villages in a county/banner, p_i is the population Mongol for village i, t_i is the number of people in city, town, or village i, P is the total population of Mongol for the county/banner, and T is the total county/banner population.

The Entropy Index, like dissimilarity, measures departure from evenness, but measures evenness by the weighted average of the departure of the entropy of a city, town, or village i ($Entropy_i$) from the entropy of the county/banner as a whole ($Entropy_{unit}$).

The entropy of a unit, be it city/town/village or a county/banner, is computed in the following manner, where P is proportion Mongol for each unit.

$Entropy = (P)log[1/P] + (1-P)log[1/(1-P)]$

$EntropyIndex = \sum_{i=1}^{n}[t_i(Entropy_{unit} - Entropy_i)/Entropy_{unit}T]$

Where n is the number of cities/towns/villages in the county/banner, t_i is the to-

tal population of city/town/county i, and T is the total population of the county/banner.

The GINI index measures "he mean absolute difference between minority proportions weighted across all pairs of areal units, expressed as a proportion of the maximum weighted mean difference, which occurs when minority and majority members share no area in common" (Massey and Denton, 1988, 285). Unlike dissimilarity, is sensitive to all "transfers of minority and majority members between areas", instead of just those between over-and underrepresented areas (Massey and Denton, 1988, 285).

$$GINI = \sum_{i=1}^{n} \sum_{j=1}^{n} [t_i t_j |p_i - p_j| / 2T^2 P(1-P)]$$

$Exposure_x$ measures the degree to which the member of minority group X is exposed to members of group Y, and is computed in the following manner:

$$Exposure_x = \sum_{i=1}^{n} [x_i / X][y_i / t_i]$$

Where x_i is the size of group X for city, town, or village i, y_i is the size of group y for city, town, or village i, t_i is the total population for city, town, or village i, and X is the size of group X in in the county or banner. It is the average of the population of group Y in each city, town, or village weighted by the population of X.

B.2.2 Data Summary

Table B.1: Summary Statistics (Mongol Lands)

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Median	Pctl(75)	Max
Han-Mongol Ratio (Prop. Han)	73	0.835	0.235	0.110	0.773	0.951	0.996	1.000
MBI All Residents	73	1.517	0.212	1.152	1.444	1.484	1.535	2.807
MBI Manchurians (Han)	73	1.518	0.250	1.073	1.443	1.474	1.519	3.156
MBI Manchurians (Mongol)	59	1.609	0.726	1.070	1.438	1.485	1.560	6.785
Dissimilarity	73	0.555	0.209	0.035	0.416	0.512	0.713	0.961
Exposure (Mongol)	73	0.731	0.293	0.110	0.557	0.874	0.973	1.000
Exposure (Han)	73	0.104	0.166	0.00000	0.005	0.041	0.124	0.887
Entropy	73	0.887	0.108	0.461	0.864	0.926	0.953	0.983
GINI	73	0.328	0.101	0.019	0.274	0.328	0.413	0.489

One potential driver of the outcome measure is prior state capacity. A plausible driver of local state capacity is county age. After all, a county that was set up a century ago is more likely to have its business in order than a county that has just been set up in tables B.4 and B.5, finding no significant effect of county age on MBI for either group. Additionally, given the differences in pre-Manchukuo administrative practices between banners and counties, I subset the data into banners and counties and reproduce the results of the original analysis in tables B.2 and B.3. The results from the main analysis largely hold for the counties, but model 3 becomes insignificant for banners. This may indicate that the results are stronger in counties where Han administration was already set up, and less so in banners where Mongol territorial administration is still present. SMR adjacent territory is not controlled for in the Banners only subset because none of the Banners contained SMR leases.

Table B.2: Effect of Replacement on MBI (Counties Only)

	Dependent variable:					
	MBI (Han)			MBI (Mongol)		
	(1)	(2)	(3)	(4)	(5)	(6)
Percent Han	0.55**	0.60**	0.60**	1.29	1.52	−1.36
	(0.25)	(0.22)	(0.26)	(2.35)	(2.46)	(2.08)
SMR. Adj. Terr.		X	X		X	X
Population Density			X			X
Ethnic Province Dummy		X	X		X	X
Province Dummy			X			X
Observations	35	35	35	23	23	23

Note: *p<0.1; **p<0.05; ***p<0.01

Japanese efforts at improving regional administrations could be driving these outcomes rather than the mechanisms presented. In order to measure the level of

Table B.3: Effect of Replacement on MBI (Banners Only)

	Dependent variable:					
	MBI (Han)			MBI (Mongol)		
	(1)	(2)	(3)	(4)	(5)	(6)
Percent Han	0.22	0.43*	0.37	0.05	0.06	0.08
	(0.20)	(0.23)	(0.31)	(0.07)	(0.09)	(0.08)
SMR. Adj. Terr.		X	X		X	X
Population Density			X			X
Ethnic Province Dummy		X	X		X	X
Province Dummy			X			X
Observations	38	38	38	36	36	36

Note: *p<0.1; **p<0.05; ***p<0.01

Japanese effort, I use the increase in the number of police per county (Banners did not seem to have formal police in the ROC period) between 1931 under ROC administration and 1934/1938 under Manchukuo. I also look at the effect of the proportion of Japanese police in 1934 on MBI. Deploying Japanese personnel was a costly investment into local capabilities employed both to increase control and to improve the capabilities of the local policemen. 1934 is used for this since Japanese police personnel (mainly consular) were incorporated into Manchukuo police organs extraterritorial jurisdictions and concessions were abolished in 1936. As a proxy for the degree of pacification of a county, I also look at the effect of the percent of militarized police units in 1934, which were units carried over from the ROC period used for anti-banditry and counterinsurgency, given that areas with banditry and insurgency may be driving lower MBI. Tables B.4 and B.5 show that these factors do not seem to be driving MBI, except proportion of military police in 1934 having a positive and significant effect on Han MBI for model 12 of tables B.4.

Table B.4: Effect on MBI (Alternative Explanations (Counties Only), Han)

					Dependent variable:							
					MBI (Han)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
County Age	−0.001 (0.001)				−0.001 (0.002)				−0.001 (0.003)			
Increase in Pol. (1931-34)		−0.0001 (0.0001)				−0.0000 (0.0001)				−0.0001 (0.0002)		
Pr. Jp. Pol. 1934			2.42 (1.92)				2.40 (2.07)				0.58 (2.45)	
Pr. Mil. Pol. 1934				0.20 (0.21)				0.21 (0.19)				0.31** (0.14)
SMR Adj. Territory					−0.02 (0.10)	−0.04 (0.10)	−0.02 (0.06)	0.004 (0.09)	−0.07 (0.12)	−0.10 (0.12)	−0.06 (0.08)	−0.03 (0.07)
Admin Unit Type (County)												
Population Density									0.001 (0.001)	0.001 (0.001)	0.0004 (0.001)	0.0003 (0.0005)
Ethnic Province Dummy					X	X	X	X	X	X	X	X
Province Dummy									X	X	X	X
Observations	33	32	29	29	33	32	29	29	33	32	29	29

Note: *p<0.1; **p<0.05; ***p<0.01

Table B.5: Effect on MBI (Alternative Explanations (Counties Only), Mongol)

					Dependent variable:							
					MBI (Mongol)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
County Age	−0.01 (0.04)				−0.01 (0.04)				0.01 (0.08)			
Increase in Pol. (1931-34)		−0.0002 (0.003)				−0.0004 (0.004)				0.001 (0.005)		
Pr. Jp. Pol. 1934			60.35 (80.31)				58.16 (87.03)				−57.04 (96.32)	
Pr. Mil. Pol. 1934				0.48 (5.05)				0.21 (5.68)				1.66 (6.30)
SMR Adj. Territory					−0.11 (2.89)	−0.46 (2.64)	0.11 (2.71)	−0.35 (2.87)	−0.56 (3.01)	−0.79 (3.01)	−1.77 (3.29)	−0.76 (3.13)
Admin Unit Type (County)												
Population Density									0.003 (0.02)	0.01 (0.02)	0.02 (0.02)	0.01 (0.02)
Ethnic Province Dummy					X	X	X	X	X	X	X	X
Province Dummy									X	X	X	X
Observations	33	32	29	29	33	32	29	29	33	32	29	29

Note: *p<0.1; **p<0.05; ***p<0.01

Appendix C

How Repression Undermines Infrastructural Power

C.1 Timeline of Events

The timeline summarizes the events described in the paper.

C.2 Differences-in-differences analyses

The following sections establish that while the repressions had an effect on legibility, Japanese efforts at improving local police, and on the quality of recruits, there was no significant effect on the number of police, either absolute or per capita, or land tax revenue, also absolute or per capita. Data for police numbers are taken from Data on police personnel are taken from "Overview of Manchukuo Police" for 1931 (ROC), 1934 (Manchukuo) and the "Manchukuo Police Statistics Yearbook" for 1939 (Manchukuo).

The land tax serves as a tax that was collected in most areas of Manchuria, consistently across the warlord and Japanese governments, and thus serves as a reasonable indicator of the state's ability to tax land. Data for the budgeted 1929 land tax and 1931 population data are taken from "Northeastern Yearbook", a statistical periodical published by Chang Hsueh-liang's Fengtien clique in the name of the ROC in 1931. Land tax amounts from 1934 and 1938 under Manchukuo are taken from the Manchukuo "Taxation Service Statistical Yearbook". Currencies are normalized to a standard average of 1936-34 JPY by first converting the 1929 ROC Yuan was converted to JPY based on the exchange rate from the Yuan Dollar to USD, and then to JPY based on data from the Currency Exchange table in page 27 of the 1930 Federal Reserve Bulletin.1934 Manchukuo Yuan is converted to JPY using Toyo Association Research Bureau (1935, 13) and adjusting to 1934-6 JPY using the general deflator from Ohkawa and Rosovsky (1962). After 1935, Manchukuo Yuan was maintained at parity with JPY so only the deflator was used to transform the

Table C.1: Timeline of Notable Events

[1.5ex] Late-19th Century	Large-scale Korean settlement in Gando
1905-06	Ruso-Japanese War
1905	Empire of Korea becomes Japanese Protectorate
1906	Creation of Kwantung Army and South Manchurian Railway
1907	Japanese Police Station Established in Gando to police Koreans
1909	Sino-Japanese treaty signed on Japanese rights in Gando (Gando Agreement)
1910	Japanese Annexation of Korea
1912	Foundation of the Republic of China (ROC)
1920	Japanese Army deployed to Gando to mop up Korean nationalists (Gando Incident)
Mid-1920s	Chinese repressions against Koreans in Manchuria intensifies
1928	Chang Hsueh-liang succeeds as leader of Fengtien Clique
1928	Chang Hsueh-liang pledges allegiance to Nanking government and intensifies anti-Japanese campaigns
1931	Wanpaoshan Incident
1931-33	Manchuria Incident
1932	Foundation of Manchukuo (Beginning of Japanese rule); Gando established as own province under Korean provincial head
Early 1930s up to 1941	Korean insurgency in Northeastern Manchuria pacified
1937	China Incident begins
1940	Conscription Law Introduced
1940	Manchukuo Census Conducted
1941	Greater East Asia War declared
1945	Soviet Incursion (fall of Manchukuo, end of Japanese rule)

Table C.2: DiD Analysis of Effect of Repressions on Police Numbers

	Dependent variable:	
	Nr. of Police	Nr. of Police Pc.
	(1)	(2)
Treated	330.32*	0.0003
	(170.80)	(0.001)
Time	204.72***	0.001
	(69.04)	(0.001)
DiD Estimator	−161.17	−0.001
	(208.96)	(0.002)
Observations	336	215
R^2	0.04	0.01
Adjusted R^2	0.03	−0.01
Note:	*p<0.1; **p<0.05; ***p<0.01	

1938 data. Population data for 1934 are imputed from 1931 and 1940 population data. The analysis shows that there was no significant differences in the change of absolute returns or per capita land taxes across repressed and non-repressed regions.

Table C.3: DiD Analysis of Effect of Repressions on Land Tax

	Dependent variable:	
	County Land Tax	
	(1)	(2)
Treated	0.17**	12,815.64
	(0.07)	(17,741.38)
Time	0.08	−5,395.33
	(0.11)	(10,429.08)
DiD Estimator	−0.10	14,870.65
	(0.08)	(21,296.27)
Observations	415	427
R^2	0.03	0.01
Adjusted R^2	0.02	0.01
Note:	*p<0.1; **p<0.05; ***p<0.01	

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Biography

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