Competitive Radicalization among Agents: Evidence from the Holocaust

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Abstract

We study the dynamics of radicalization under dictatorship. We reconstruct the inner workings of the Nazi regime by linking population records from the party, state, economy, and security apparatus, as well as records of victims of persecution, to secret internal governance records. These records show a system of overlapping jurisdictions in which the ruler rarely intervened and rival organizations acted in his name and competed for his approval. We develop a model in which a ruler cannot specify a policy in advance and can reward agents only with a future prize. Rivalry between two agents for the prize elicits action before the ruler learns whether it is appropriate, and so also action he would reject. We test the model using variation from troop movements that brought a rival command into a locality held by one command. We link the movements of military and paramilitary units to the timing and location of five million acts of persecution during the Holocaust. We then use high-frequency private information from the diaries of five agents with central roles in the extermination of European Jews, together with central directives, to test the model. We find that decentralized initiative and killing preceded central instructions, as agents competed and took cues from above. These findings suggest that radicalization can arise endogenously from organizational structure.

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1 Introduction

Delegation creates a basic trade-off between effort and control. A principal may know the direction in which agents should act without being able to specify the right action in advance. Dictatorship provides a consequential setting in which to study this trade-off. Dictatorship concentrates sovereignty but cannot concentrate action. A ruler must govern through agents who interpret objectives and act on his behalf. Because the ruler cannot specify or monitor the correct action in every contingency, delegation gives agents discretion. A central organizational problem is therefore how to induce initiative without risking control over aggregate policy.[1]

Many dictatorships combine concentrated formal authority with parallel state structures. Formal and informal state, party, and quasi-state institutions operate in parallel with overlapping responsibilities. Studying these structures and their consequences is difficult because such data are hard to obtain in dictatorships, or may misrepresent how power is exercised in practice.

This project aims to understand the organizational structure and radicalization dynamics in one of the most consequential political regimes in history. The Nazi regime organized violence on a massive scale. Leading accounts attribute the radicalization of policy and scale of persecution to competition among overlapping agencies (Broszat, 1969; Mommsen, 1976; Hüttenberger, 1976).[2]

The main contribution of this paper is to present new data describing the formal and informal organizational structure of the Nazi regime and to provide the first quantitative analysis of its relationship to the Holocaust. Our data cover the principal organizations of state and society: officials, offices, and institutional reorganizations from state directories; a near-universe of party membership registers; all stock corporations and their board members and managers; and military, paramilitary, and police units and their stationing histories. These sources identify potential actors and organizations at each date. We complement these sources with secret internal records from the

[1] A related problem arises when open-ended objectives are delegated to autonomous artificial agents. Recent work identifies selection pressure and destabilizing interaction as risks of multi-agent systems (Hammond et al., 2025).

[2] We examine how this organizational structure contributed to the radicalization of policy that culminated in the Holocaust. Contrary to a view of dictatorship as a system of centralized command, key aspects of Nazi governance relied on decentralized initiatives and overlapping jurisdictions that induced competition among agencies. This institutional design is hypothesized to have incentivized agencies to escalate repressive measures in an effort to outperform rivals and anticipate Hitler's intentions. Some of the earliest measures of persecution, including legal discrimination and the establishment of concentration camps, emerged from decentralized initiatives and were later incorporated into official policy. The extermination of European Jews likewise developed in part through the central endorsement of mass killings initiated under local competition among agencies. We provide further detail through case studies in Section 3 and examine overlapping authority and its consequences in other contexts in Appendix B, including Stalin's Great Terror, Imperial Japan, and China's Cultural Revolution and contemporary local policy experiments.

Reich and Party Chancelleries, the central interfaces between state and party organizations and the leadership. We link these sources to the Yad Vashem database of Holocaust victims, which records the dates and places of residence, persecution, and death of over 4.8 million people.

We begin by documenting four facts about the organizational structure of the Nazi regime. First, between 1931 and 1936, the number of institutions listed in state directories doubled, while the number of effective institutions identified in internal governance records tripled. Second, many of these institutions were created by extraordinary decree and tied to specific individuals. Third, their jurisdictions overlapped extensively: by 1936, almost no policy area fell under the exclusive authority of a single institution. Fourth, internal records show a reversal: before the dictatorship, the head of government usually attended cabinet-level meetings and was rarely invoked in his absence; under Hitler, almost every decision invoked his authority, yet cabinet meetings with him virtually disappeared. The proliferation of parallel institutions therefore coincided with the dismantling of bodies for collective decision-making, representation, and conflict resolution, including the cabinet and corporatist organizations.

To clarify the organizational incentives of this system, we develop a model of delegation under dictatorship. The model describes an entrepreneurial administration (Breton and Wintrobe, 1986) in which a ruler delegates to one or more agents. The ruler retains formal authority but cannot commit to contract or specify appropriate actions in advance. Without intermediary institutions to resolve conflicts, he governs through agents who interpret his objectives and anticipate his subsequent approval. He can authorize two agents over a common objective and award a future prize by their relative initiative, or monitor a single agent and enforce his orders. Rivalry elicits early action, before the ruler learns whether implementation is appropriate. Monitoring permits informed decisions but risks delay. The choice between rivalry and control therefore trades the risk of implementing an inappropriate policy against the risk of failing to implement an appropriate one in time. Thus, rivalry can induce agents with no intrinsic preference for the policy to implement measures the ruler would reject. When actions are irreversible, subsequent orders cannot undo them. The concentration of formal authority therefore need not imply effective control over policy.

We examine the consequences of this organizational structure during the Holocaust. Our baseline analysis uses disaggregated data on the murder of persecution victims across time and space to test whether killing increased after troops under rival commands entered a locality. We first

show descriptively that a larger share of residents was murdered where command control was less concentrated. We then estimate a stacked event study of the entry of a second unit in a cell held by one command. We find that cumulative deaths among residents rose steeply after a rival command entered, with no increase before its entry. Importantly, we find that such an increase is absent when a further unit of the same command enters. The rise therefore followed the entry of an independent command rather than additional troop capacity in itself. However, this pattern may also reflect time-varying differences across locations, such as strategic centrality.

We therefore complement the baseline with a design that compares locations with similar expected exposure to overlapping commands but different realized troop presence. We use classified military communications to condition on expected exposure and reconstruct documented alternative troop movements from army war diaries. The identifying variation comes from towns whose realized exposure differs from what would have been expected given the feasible set of troop movements. The identifying assumption is that, conditional on planned exposure, residual variation in realized exposure reflects campaign contingencies rather than local characteristics. Our findings are similar in magnitude and significance to the baseline under this empirical design.

We conclude with evidence from the private diaries of five senior Nazi officials who played central roles in the extermination of European Jews.

We conclude by examining high-frequency private information from diaries of five senior Nazi officials who played central roles in the extermination of European Jews.[3] These records document intense rivalry within the regime. In May 1943, Erich von dem Bach-Zelewski wrote: "People think that in the 'authoritarian' state everything is ordered from above, and have no idea that up there an unceasing struggle for power prevails." We code 38,331 dated actions from the five diaries. Disputes appear on one in four days with an entry. Among policy-setting actions, 97 percent were agents' own decisions and 3 percent were superiors' orders or prohibitions. Pairwise comparisons within rounds of actions on the same policy support the model's predicted sequence.

Taken together, these results illustrate a general problem of large dictatorships: rulers cannot fully direct the organizations through which they govern. Overlapping authority can elicit initia-

[3]They are Hans Frank, governor-general of occupied Poland; Heinrich Himmler, head of the SS and the German police; Alfred Rosenberg, minister for the occupied eastern territories; and Erich von dem Bach-Zelewski, Higher SS and Police Leader in central Russia, Himmler's plenipotentiary for anti-partisan warfare, and Joseph Goebbels, minister of propaganda and Gauleiter of Berlin.

tive, limit dependence on any one agent, and implement policies the center has not specified.

This paper brings an important data point to the theoretical literature on dictatorship and delegation. For example, Wintrobe (1998) and Svolik (2012) study how dictators secure the loyalty of their agents and share power with them; Egorov and Sonin (2011) explore a trade-off between loyalty and competence among subordinates; Aghion and Tirole (1997) distinguish formal from real authority in organizations; and Lazear and Rosen (1981), Green and Stokey (1983), and Tullock (1980) study how rewards based on relative performance elicit effort. Closest to our setting, Dewatripont and Tirole (1999) show how organizations can use competition to elicit noncontractible effort.[4] In China, a similar combination of vertical integration and decentralized initiative elicited effort through policy experimentation and produced growth (Xu, 2011; Wang and Yang, 2025). In contrast, we describe the organizational structure and production of violence of a regime comprehensively, across state, party, economy, and armed forces, and trace its consequences for mass killings in Eastern Europe, a subject that has received limited quantitative attention despite its historical importance. Our findings suggest that policy radicalization may arise endogenously from organizational structure.[5] These results qualify accounts of autocracy in which the center issues orders and directs operations, while subordinates obey. Such models therefore implicitly assume that state bureaucracy acts as a monopoly, ruling out competition.[6]

We also contribute to the economics of violence. At the individual level, Ager et al. (2022) find that public recognition of German fighter pilots during World War II increased both victory and death rates among their former peers. At the organizational level, prior work examines how central state institutions shape violence (Heldring, 2021; 2025; Meng et al., 2015; Markevich et al., 2025). We complement this work by showing how organizational structure encourages decentralized initiative in persecution.[7] This emphasis on agency also connects our analysis to Dunia

[4] A closely related literature studies the organization and consequences of direct and indirect rule (Tirole, 1986; Padró i Miquel and Yared, 2012; Banerjee and Iyer, 2005; Dell, 2010; Lowes and Montero, 2021; Henn et al., 2024).

[5] Some theories of dictatorship locate the problem of control in conflicting interests: political actors must be induced to support the ruler, and agents must be induced to pursue his objective. Our mechanism operates even when this alignment problem is moot. A ruler who cannot contract on initiative may use rivalry to elicit it from aligned agents, and rivalry then makes policy an equilibrium among agents rather than a choice of the ruler. A problem is therefore not only how to align agents with the ruler, but how to organize interaction among aligned agents; the absence of instruments to balance competing interests can itself develop into a central problem of dictatorship.

[6] These findings contrast with stylized models of bureaucracy as a system of "fixed and official jurisdictional areas," with authority "distributed in a stable way" and "strictly delimited." (Weber, 1946, p. 196)

[7] Ager et al. (2022) and Heldring (2025) focus on the German Reich, home to about 3 percent of Holocaust victims. Our analysis covers millions of victims across Europe.

et al. (2026) and Marchais et al. (2021), who study the moral foundations of selection into armed organizations. The interaction between organizational incentives and individual discretion raise important questions on responsibility for the exercise of violence. At Nuremberg and elsewhere, many perpetrators defended their actions by claiming that they merely followed orders, invoking a view of dictatorship in which control is centralized. Our evidence supports the qualitative argument of Breton and Wintrobe (1986) that officials exercised discretion over the timing and intensity of persecution. Violent radicalization could thus arise from initiative within an entrepreneurial administration, rather than simply from orders passed down a bureaucratic hierarchy. These incentives help explain officials' initiative without excusing their choices. Responsibility rests both with agents who initiated and escalated persecution and with leaders who set objectives and sustained institutions that rewarded such initiative, even when no explicit orders were specified.

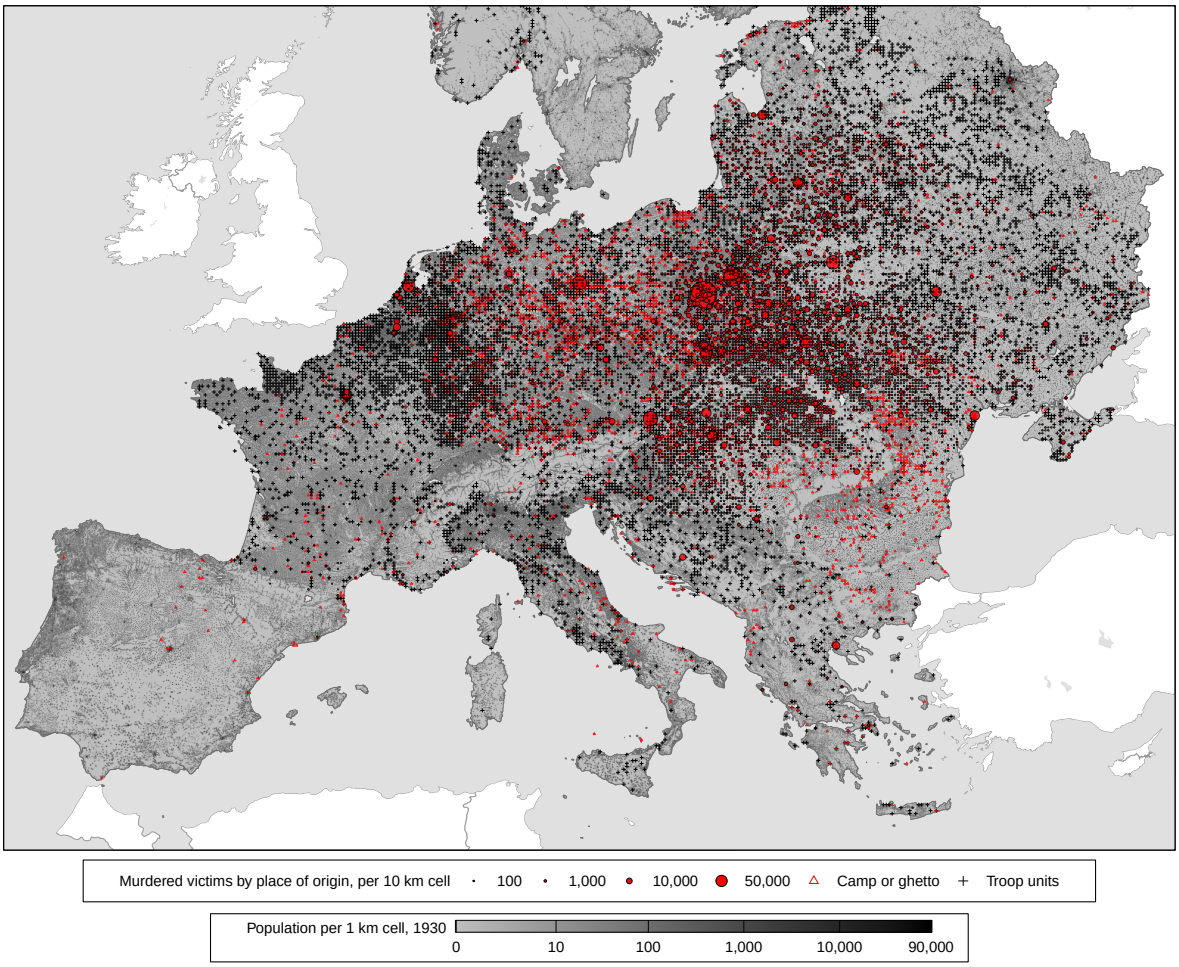
Finally, we contribute new data and a quantitative framework to extensive research on Nazi rule. First, we link data on the regime's actors, institutions, persecution, and internal governance at the level of persons, organizations, places, and time. These data provide a resource for research beyond the questions examined here. Second, we develop a framework that connects two explanations of Nazi rule often treated as alternatives. Intentionalist accounts emphasize Hitler's objectives and decisions, while structuralist accounts emphasize overlapping jurisdictions, conflict among agencies, and radicalization through the policy process (Kershaw, 1997; 1985). Intentionalist accounts are criticized for overstating Hitler's control over policy and understating institutional conflict and initiative from below. Accounts of competitive fragmentation, in turn, must explain how the regime remained effective until its final days despite its divisions. Our framework reconciles these views by combining centralized formal authority with decentralized real initiative.[8]

2 Data

Our study concerns the relationship between organizational structure and policy radicalization in Nazi Germany. The Nazi regime was one of the most consequential political regimes in history, transforming institutions and organizing state violence on an unprecedented scale. Approximately 5.7 million Jews were murdered during World War II. The full death toll of Germany's extermina-

[8] In our model, the ruler's objectives determine the direction of policy, while organizational structure determines initiative.

Figure 1: The Geography of the Holocaust



This figure maps murdered victims by place of origin, camps and ghettos, and troop units over the population of 1930. Victims are shown for 10-kilometer cells with at least 10 victims. Of the 4.81 million murdered victims in the Yad Vashem database (Section 2.1), 4.70 million have a place of origin with coordinates, and these cells hold 4.62 million. Camps and ghettos mark the 4,409 cells with a site in the camp query of the European Holocaust Research Infrastructure (EHRI), and troop units the 9,399 cells in which the troop-unit panel (Section 2.3) places a unit at a town or district. Population is from the censuses of 34 countries (Appendix A.7). Land outside the grid is white.

tion policies remains uncertain. Other victims included approximately 200,000 Sinti and Roma, at least one million non-Jewish Polish civilians, 2.8 million Soviet prisoners of war, three to four million Soviet civilians, and half a million non-Jewish civilians in other German-occupied countries and in Germany itself. In total, an estimated 12–14 million civilians and prisoners of war died outside combat under German rule (Herbert, 2016a, p. 95).

We compile data describing the organizational structure that produced this violence and the victims of its persecution. Our primary data sources are the records of the victims, which we describe in Section 2.1, and the directories, internal records, and unit registers of the regime, which

we describe in Section 2.3. Section 2.2 describes the population at risk and the population surface.

2.1 Victims

Our main data on the victims are based on the Central Database of Shoah Victims' Names, compiled by Yad Vashem (Yad Vashem, 2026). The database joins 7.96 million person clusters, each built from one or more records of a victim. Specifically, we collect 7.85 million of these clusters, of which 7.17 million have a located place. For each person, the records state the fate, the place of origin, and the place and month of death where the database records them. The place of origin is the wartime place, else the prewar residence, else the birthplace. Of the persons with a located place, we identify 4.81 million who were murdered or presumably murdered. Because the database records the victims whose names were reported to it, its coverage differs by source and region. Thus, we compare places with themselves over time wherever we can.

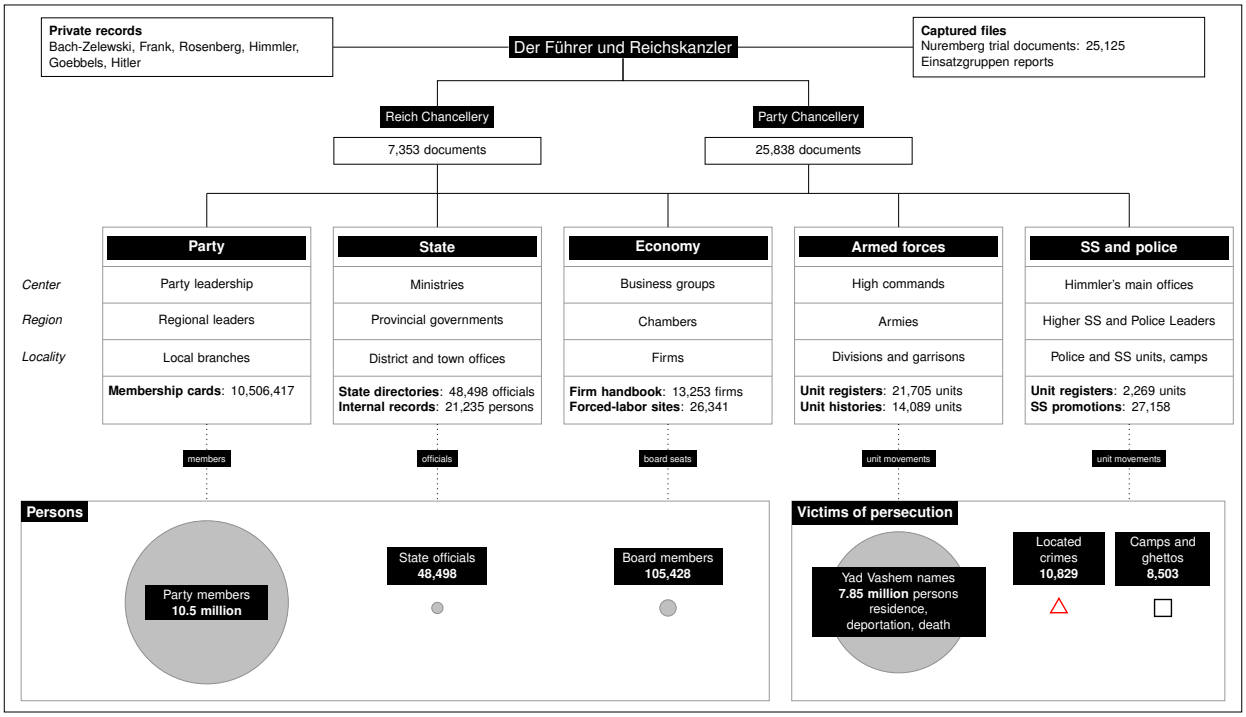
We complement these data with information on the camps and ghettos from the EHRI camp query, which merges several registers and lists 8,503 sites (Simons and Purschwitz, 2025).

2.2 Population at Risk

We measure the prewar Jewish population with the JewishGen Communities Database (JewishGen, 2026), which lists 6,359 Jewish communities, their locations, and, where known, their sizes. We collect 6,357 communities, of which 5,703 in Europe report a size, at a median date of 1921. We supplement these data with the Polish census of 1931, by religion, and the Soviet census of 1939, by nationality. Together, these censuses place 5.8 million Jews in our grid cells. Their counts provide the denominator in Appendix Table A9.

Our data on the population at large are based on the published censuses of 34 countries, 136,582 municipalities and districts in all. We allocate each unit's population across its square kilometers in proportion to residential built-up volume. This yields a population surface for Europe around 1930 on a grid of one square kilometer, which we release with the paper. Our national totals closely match the published figures for all but two of the 34 countries (Appendix A.7). The surface forms the gray base of Figure 1.

Figure 2: Data Sources



This figure locates the data sources within the organization of the regime. Solid lines trace the chain of command from the Führer through the two chancelleries to the five hierarchies; dotted lines link the hierarchies to records of persons and victims. Counts show records in our data; lower-panel circle areas are proportional to these counts.

2.3 Organizations

Below the Führer, Adolf Hitler, five hierarchies extended from the center through the regions to the localities: the party, the state, the economy, the armed forces, and the SS (Schutzstaffel) and police. Alongside the victim data and population surface, three datasets document the regime's structure and operations: chancellery records by document, official Reich directories by institution and edition, and armed forces and SS and police units by unit and month.[9] We add registers of party members and company boards. Figure 2 locates these sources within the regime's structure.

Internal records. Our data on the internal records are based on the edited volumes of the two chancelleries that connected Hitler to the state and to the party. Specifically, we collect the *Akten der Reichskanzlei*, 7,353 documents from 1919 to 1945 (Historische Kommission bei der Bayerischen

[9] Appendix Table A1 reports summary statistics for each dataset. Appendix A describes the internal records, state directories, policy domains, troop-unit panel, victim data, and population grid.

Akademie der Wissenschaften and Bundesarchiv, 2025).[10] For each document, the edition records its date, the participants and the recorder of a meeting, the persons it names, and an abbreviation register whose expansions name institutions. We use the 5,262 documents from 1925 to 1945 and code five features: whether they record a cabinet-level meeting; whether they list the head of government as present or name him without listing him; whether they invoke a Führer decree, decision, order, or briefing; whether they name an extraordinary mandate—a special commissioner, general inspector, or agency named after its head; and which institutions they name.[11] We also collect the *Akten der Partei-Kanzlei der NSDAP* (Heiber, 1983), which reconstructs from other archives the files of the office of Hitler's deputy, renamed the Party Chancellery in 1941. We obtain 25,838 of the edition's 25,842 files, almost all from 1933 to 1945. They record appointments, jurisdictional disputes, proposed rules, and requests for decisions attributed to Hitler.

We add 2,439 police and Security Service situation reports from 1933 to 1945, with an index of 14,126 institutions (Boberach, 1984; 1999); 25,125 of the 30,699 Nuremberg prosecution documents (Institut für Zeitgeschichte, 2006); 6,195 dated entries from Joseph Goebbels's diaries (Fröhlich, 1993); and 1,453 speeches, writings, and orders by Hitler from 1925 to 1933 (Institut für Zeitgeschichte, 1992). These series served different purposes and survived different selection processes. We therefore compare records within sources and treat agreement across sources as corroboration.

State directories. We document the state's formal structure by transcribing the official Reich directories: the *Handbuch für das Deutsche Reich* of 1931 and 1936, the *Behördenführer* of 1939, and the *Taschenbuch für Verwaltungsbeamte* of 1942. They list Reich institutions and their leaders (Reichsministerium des Innern, 1931; Reichs- und Preußisches Ministerium des Innern, 1936; Münz, 1939; Warnack, 1942). We obtain 1,528 institutions with at least one person, counting each institution once per section of an edition. We classify them by hierarchy: state administration; the party, its units, and affiliates; corporatist bodies—chambers, estates, and Reich associations that

[10] The documents come from the Weimar edition, the online edition of the Hitler government to 1939, and the five print volumes for 1940 to 1945 (Appendix A.1). The print volumes also hold 990 records of the briefings in which Hans Heinrich Lammers, the head of the Reich Chancellery, reported to Hitler. We leave these records out because the earlier editions have no counterpart to them.

[11] We harmonize ministry names across the Weimar and Hitler-era editions, which use different names for institutions. We identify the head of government in the edition's person register and the document text.

organized occupations or sectors under public law; and assemblies and churches.[12] Lower offices add 10,807 institutions and 48,498 officials holding 89,704 spells in office. Each edition records assignments at publication; we do not observe changes between editions.

Party and firm registers. We use the NSDAP membership cards held by the Bundesarchiv: 10.5 million entries with name, birth date, entry date, residence, and membership number. Firm data come from the *Handbuch der deutschen Aktiengesellschaften*, which covers 13,253 stock corporations and 105,428 board members and managers from 1930 to 1945.[13] We link both registers to the internal records and directories. Appendix Figure A11 places the persons named in the internal governance records and the commanders of the killing units at their residences on these cards.

Troop units. Our data on armed units cover the military, Waffen-SS, and police. We read the full register of Tessin (1966): 27,702 entries on the founding, subordination, stations, and renamings of army, air force, navy, and Waffen-SS units. We add the Order Police register (Tessin and Kannapin, 2000). We assess coverage using Feldpost numbers, which the field post assigned to every unit it served (Kannapin, 1980). Of the 35,852 numbers naming a battalion, regiment, or division of the army, air force, navy, Waffen-SS, or police, more than nine in ten belong to units in our data.[14]

We then add the sources that record where each unit was active and when. For the military, the *Lexikon der Wehrmacht* gives dated unit stations (Altenburger, 2026), and the Armed Forces High Command war diary locates commands and their sectors by day (Schramm, 1961). For the Waffen-SS, we add National Archives guides to its records (National Archives and Records Service, 1978; 1981). For the police, we add police battalion registers (Arico, 2011), court-based reconstructions of police operations (Curilla, 2006; 2020), and, for the Security Police, Einsatzgruppen reports (Matthäus et al., 2014; Mallmann et al., 2011; Mallmann et al., 2014). When sources locate a unit in the same month, we prioritize the most specific place, then the most precise date, then the source reporting stations directly.[15] The panel contains 24,354 units and 639,293 unit-months from

[12] The 1942 edition omits central party offices. The 1939 edition lists firms, banks, and sports clubs among corporatist bodies and lists regional branches individually. We exclude firms, banks, and clubs and count each body's regional branches once.

[13] The full panel covers 1871 to 1960, with 27,100 firms and 313,742 persons.

[14] The share is two in three across all 65,491 numbers, including columns, staffs, and construction units that the registers do not list separately.

[15] We carry a place forward until a source moves the unit. A unit-month with no place, or only a country or front, takes its parent command's area in the war diary; each reading of that area applies for at most the three following months.

September 1939 to May 1945, recording each unit's location and movements by month.

Linkage. We link persons using a German National Library authority number, a confirmed historical match, or a party-register match. Otherwise, we use a folded name key only when the surname and all forename tokens identify a unique person in every source joined. We link organizations by name, parent, jurisdiction, and date, retaining a source-specific identifier for every harmonized identifier. Each link retains its matching rule, making the crosswalk auditable and reversible. Each source retains its evidentiary meaning. In Reich Chancellery meeting records, a person is present only if listed as a participant or recorder; a name in the text is a mention. We code policy domains from source headings under pre-specified rules (Appendix A.3).

Egodocuments. We assemble high-frequency private records from the diaries of five senior Nazi officials: Joseph Goebbels, Hans Frank, Heinrich Himmler, Alfred Rosenberg, and Erich von dem Bach-Zelewski. We digitize Frank's office diary from U.S. National Archives microfilm (T992, 12 rolls) and Bach-Zelewski's diary from a typed transcript in the Bundesarchiv (R 20/45b). For the other three officials, we use published editions: Goebbels's diaries (Fröhlich, 1993), Rosenberg's diaries (Matthäus and Bajohr, 2015), and Himmler's appointment books (Witte et al., 1999; Uhl et al., 2020). A language model extracts each reported action, recording its date, actor, addressee, type, and policy. This yields 38,331 dated actions (Appendix A.1). These records are subjective and therefore may not be representative, and their authors had incentives to portray themselves favorably. Yet none was written for a superior (Section 6.3). We therefore focus on the more concrete features of reported interactions: who acted toward whom, and in what order.[16]

Nearly four in five unit-months have a place, and just over half have a town or district. Locations are less precise in the East: more than nine in ten placed unit-months in Germany, Austria, and Czechia identify a town or district, compared with fewer than half in Russia, Ukraine, Belarus, the Baltic states, and Moldova. Appendix A.4 details the sources, reading of scanned volumes, and rules.

[16]The records were kept differently and survived by chance. Goebbels wrote by hand until July 1941, then dictated daily to a stenographer. In 1944, he had his diary copied onto glass plates, which were buried near Potsdam, unearthed by Soviet troops in 1946, and located in a Moscow archive in 1992 (Fröhlich, 1993). Frank's office recorded his meetings daily. He had the 38 volumes with him when arrested in May 1945, and they became evidence at Nuremberg (Geiss and Jacobmeyer, 1980, p. 7). Himmler's adjutants and secretary maintained his appointment books (Witte et al., 1999, p. 103); those for 1943–1945 surfaced in a Russian military archive in 2016 (Uhl et al., 2020). Rosenberg wrote on loose sheets; his diary disappeared after the trials and was recovered in 2013 (Matthäus and Bajohr, 2015, pp. 20, 30–34).

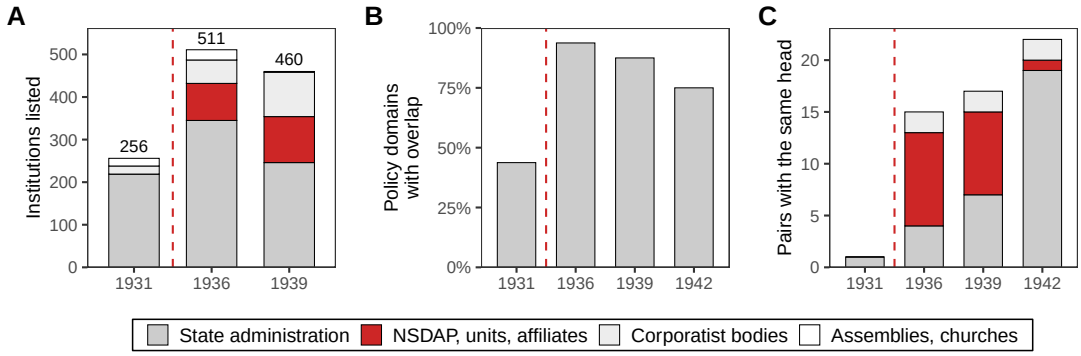
3 Descriptive Evidence

We first describe the organization of the regime with the directories and the internal records, which show four facts about it.

The number of institutions rose after 1933. Figure 3, Panel A counts the institutions listed in the official directories of the Reich in the editions of 1931, 1936, and 1939, by hierarchy. The directories of 1936 list twice as many institutions as those of 1931. The state administration grew by more than half, and the party, with its units and affiliates, which the edition of 1931 does not list, accounts for a third of the increase. We also measure the institutions that entered the record of government with the Reich Chancellery documents. Figure 4, Panel A plots the number of distinct institutions named per 100 documents, and Figure 4, Panel B the share of mentions that go to institutions absent from the record of 1925. Both series step up after 1933. By 1944, the documents name almost three times as many distinct institutions per 100 documents as in any Weimar year. Institutions absent from the record of 1925 receive fewer than one in ten mentions in 1932 and more than two in three in 1944. Party offices are among them. The office of the deputy of Hitler appears in no document of 1933 and in more than two of five documents of 1937, and it is the third most central institution in the network of institutions that the Hitler-era documents name together (Appendix Figure A6). The new agencies can be traced back to the first years of the regime: in a crisis, Hitler set up new agencies with special powers that bypassed the existing ministries (Kershaw, 1985, p. 98).

Extraordinary mandates appear in a growing share of the documents. We identify documents naming a special commissioner, general inspector, or agency named after its head. Figure 4, Panel C plots their share, which rose in two steps. Such documents were rare in each year from 1925 to 1931, accounted for one in five in 1933, two in five in 1939, and over half in 1944. Most in 1933 name Reich commissioners for the Prussian ministries. We also identify persons heading two or more supreme Reich bodies. Figure 3, Panel C plots pairs of bodies with the same listed head. One person headed two or more bodies in 1931, compared with eleven in 1936; most of the fifteen pairs in 1936 included a party office. Hitler appointed special commissioners for specific tasks, responsible to him alone, producing "a jungle of competing and overlapping agencies" (Kershaw, 1997, p. 96).

Figure 3: Institutions in State Directories

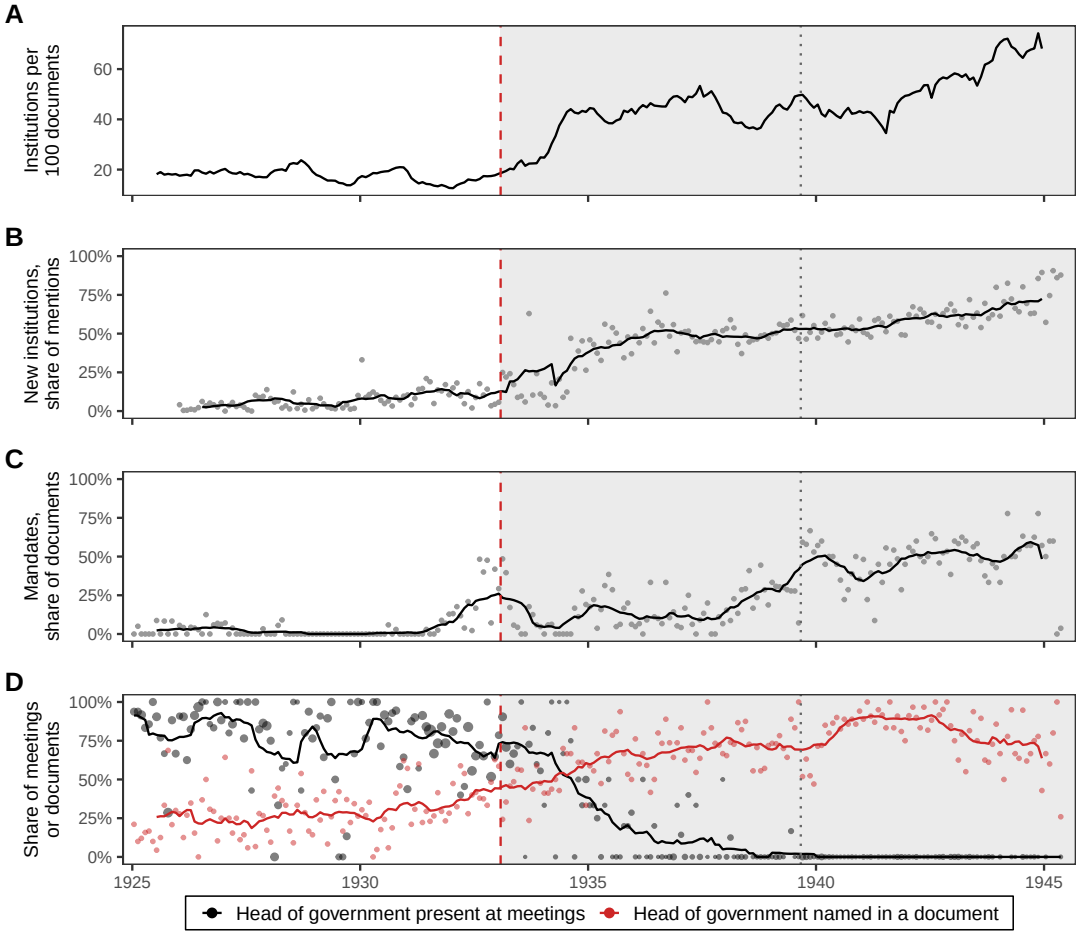


Panel A counts the institutions listed in the directories of 1931, 1936, and 1939. Corporatist bodies are the chambers, estates, and Reich associations that organized an occupation or a sector under public law; firms, banks, and clubs printed among them are excluded, and regional branches count once. Panel B plots the share of the sixteen policy domains of Appendix Table A3 with two or more supreme Reich bodies. Panel C counts the pairs of bodies with the same printed head by the hierarchy of the body outside the state administration; a pair that includes a party office is a party pair, and a state office fused with an SS or party command counts as a state office. The red dashed line marks 30 January 1933. The 1942 edition omits the central offices of the party.

By 1936, almost every policy domain had two or more supreme Reich bodies. We assign these bodies to the sixteen policy domains in Appendix Table A3; Figure 3, Panel B plots the share of domains with two or more bodies. Fewer than half had multiple supreme bodies in 1931. At the series' peak in 1936, all but one did. By 1942, the share had declined to three in four domains. In the model of Section 4, a domain with two or more supreme bodies is under overlap, so each edition records a cross-section of arrangements; the decline to 1942 partly reflects that the 1942 edition omits the central offices of the party. Appendix Figure A2 lists the bodies in each domain. A classic account describes Nazi rule as government by "a multitude of largely autonomous rulers competing with one another" (Hüttenberger, 1976, p. 422, our translation). Sovereign authority rested with Hitler, but ministries, party offices, special commissioners, and the SS and police divided the administration below him (Broszat, 1969). The regime was thus not a unified Führer state. During the war, at least 23 state, party, and military institutions had a say in employing foreign workers in the Reich (Herbert, 2022, p. 4).

Under Hitler, the head of government stopped attending cabinet-level meetings, while the documents increasingly named him without listing him as present. Figure 4, Panel D plots the share of cabinet-level meetings that list the head of government in office among the participants, and the share of documents that name him without listing him as present. The two series cross. The Weimar chancellors attended most cabinet-level meetings in each year. The head of government

Figure 4: Institutions in Internal Chancellery Records



This figure plots monthly series from the 5,262 documents of the *Akten der Reichskanzlei*, 1925 to 1945. Lines use centered twelve-month windows, which do not cross 30 January 1933 in Panels C and D; dots show single months. Panel A counts distinct institutions per 100 documents; Panel B plots the share of mentions that go to institutions absent from the 1925 record. Panel C plots the share of documents whose abbreviation register names a special commissioner, general inspector, or agency named after its head, such as the Organisation Todt. In Panel D, the head of government is the serving chancellor. The black series shows the share of cabinet-level meetings listing him as a participant; dot area is proportional to the number of meetings; the red series shows the share of documents naming him without listing him as present. A document names him if the person register of the edition links him to it or its text contains his surname, *Reichskanzler*, or, from 1933, *Führer*. Former chancellors, his offices and staff such as the deputy of the Führer, compounds such as SS-Führer, and the salutation "Heil Hitler" do not count. Shading begins on 30 January 1933; the dotted line marks 1 September 1939.

in office attended most of them in 1933 and none from 1940. Documents that name the head of government without listing him as present made up less than a third of the documents in each year from 1925 to 1931 and more than four in five from 1940 to 1942. We also identify the documents that invoke a Führer decree, decision, order, or briefing, and Appendix Figure A7 plots their share by month. The share rose from almost none in 1934 to two in five documents in 1936 and stayed close to half from 1937 to 1944. These measures record attendance and attribution; they do

not show that Hitler ceased to influence decisions through other channels. The cabinet stopped meeting in early 1938 (Kershaw, 1985, p. 98). With the parties and parliament gone, a dispute was no longer decided by the merits of the arguments of a ministry but by proximity to Hitler, whom ministers, party officials, and civil servants now sought above all to win over (Herbert, 2016a, pp. 35–36). Hitler played a key role in arbitrating among them: he let rivals fight and then sided with the winner (Kershaw, 1985, p. 98). In January 1944, the economics minister, Walther Funk, complained that other agencies meddled in his domain and extracted from Hitler "a decision of the Führer" that was "in no way founded" (Herbert, 2022, p. 1, our translation).

A leading view holds that competition among these agencies radicalized policy. Each office-holder "tried to gain the special sympathies of the Führer" by appearing as a fanatical fighter for the goals of the movement, which produced "a process of cumulative radicalisation" (Mommsen, 1997, p. 82). In February 1934, Werner Willikens, a state secretary in the Ministry of Food, told officials that Hitler could hardly dictate from above everything he intended. Officials had done best when they "worked towards the Führer," and whoever did so would be rewarded by "the sudden legal confirmation of his work" (Kershaw, 1997, p. 104).

Historical accounts suggest that this organizational structure contributed to the regime's extraordinary violence. We next examine three cases in which decentralized initiatives were later incorporated into official policy: early legal discrimination against Jews, the establishment of concentration camps, and mass killings in Eastern Europe.

First, municipalities often introduced discriminatory measures against Jews before central rules required them. Local officials appeared eager to outdo one another in a "dynamic of outbidding" (Herbert, 2016a, p. 38, our translation). On 18 March 1933, Cologne's mayor excluded Jewish firms from municipal contracts (Gruner, 2005, p. 271). Martin Bormann's decree of 12 September 1933 ordered the repeal of local measures not sanctioned by law but had "very little effect" (Gruner, 2005, p. 273). On 19 July 1935, the *Völkischer Beobachter* reported that Breslau's mayor had barred Jews from several public baths. Such reports "soon had a massive copycat effect" (Gruner, 2005, p. 273); Stettin followed the next day (Gruner, 2000, p. 94). The Deutscher Gemeindetag, the municipal association, coordinated these policies, in part "systematically" (Gruner, 2005, p. 271; Gruner, 2000, p. 77, our translation). Its survey found that, by early 1938, 20 of the 59 large cities with municipal pawnshops had excluded Jews from pawnbroking (Gruner, 2005, p. 275). Many towns were "a

step ahead not only of the Reich authorities but even of the party leadership" (Gruner, 2000, p. 94, our translation). Until 1938, towns "very seldom" clashed with other agencies over jurisdiction (Gruner, 2005, p. 270). In summer 1938, the central government began preparing legislation that towns had long demanded (Gruner, 2000, p. 121).

Second, concentration camps emerged amid competition among party, state, and paramilitary institutions. The SA (the party's storm troopers), the SS (the party's paramilitary formation), and the Prussian state, each claimed authority over political detention in 1933. The Reichstag Fire Decree of 28 February 1933 provided the pretext for the suspension of basic rights and suppression of political opposition. By the end of March, about 20,000 communists had been arrested and sent to prisons or the SA's "wild" camps (Herbert, 2016a, p. 33). In March and April 1933, police took 3,818 people into protective custody in the Düsseldorf district, which had an SS police president, compared with only 78 in the neighboring district of Trier (Broszat, 1968, p. 407). Dachau was formally a Bavarian political police camp. On 2 April 1933, Himmler, who headed both the Bavarian political police and the SS, transferred control to the SS (Longerich, 2012, p. 151). Prussian Interior Minister Göring sought to reassert state control. His circular of 14 October 1933 declared detention outside state camps and police prisons "not permitted in future" (Broszat, 1968, pp. 410–411). Referring to the SA camp at Kemna, in Wuppertal, his ministry wrote: "I have not approved the establishment of this camp" (Broszat, 1968, p. 412). Control nevertheless passed to the SS. On 20 June 1934, Dachau commandant Theodor Eicke became Inspector of Concentration Camps. He took over and closed the SA camp at Oranienburg. In June 1935, Hitler approved Reich funding for the camps and their guards (Longerich, 2012, p. 183). The concentration camps initially established during the regime's consolidation to suppress political opposition, later became central institutions of the Holocaust. Figure 5 summarizes this sequence and identifies the corresponding elements of the model in Section 4.

Third, the extermination of European Jews developed in part through central endorsement of mass killings initiated amid local competition among agencies. In the occupied East, responsibility for security behind the front was divided among three commands: Heydrich's Einsatzgruppen, mobile Security Police units; Himmler's Higher SS and Police Leaders, who commanded police and SS units in the rear areas of the army groups; and the army's rear-area commands. In July 1941, Hitler assigned civil administration to Rosenberg's new ministry and police security to Himmler

Figure 5: Control over Political Detention, 1933–1935

Date	Event	Model element
March 1933	The SA, the SS, and the Prussian state claim authority over political detention. By the end of March, about 20,000 communists have been arrested and sent to prisons or "wild" camps.	**Overlap: three agents in one domain**
March–April 1933	Police take 3,818 people into protective custody in the Düsseldorf district (SS police president), compared with 78 in Trier.	**Initiative**
2 April 1933	Himmler transfers control of Dachau, formally a Bavarian political police camp, to the SS.	**Initiative**
14 October 1933	Göring declares detention outside state camps and police prisons "not permitted in future." His ministry states that it did not approve the SA camp at Kemna.	**Prohibition without monitoring**
20 June 1934	Dachau commandant Eicke becomes Inspector of Concentration Camps. He takes over and closes the SA camp at Oranienburg.	**Initiative: the SS takes the domain**
June 1935	Hitler approves Reich funding for the camps and their guards.	**The ruler ratifies SS control**

The figure traces the transfer of control over political detention from the SA and the Prussian state to the SS between 1933 and 1935. The right column identifies the corresponding elements of the model in Section 4. The prize is future control over the domain, here political detention itself. Awarding it ratifies the conduct that secured it. Awarding it ratifies the conduct that secured it. Sources: Herbert (2016a, p. 33); Broszat (1968, pp. 407, 410–412); Longerich (2012, pp. 151, 183).

(Longerich, 2012, pp. 527–531). As the front moved east, civil administrations under Hinrich Lohse in the Ostland and Erich Koch in Ukraine took over from the army (Pohl, 2008; Berkhoff, 2004). On 12 August 1941, Himmler appeared "indignant" about the activities of Friedrich Jeckeln, the Higher SS and Police Leader for southern Russia. Jeckeln subsequently increased the number of murders (Longerich, 2012, p. 533). He announced that he would complete the "liquidation" of Jews expelled from Hungary to Kamenets-Podolsk before the civil administration assumed control on 1 September (Pohl, 2009, p. 163, our translation). His men shot 23,600 Jews in three days (Longerich, 2012, p. 533). The civil administration also asserted its authority. In October 1941, Rosenberg complained to Lammers, head of the Reich Chancellery, that police leaders ignored the Führer decree of 17 July on jurisdiction (Dean, 2005, p. 91). Lohse banned the shooting of Jews at Liepāja, but Berlin overruled him (Longerich, 2010, p. 298; Hilberg, 2003, p. 392). On 31 July 1942, Wilhelm Kube, the commissioner general (*Generalkommissar*) for White Ruthenia, reported: "in the last 10 weeks we have liquidated about 55,000 Jews" (Longerich, 2010, p. 348). Appendix B provides a

fuller account.

These examples suggest a link between organizational structure and the dynamics of persecution. They do not, however, cover all forms of the regime's violence or all victim groups. Section 2 lists other victim groups, including the Sinti and Roma, non-Jewish Polish civilians, Soviet prisoners of war, and Soviet civilians. Overlapping authority was not unique to Nazi Germany; Appendix B describes similar arrangements elsewhere.

4 Model

To clarify the organizational incentives of this system, we model how the organization of delegation shapes the trade-off between initiative and control.

4.1 Setup

A ruler sets an objective in a policy domain and authorizes one or both of two agents, $i \in \{1, 2\}$, to act on his behalf. He retains formal authority but cannot specify the appropriate action in advance. Agents may interpret his objective and act before receiving an order; we call this *initiative*.

All players are risk neutral. The agents are identical and derive no utility from the policy. The ruler cannot commit to contractual rewards for initiative. The only reward he can offer is a future *prize*: appointment to a position carrying rent $R > 0$, which he awards or withholds after learning whether implementation is appropriate. Appointment expresses his subsequent approval and may confer exclusive jurisdiction over the domain.[17]

Whether implementation is appropriate for the ruler depends on a state $\theta \in \{0, 1\}$: it is appropriate at $\theta = 1$ and inappropriate at $\theta = 0$, with $\Pr(\theta = 1) = \pi \in (0, 1)$. Neither the ruler nor the agents know θ, or have a signal of it, until it becomes common knowledge after the initial period. Implementation is irreversible, so subsequent disapproval cannot undo an agent's initiative.

Implementation in the initial period is *early*, and early implementation is always timely. Waiting allows the ruler to learn θ and specify an act in an *order*, but, if executed, the order is timely only with probability $\delta \in (0, 1)$. We call $1 - \delta$ *time pressure*: the share of the policy's value lost by waiting for information. This loss reflects the time available to act, so a second agent does not

[17] Figure 5 records such a transfer: the Prussian state and the SA lost jurisdiction over political detention to the SS.

improve δ. A *false positive* is implementation at $\theta = 0$; a *false negative* is failure to implement in time at $\theta = 1$.

Implementation can therefore come early and uninformed, from an agent's initiative, or late and informed, from the ruler's order. Monitoring, defined below, makes the late route available: it lets the ruler forbid early action and enforce his order once he learns θ.

Before the agents act, the ruler publicly chooses their jurisdiction and whether to monitor their conduct. Authorizing both agents creates *overlap*, allowing him to allocate the prize by their relative initiative. Two agents suffice for this comparison, and each further rival would dilute the expected prize that rewards initiative.[18] Overlap costs $K > 0$: the value of the task the second agent would otherwise perform for the ruler, together with duplicated effort, conflict between the rivals, and lost coordination. The ruler can also establish *monitoring*, an apparatus independent of the agents, at cost $m > 0$. Monitoring certifies compliance with, or defiance of, instructions, allowing him to reward obedience and punish defiance by $P \geq 0$. These two choices produce four arrangements:

	Monitoring	
Agents	No	Yes (cost m)
One	Routine administration	Control
Two (cost K)	Rivalry	Both instruments

These instruments make different aspects of conduct verifiable. Overlap produces a *ranking* of initiative. The two agents operate in the same domain under the same conditions, report their conduct, and can contest each other's reports. An agent who takes the initiative ranks above one who does not; identical choices produce a tie.[19] Monitoring certifies compliance or defiance and thus makes instructions enforceable. The ranking provides information from below at no additional cost to the ruler; monitoring provides information from above at cost m. Without monitoring, the ruler is *absent* from the domain: agents act in his name, but he observes only their ranking, when one exists.[20] Prohibitions are then unenforceable, whether issued by the ruler or by a rival.[21] An

[18]The exchange of initiative for posts and authority formalizes the account of Breton and Wintrobe (1986); the comparison of agents' initiative builds on Maskin et al. (2000).

[19]Section 6.4 documents such a ranking in the occupied East, one level below the commands studied in Section 5: Himmler compared the killings reported by his commanders' units.

[20]Figure 4, Panel D, documents this absence: Hitler stopped attending cabinet-level meetings, while documents increasingly named him without recording him as present.

[21]Section 3 records two examples. Göring's circular against detention outside state camps did not preserve the Prus-

additional unit under an existing agent shares that agent's claim to the prize and position in the ranking; it therefore creates no separate ranking.

Direction consists of stating the policy's goal, choosing the arrangement, and announcing the appointment rule. It assigns jurisdiction without specifying an action. An *instruction* specifies, restricts, or approves an act. An *order* specifies an act; a *prohibition* restricts action by forbidding initiative. Awarding the prize approves, or *ratifies*, the agent's conduct: initiative under rivalry and compliance under control. *Initiative* is action that advances the stated goal beyond the latest instruction.

The timing is as follows.

1. The ruler chooses the arrangement and announces the appointment rule and any prohibition. The agents observe these choices. Before acting, an agent may report his plan, and the ruler may veto it.
2. The authorized agents simultaneously choose initiative $a_i \in \{0, 1\}$ in the *initial-period game*. No one observes θ or a signal of it. The policy is implemented early if at least one agent takes the initiative.
3. Everyone learns θ. Under monitoring, the ruler may issue an order. If executed, it is timely with probability δ.
4. The ruler assigns the prize and punishes certified defiance. Payoffs are realized.

Agents. Each authorized agent chooses whether to take the initiative and whether to execute an order. Each action costs $c > 0$; the execution cost is incurred even if implementation is late. The agent observes the arrangement, the appointment rule, and any instruction, and learns θ after the initial period. His payoff is

$$U_i \;=\; R\,\mathbb{1}\{i \text{ appointed}\} \;-\; c\,a_i \;-\; c\,\mathbb{1}\{i \text{ executes}\} \;-\; P\,\mathbb{1}\{i \text{ punished}\}. \tag{1}$$

The prospect of the prize is his only motive for initiative.

Ruler. The ruler chooses the arrangement, the appointment rule, any instructions, and the recipient of the prize. He observes the ranking under overlap, certified compliance or defiance

sian state's jurisdiction (Figure 5), and Bormann's decree requiring the repeal of unsanctioned local measures had little effect.

under monitoring, and θ after the initial period. He observes no other aspect of conduct. His payoff is

$$\begin{aligned} U_0 \;=\; & b\,\mathbb{1}\{\theta = 1,\ \text{timely implementation}\} \;-\; h\,\mathbb{1}\{\theta = 0,\ \text{implementation}\} \\ & -\; K\,\mathbb{1}\{\text{overlap}\} \;-\; m\,\mathbb{1}\{\text{monitoring}\}, \end{aligned} \tag{2}$$

where $b > 0$ is the value of timely implementation when appropriate, and $h > 0$ is the *false-positive cost*. The prize is an existing position; its rent does not enter (2).

Assumption 1 (No Commitment)**.** *The ruler cannot commit to transfers or outcome-contingent promises. He announces an appointment rule before the initial period. The rule is followed whenever its condition is verifiable under Assumption 2. Ties in the ranking are broken by a fair lottery. The agents cannot contract with one another.*

Following the announced rule is an equilibrium-selection convention. Because the rent does not enter (2), every assignment of the prize is sequentially rational. The model therefore assumes, rather than derives, adherence to the rule. This convention is costless to the ruler, who is indifferent among the agents ex post. When the prize confers jurisdiction, appointment can also be interpreted as ratifying the leading agent's existing control of the domain. The restriction on contracts between agents excludes collective bodies, such as a cabinet or chamber, through which they could allocate jurisdiction among themselves.[22]

Assumption 2 (Verifiable Events)**.** *Appointment and punishment may depend only on two verifiable events: the ranking of initiative, available only under overlap, and certified compliance with, or defiance of, an instruction, available only under monitoring. Neither defiance nor a lower rank is rewarded. Appointment is monotone in rank: a higher rank never reduces an agent's probability of appointment. Nothing else about conduct is verifiable.*

The level of initiative is unverifiable because the policy's content cannot be specified in advance. Outcomes are also unverifiable: they combine initiative with local conditions and do not identify who acted. Monotonicity excludes rewarding sabotage of the ruler's policy or penalizing an agent for outranking his rival.

[22]These bodies ceased to perform this role under the Nazi regime: the cabinet stopped meeting in early 1938, and parliament and the corporatist bodies lost their functions (Section 3).

Assumption 3 (Late Orders)**.** *An order must specify an act using information available only after θ is learned. A prohibition requires no such information. It can be issued from the outset, or as a veto of a plan that an agent reports before he acts; it is enforceable under monitoring.*

The ruler can order an act only once he can describe it. Early implementation therefore requires initiative. A veto is a prohibition aimed at a reported plan: once an agent reports what he intends to do, the ruler can forbid it before it is carried out.

Assumption 4 (Valuable Prize)**.** $c < R/2$.

The expected rent after a tied ranking, $R/2$, exceeds the cost of initiative. The need for overlap or monitoring rests on the commitment and verifiability restrictions. Without Assumptions 1 and 2, the ruler could pay a single agent for timely initiative.

The solution concept is subgame-perfect equilibrium, subject to the convention in Assumption 1. The ruler chooses the arrangement and the *protocol*—the appointment rule and instructions—to maximize expected payoff in (2). There is one domain and no discounting across stages. Proofs appear in Appendix E.

4.2 Arrangements

Lemma 1 (Arrangement Outcomes)**.** *Under Assumptions 1–4:*

(i) Under routine administration, the agent takes no initiative and the policy is never implemented.

(ii) Under rivalry, the tournament rule "appoint the higher-ranked agent, with ties broken by a fair lottery" (Lazear and Rosen, 1981) induces both agents to take the initiative. Implementation is early in both states.

(iii) Under control, a prohibition and the rule "appoint unless defiance is certified" induce the agent to refrain from initiative and execute any order. The ruler orders implementation only when $\theta = 1$.

(iv) With both instruments, the optimal protocol yields $\max\{\pi b - (1-\pi)h,\ \pi\delta b\} - K - m$: the higher payoff from the rivalry and control protocols, net of both costs.

Table 1 reports the corresponding payoffs and error probabilities.

Table 1: Arrangements, Payoffs, and Errors

Arrangement	Ruler's payoff	Probability of False positive	Probability of False negative
Routine administration	0	0	π
Rivalry	$\pi b - (1-\pi)h - K$	$1-\pi$	0
Control	$\pi\delta b - m$	0	$\pi(1-\delta)$
Both instruments			
Rivalry protocol	$\pi b - (1-\pi)h - K - m$	$1-\pi$	0
Control protocol	$\pi\delta b - K - m$	0	$\pi(1-\delta)$

The table reports expected payoffs and unconditional error probabilities under the protocols in Lemma 1. With both instruments, the ruler pays both costs and uses the protocol with the higher payoff.

Under rivalry, restraint forfeits an agent's expected share of the prize. There is no punishment without monitoring. Rivalry induces implementation before any order; control induces implementation in response to an order. Routine administration leaves the domain to a single agent who has no incentive to implement the policy.

Proposition 2 (Two-Way Choice)**.** *Using both instruments is never optimal. Routine administration is strictly suboptimal if either rivalry or control yields a positive payoff, and is weakly optimal otherwise. The ruler therefore chooses between rivalry and control, with routine administration as the outside option.*

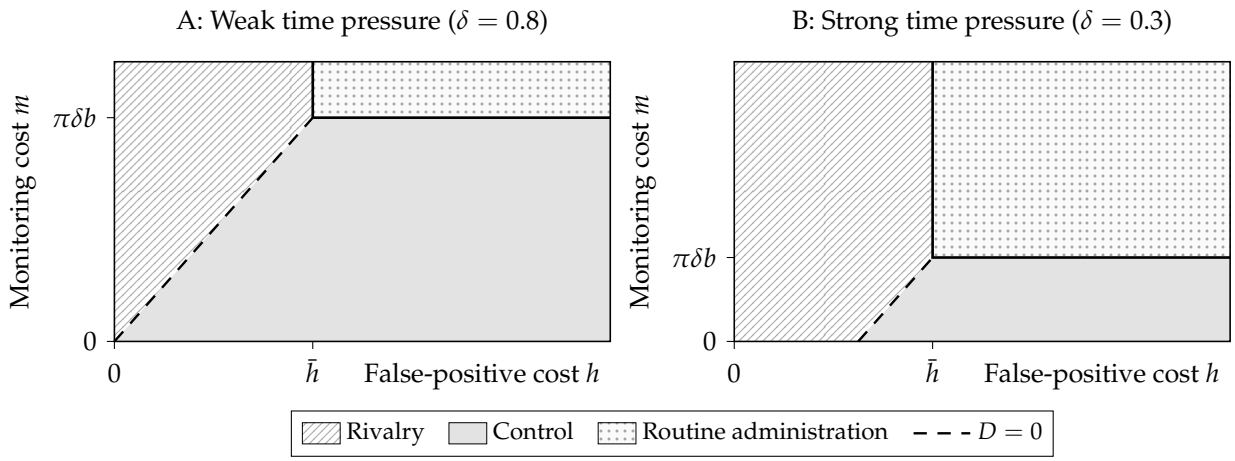
The instruments are substitutes. With both in place, the ruler uses one protocol and gains nothing from the other instrument. Routine administration amounts to forgoing the policy when neither instrument yields a positive net payoff. In an optimal arrangement, overlap therefore entails no monitoring, and monitoring entails a single agent.

4.3 Rivalry versus Control

Proposition 3 (Error Tilt)**.** *Under rivalry, implementation occurs in both states. The false-positive probability is $1-\pi$, and the false-negative probability is zero. Under control, timely implementation occurs only when $\theta = 1$ and an order is executed in time. The false-positive probability is zero, and the false-negative probability is $\pi(1-\delta)$. When the optimal arrangement switches from control to rivalry, the false-positive probability rises from 0 to $1-\pi$, and the false-negative probability falls from $\pi(1-\delta)$ to 0.*

The choice between rivalry and control is thus a choice between two types of error. We call rivalry's false positives *competitive radicalization*: implementation that the informed ruler would pre-

Figure 6: Optimal Arrangement



The figure shows the optimal arrangement as a function of the false-positive cost h (horizontal axis) and monitoring cost m (vertical axis), with $\pi = 0.5$, $b = 1$, and $K = 0.1$. Rivalry is optimal when $D \geq 0$ and $h \leq \bar{h} = (\pi b - K)/(1 - \pi)$; control is optimal when $D \leq 0$ and $m \leq \pi\delta b$. Routine administration is optimal when neither instrument yields a positive payoff. Boundary equalities allow ties.

fer to avoid. The entry prediction of Remark 2 concerns the timing of implementation and holds in both states. Binary initiative makes this error pattern stark. With continuous initiative, inappropriate implementation could also vary in magnitude; whether error probabilities vary smoothly would depend on the specification of that extension.

Define the payoff difference between rivalry and control as

$$D \equiv \pi(1-\delta)\, b + m - K - (1-\pi)\, h. \tag{3}$$

Proposition 4 (Rivalry Boundary)**.** *Between rivalry and control, rivalry is optimal if and only if $D \geq 0$, and uniquely optimal if $D > 0$. The payoff difference D is strictly increasing in time pressure $1 - \delta$, the monitoring cost m, the value of timely implementation b, and the prior π. It is strictly decreasing in the false-positive cost h and the overlap cost K.*

These comparative statics follow directly from (3). Time pressure reduces the payoff from control, which delays implementation until the state is known. Monitoring costs favor rivalry, whereas overlap costs favor control. A lower false-positive cost favors rivalry because only rivalry produces false positives. A higher prior increases the value of early implementation and reduces the probability that it is inappropriate. Figure 6 shows the optimal arrangement as a function of the false-positive and monitoring costs.

Remark 1 (Polarization under Time Pressure). As time pressure rises, the region in which rivalry is optimal weakly expands, and the region in which control is optimal weakly contracts. Where rivalry yields a negative payoff, a domain that leaves control moves to routine administration.

Time pressure reduces the payoff from control, $\pi\delta b - m$, without changing the payoff from rivalry. The same shock can therefore move some domains into rivalry and others into routine administration, shrinking the set of monitored domains. Figure 6 illustrates this contraction from Panel A to Panel B. Appendix Figure A12 traces the error probabilities across the rivalry–control boundary.

Remark 2 (Entry of a Rival). In a domain held by one agent without monitoring, the entry of a second agent under the tournament rule of Lemma 1(ii) changes routine administration into rivalry. Implementation changes from never to early in both states. The false-negative probability falls from π to 0, and the false-positive probability rises from 0 to $1 - \pi$. An additional unit under the incumbent agent leaves the arrangement unchanged.

Both remarks follow from Lemma 1 and Proposition 4. Section 5 tests the prediction in Remark 2 using the troop-unit panel: rival entry increases implementation, whereas an additional unit under the incumbent agent does not.

4.4 Discussion

Delegation trades initiative against control. The ruler cannot contract on initiative: he lacks commitment, and initiative is unverifiable. Nor can he order early implementation, because he can specify an act only after the initial period (Assumption 3). Without these restrictions, he could induce timely implementation directly. Under the restrictions, each instrument makes a different event verifiable. Rivalry uses relative initiative to induce implementation before θ is known, producing false positives when implementation is inappropriate. Control uses certified compliance or defiance to delay implementation until θ is known, producing false negatives when execution is late. The boundary in (3) balances these errors and the costs of the two instruments.

Under rivalry, the ruler retains formal authority but does not choose what agents implement before he becomes informed (Aghion and Tirole, 1997). The stated goal directs initiative, while π, b, and h determine his evaluation of implementation. The arrangement determines whether

implementation precedes information and, consequently, which error arises.

The parameters capture differences across domains and regimes. Monitoring is less costly where courts, the press, or an established bureaucracy already certify conduct, and more costly in new territory without such an apparatus. Overlap is more costly when tasks require coordination, so K rises with task interdependence. The false-positive cost measures the loss the ruler assigns to inappropriate implementation. It can vary across domains and places even for the same ruler.

A positive false-positive cost does not imply opposition to the policy's stated goal. The state $\theta = 0$ can represent circumstances in which implementation harms the ruler's other objectives more than it advances the policy. The payoff in (2) is unchanged under this interpretation, and h measures that net loss. Agents ignore these costs because their appointment depends on initiative, not on diffuse and delayed harm that cannot be attributed to either agent. Rewards tied to the measured task can divert effort from unmeasured tasks (Holmström and Milgrom, 1991). Conditional on the arrangement, implementation does not depend on h: rivalry induces early implementation in both states, control induces implementation by order only when $\theta = 1$, and routine administration induces none. These conditional predictions do not identify the ruler's preferences.[23]

The baseline assumes identical agents and contains no ability or learning process. However, rivalry may also serve selection. In an extension with heterogeneous agents, initiative could reveal an ability to act without instructions, while ordered execution might reveal less about independent judgment. If a higher rank predicts better performance in future tasks, selection could support the same appointment rule as incentives. Appointing the leading agent might then be optimal even after inappropriate implementation, because the appointment reflects expected future performance. With noisy local outcomes, rival initiatives could also provide information for selecting among experiments (Wang and Yang, 2025).

The analysis treats the ruler as choosing the arrangement. The boundary in (3) also suggests a selection interpretation: arrangements may emerge incrementally and persist where they yield higher payoffs. Such a process could favor rivalry under time pressure and control where monitor-

[23] In the occupied Soviet territory, the civil administration represented the demand for labor, one of the ruler's other objectives. In the Ostland, it halted the shooting of Jewish workers in autumn 1941 until Berlin replied in December that economic concerns were to be disregarded (Longerich, 2010, pp. 297–298; Pohl, 2009, pp. 182–184). In the model's terms, this response placed the false-positive cost near zero in that domain. The recorded conflicts concerned labor, the manner of execution, and jurisdiction.

ing is inexpensive. To the extent that selection follows these payoffs, it generates the same sorting across domains. Comparisons of domains with and without overlap must therefore account for differences in priors, policy values, time pressure, false-positive costs, and instrument costs. Neither interpretation associates overlap with a weak ruler. In the model, overlap is an organizational response to the domain's environment.

5 Empirical Analysis

We test the model's entry prediction in the occupied East. Section 5.1 documents higher murder rates where more commands shared a region. Section 5.2 compares killing after a rival command entered a locality held by one command with killing after another unit of the same command entered (Remark 2).

5.1 Mass Murder in Eastern Europe

We locate individuals in the Yad Vashem database on a grid of 25-by-25-kilometer cells spanning Europe from the Atlantic coast to the Volga bend. The grid contains the origins of 4.64 million of the 4.81 million murdered victims; one-sixth as many have both a place and month of death recorded within it. The troop-unit panel locates commands and units in each cell and month from town or district records (Appendix Figure A3). We compare each cell with itself over time because database coverage varies by source and region.

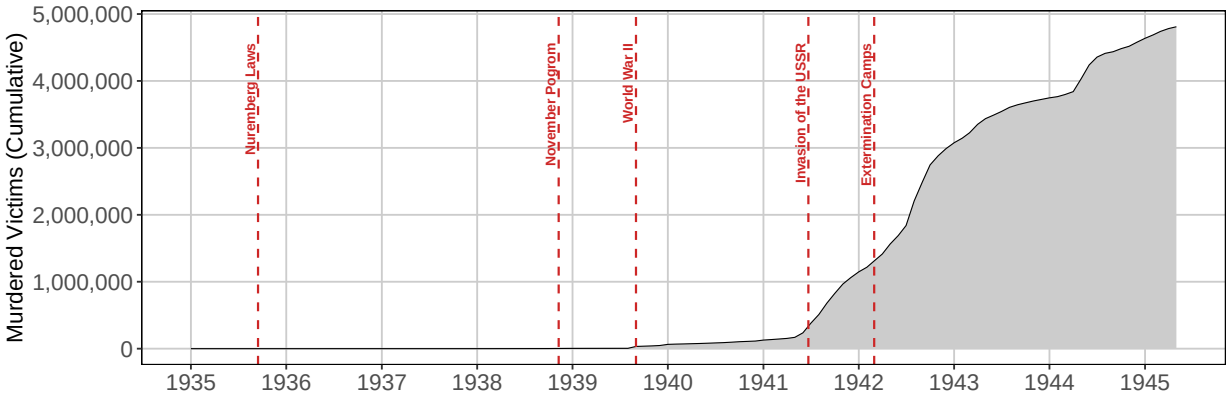
Figure 7 plots cumulative murders by month from 1935 to the war's end.[24] The database records few murders before the war. Killing rose sharply after the invasion of the Soviet Union in June 1941, peaked in summer 1942, slowed in 1943, and rose again in 1944.[25]

Resident murder rates were higher where more commands shared a region. We measure command concentration with the Herfindahl–Hirschman index of units within 100 kilometers of each cell, grouping units into four commands: the army, Waffen-SS, Order Police, and Security Police. The index equals one when a single command controls every unit and one quarter when all four

[24] As in the designs below, we allocate deaths without a recorded month using month-dated deaths among residents of the same home cell or a larger area (Appendix A.5).

[25] Appendix Figure A18 plots distances between victims' prewar residences and places of death. In 1941, most victims died within 10 kilometers of home; in 1944, the great majority died more than 100 kilometers away. Throughout 1941–1944, however, most victims from each of the USSR, the Baltic states, and annexed Poland died within 10 kilometers of home. We therefore study the eastern territories, where residence also locates the killing.

Figure 7: Murdered Victims, 1935 to 1945



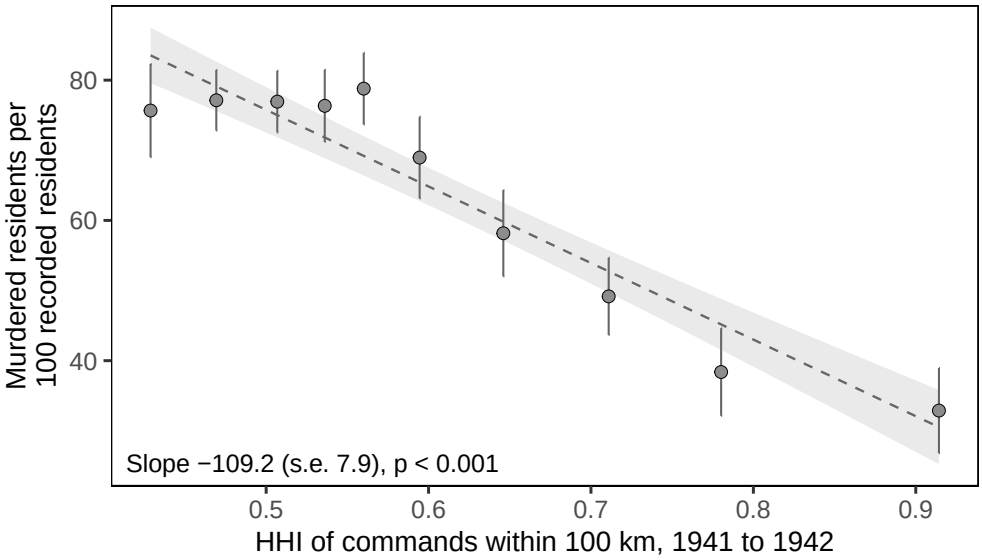
This figure plots cumulative murders recorded in the Yad Vashem database by month from January 1935 to May 1945. We allocate deaths recorded only by year, or without a year, across months in proportion to month-dated deaths among residents of the same home cell or a larger area (Appendix A.5). Dashed lines mark the Nuremberg Laws (September 1935), the November pogrom (November 1938), the invasions of Poland (1 September 1939) and the Soviet Union (22 June 1941), and the start of killing in the extermination camps of occupied Poland (March 1942) (Herbert, 2016a, pp. 39, 62, 93–94; Longerich, 2010, p. 29; Friedländer, 2007, p. 204).

have equal shares. The share of recorded residents murdered by May 1945 falls from 76 per 100 in the least concentrated decile of cells in 1941 and 1942 to 33 in the most concentrated (Figure 8). Controlling for zone-by-occupation-month effects, recorded residents, nearby units, and the pre-war Jewish population, a 0.1 decrease in the index is associated with 5.2 additional murders per 100 recorded residents (Table 2, column 5). Within cells, deaths also rise as units within 50 kilometers spread more evenly across commands, including in cells held by one command (Appendix Figure A17 and Table A11). These associations could reflect deployments to places where killing was expected. We therefore examine whether killing rose within cells after a second command entered.

For the entry analysis, we define commands by the three chains in Appendix Table A5: the army, Security Police, and police and SS units of the Higher SS and Police Leaders. Each command corresponds to an agent in the model: its units report through a common superior and share his ranking and claim to the prize. Figure 9 maps cells held by one command that received either a rival's unit or only further units of the existing command.

Historians still "know little about the Germans' mass crimes that occurred during their retreat beginning in the summer of 1942" (Herbert, 2016b, p. 44). Matching deaths to units present can identify potential perpetrators, including overlooked units. Appendix Table A8 lists commanders and units with the highest killing rates: 20 with source-attributed victim counts and 20 without,

Figure 8: Concentration of Commands and the Killing of Residents



This figure plots residents murdered by May 1945 per 100 recorded residents by decile of the cell's mean Herfindahl–Hirschman index of units within 100 kilometers from June 1941 to December 1942. The sample comprises the 1,661 cells in Table 3, Panel A, with at least 20 recorded residents. Units count toward their branch: the army, Waffen-SS, Order Police (including the offices of the Higher SS and Police Leaders), or Security Police. Appendix Figure A16 maps the index. Bars show 95 percent confidence intervals. The dashed line shows the linear fit from Table 2, column (1), with its 95 percent confidence band.

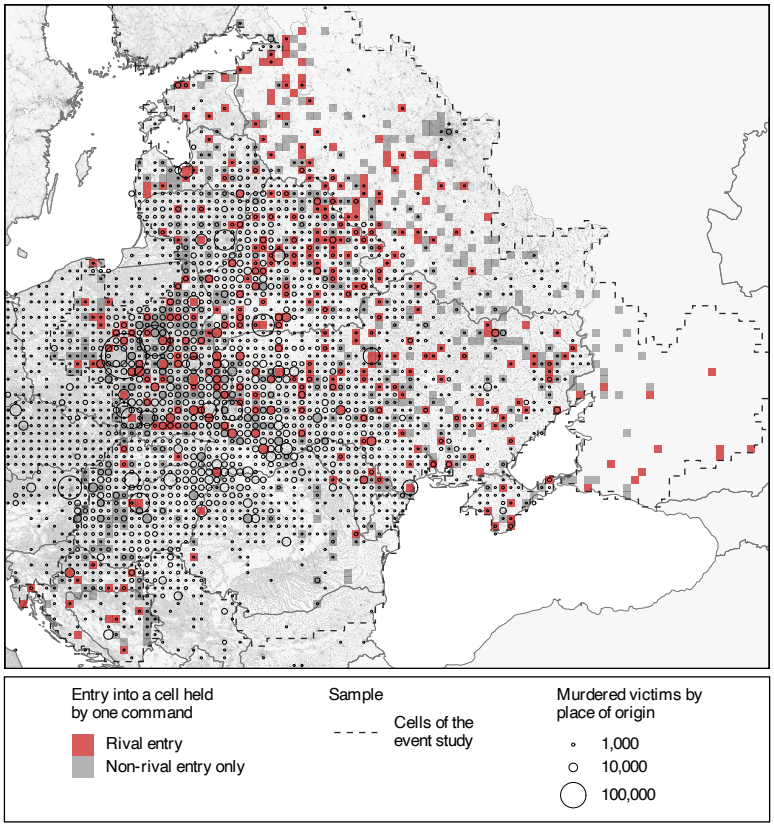
Table 2: Concentration of Commands and the Killing of Residents across Cells

	(1)	(2)	(3)	(4)	(5)
HHI of commands within 100 km, 1941 to 1942	-109.19^{***}	-98.95^{***}	-75.34^{***}	-51.54^{***}	-52.36^{***}
	(7.89)	(7.40)	(8.12)	(8.88)	(8.87)
Log recorded residents		3.49^{***}	1.71^{***}	1.21^{**}	2.13^{***}
		(0.57)	(0.52)	(0.51)	(0.66)
Log units within 100 km		-3.02^{*}	-2.53	-1.96	-1.82
		(1.55)	(1.68)	(1.66)	(1.62)
Log Jewish population (censuses)					-1.75^{**}
					(0.75)
Zone effects	No	No	Yes	No	No
Zone-by-occupation-month effects	No	No	No	Yes	Yes
R^2	0.28	0.32	0.42	0.50	0.50
Mean of the outcome	63.2	63.2	63.2	63.2	63.2
Cells	1,661	1,661	1,661	1,661	1,661

This table regresses residents murdered by May 1945 per 100 recorded residents on the cell's mean Herfindahl–Hirschman index in Figure 8. Columns (2)–(5) control for log recorded residents and log units within reach. Column (3) adds zone effects; columns (4) and (5) add zone-by-occupation-month effects. Column (5) also controls for log Jewish population in the Polish census of 1931 and Soviet census of 1939, with an indicator for cells outside census coverage. Parentheses report standard errors clustered in 100-kilometer blocks. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

mostly army units. These associations require validation through further investigation.

Figure 9: Rival and Non-Rival Entries



This figure maps the 25-by-25-kilometer event-study cells that received a second unit between September 1939 and May 1945 against the 1930 population (Appendix A.7). Eligible cells had one command in the preceding month; commands follow the three chains in Appendix Table A5. The sample covers the eastern grid, excluding the Reich, territories it annexed outside interwar Poland, and the west. Circles show murdered victims from Figure 1 by origin, aggregated over cells with at least 10 victims. Borders are modern.

5.2 Rival Commands

In the model, a second command introduces a rival into a domain held by one agent, shifting implementation from never to early. Killing should therefore rise after a rival command enters, but not after another unit of the existing command enters (Remark 2).

We compare resident deaths before and after a second unit enters a cell held by one command with deaths in cells without such an entry. The baseline outcome is cumulative deaths of all murdered prewar residents per 100 residents of any fate in the Yad Vashem database (Appendix A.5). Rival entry is the first month a second command enters a cell held by one command in the preceding month. Non-rival entry is the first month in which only another unit of the existing command enters. Appendix Figure A4 illustrates the stacked design for a Security Police unit entering beside an army unit. The sample covers 4,384 cells of 25 by 25 kilometers in the eastern grid from

September 1939 to May 1945, excluding the Reich, territories it annexed outside interwar Poland, and the west. We stack cell-month observations by entry month and estimate

$$y_{cst} = \sum_{k \neq -1} \beta_k \, \mathbb{1}[t - g_s = k] \times T_{cs} + \alpha_{cs} + \lambda_{zst} + \varepsilon_{cst}, \tag{4}$$

where y_{cst} is cumulative resident deaths per 100 residents in cell c, month t, and stack s; g_s is the stack's entry month; and T_{cs} indicates a treated cell. In each stack, comparison cells had one command in the preceding month and no entry of the same kind through the next nine months.[26] They receive the same total weight as treated cells. We include stack-by-cell fixed effects (α_{cs}) and stack-by-zone-by-month fixed effects (λ_{zst}), where zones denote occupation regimes. These isolate changes following entry within cells and regimes. We cluster standard errors in 100-kilometer blocks.

Figure 10 plots β_k for rival and non-rival entries. After rival entry, cumulative deaths rose by an average of 4.1 per 100 residents over the entry month and the next nine months. Deaths barely changed after non-rival entry.[27] Pre-entry coefficients are jointly indistinguishable from zero for rival entries but not for non-rival entries. The latter estimates therefore compare cells already on different paths.

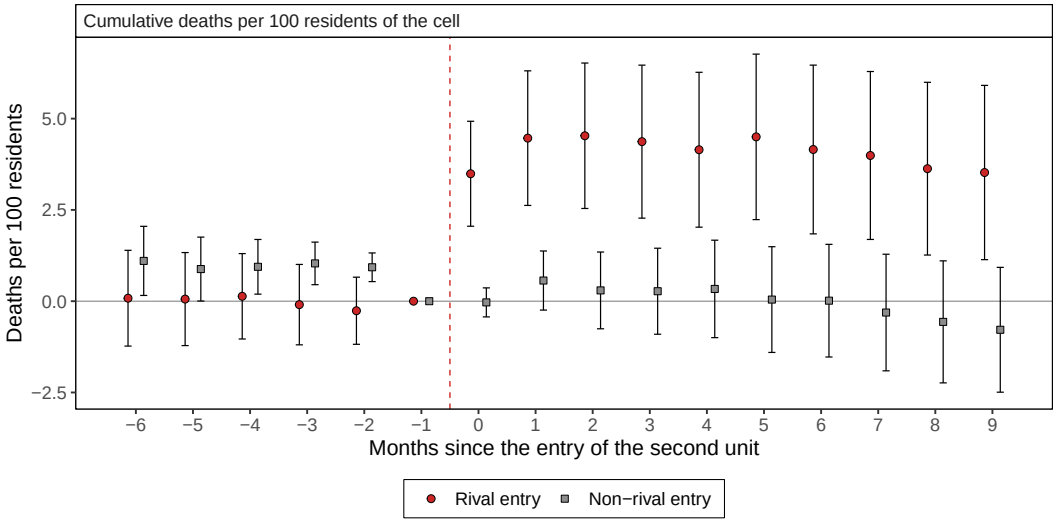
The results hold across denominators and specifications. After rival entry, deaths rise by 6.9 per 100 Jews in the prewar censuses and 6.0 per 1,000 inhabitants in 1930; after non-rival entry, the changes are -1.3 and 1.0 (Appendix Table A9, Panel B). Using unadjusted report dates, occupation-cohort-by-month effects (grouping cells occupied in the same month), or locations carried forward three months yields increases of 3.2 to 4.8 per 100 residents after rival entry and changes below 1 after non-rival entry (Appendix Figure A14). Counting units within 10 to 25 kilometers of cell centers yields increases of 2.1 to 4.3 after rival entry and changes below 0.3 after non-rival entry (Appendix Figure A15).

Table 3 compares three outcomes. Rival presence means at least two commands within 25 kilometers of the cell in the current or next month. Non-rival presence means at least two units of

[26] Excluding comparison cells with any entry during the window and non-rival cells with a rival entry yields increases of 5.6 deaths per 100 residents after rival entry (standard error 2.3) and 1.4 after non-rival entry (1.8) (Appendix Table A10).

[27] Annual estimates avoid allocating deaths recorded only by year across months. Cumulative deaths rose by 2.8 per 100 residents in the year of rival entry (standard error 1.0) and fell by 0.2 in the year of non-rival entry (0.7).

Figure 10: Entry of a Rival Command



This figure plots estimates of equation (4) for 4,384 cells of 25 by 25 kilometers in the eastern grid from September 1939 to May 1945, excluding the Reich, territories it annexed outside interwar Poland, and the west. The event is the first month a cell held by one command in the preceding month receives a second command's unit (rival entry, 353 cells) or only another unit of the existing command (non-rival entry, 705 cells, some with rival entry in another month). Commands follow Appendix Table A5. The outcome is cumulative deaths of prewar residents per 100 residents of any fate in the Yad Vashem database. We allocate deaths without a recorded month as in Appendix A.5. A dated statement in the troop-unit panel establishes a unit's presence in a town or district within the cell. We shift report-dated statements back 18 days, the median reporting lag. The month before entry is the reference. Bars show 95 percent confidence intervals based on standard errors clustered in 100-kilometer blocks.

one command and no other command. Rival presence is associated with 2.0 additional deaths per 100 residents over six months; non-rival presence with a statistically insignificant 0.2 (Panel A). In the event study, deaths rise by 4.1 after rival entry and fall by a statistically insignificant 0.8 after non-rival entry (Panel B).

Killing women and children marked a further escalation. SS and police units in occupied Soviet territory initially shot mainly Jewish men of military age. From late July 1941, they extended the killing to women, children, and the elderly, at different paces and initially without a clear order (Longerich, 2010, pp. 250–252). This was "the decisive step on the way towards a policy of racial annihilation" (Longerich, 2010, p. 252).[28] In the model, this escalation constitutes initiative: action that advanced the stated goal beyond the latest instruction. If rivalry prompted it, deaths should shift toward women and children after rival entry. Table 3, columns (2) and (3), tests this prediction. After rival entry, deaths rise by 3.8 per 100 women and children, nearly as much as among all residents. The share of murdered women and children already dead rises by 2.1 percentage points more than the corresponding share among men (Panel B). Neither outcome changes significantly

[28] At Bila Tserkva in August 1941, a divisional staff officer alerted by army chaplains delayed the shooting of 90 Jewish children by a day. The Sixth Army commander then ordered its completion (Friedländer, 2007, pp. 216–217).

Table 3: Rival Presence and the Killing of Residents

	Rival entry			Non-rival entry		
	All residents, deaths per 100	Women and children, deaths per 100	Women and children, in excess of men	All residents, deaths per 100	Women and children, deaths per 100	Women and children, in excess of men
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Presence, OLS						
Presence within 25 km	2.00***	1.91***	0.82**	0.21	0.28	0.28
	(0.50)	(0.50)	(0.34)	(0.25)	(0.28)	(0.21)
Outcome mean	5.65	5.76	10.29	5.65	5.76	10.29
Observations	92,823	89,869	61,322	92,823	89,869	61,322
Panel B: Entry, event study						
Treated × post-entry	4.10***	3.77***	2.11***	−0.81	−1.08	0.56
	(1.18)	(1.17)	(0.68)	(0.70)	(0.74)	(0.38)
Leads, joint p	0.581	0.206	0.333	0.000	0.001	0.062
Outcome mean	34.23	33.02	63.95	37.36	36.60	61.93
Treated cells	353	351	304	705	699	517
Observations	161,800	156,689	106,985	116,897	111,415	83,570
Cell FEs	✓	✓	✓	✓	✓	✓
Zone-by-month FEs	✓	✓	✓	✓	✓	✓
Control for men's deaths			✓			✓

This table compares rival presence or entry (columns 1–3) with the presence or entry of further units of the existing command (columns 4–6). The three outcomes are murdered residents per 100 recorded residents; murdered women and children (female or under 15 at death) per 100 recorded women and children; and the percentage of all murdered women and children already dead, controlling for the corresponding percentage among murdered men aged 15–64. Commands are the army, Security Police, and units of the Higher SS and Police Leaders (Appendix Table A5). Panel A regresses deaths over six months beginning in the current month on the presence, within 25 kilometers in the current or next month, of at least two commands (columns 1–3) or at least two units of one command and no other command (columns 4–6). The sample covers 2,322 cells of 25 by 25 kilometers in occupied Poland and Soviet territory from June 1941 to May 1945, with cell and zone-by-month fixed effects. Panel B reports equation (4) for cumulative outcomes in 4,384 eastern-grid cells from September 1939 to May 1945 (Figure 10). It reports the treated-cell interaction with months from entry onward and the joint test of leads, with cell and zone-by-month fixed effects within each stack. Entry is the first month a cell held by one command in the preceding month receives a second command's unit (columns 1–3) or only another unit of the existing command (columns 4–6). Parentheses report standard errors clustered in 100-kilometer blocks. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

after non-rival entry (columns 5 and 6). Rival entry thus precedes both earlier implementation and earlier extension of killing to women and children.

Documented command transfers provide an instrument for rival presence: distance to the nearest transfer destination, recentered over the places each transfer could have reached. The instrumental-variable estimate is 19.0 additional deaths per 100 residents over six months, compared with 2.0 in OLS; for women and children, the estimates are 19.6 and 1.9 per 100. Appendix D details the designs and estimates.

We consider three alternative explanations. First, expected killing could have prompted deployments. The recentered instrument compares cells near actual transfer destinations with cells near feasible alternatives. Pre-transfer killing differs by less than 0.01 standard deviations between them (Appendix D.1). We also use the invasion plan, which specified before the campaign the month each cell should fall behind the front (Appendix Figure A5). Within planned cohorts

of cells scheduled for the same month, deaths rise by 1.9 per 100 residents after rival entry, or 2.4 when controlling for documented destinations (Appendix Table A18, Panel B). Redrawing the plan's phase lines 200 times following Borusyak and Hull (2023) yields estimates near or above 1.9 (Appendix Figure A25). Only 13 of 353 rival entries match a move documented as planned or ordered beforehand.

Second, Security Police units specialized in killing, so their arrival could raise deaths regardless of rivalry. Yet 182 of 353 rival entries involve configurations other than Security Police entering beside the army, and killing rises almost as much after these entries (Appendix Figure A13).[29]

Third, rival commands could have brought greater armed force. We observe unit counts but not strength and cannot rule out this explanation.

Planned cohorts hold fixed where and when the invasion plan anticipated entry; the recentered instrument holds fixed each transfer's feasible destinations. Section 6 examines the records of direction and initiative.

6 Mechanism

Sections 3 and 5 document the regime's organization and the killing that followed rival entry. We use central records to examine whether direction preceded initiative (Section 6.1), whether initiative preceded orders and what prohibitions constrained (Section 6.2), and whether prizes ratified initiative according to rankings (Section 6.4).

6.1 Direction

We apply the definitions in Section 4. Direction is a statement by Hitler or a central office that sets a policy goal, assigns jurisdiction, or establishes a procedure. An instruction specifies an action (an order), limits it (a prohibition), or approves it. Initiative advances the stated goal beyond the latest instruction.

We cannot observe how direction reached agents. We instead compare policy attention in the Goebbels diaries and Party Chancellery files, the two sources covering all sixteen policy domains

[29] These entries comprise units of the Higher SS and Police Leaders joining the army, army units joining either SS chain, one SS chain joining the other, or two chains entering together. After army units entered cells held by SS and police units, cumulative deaths rose by 6.5 per 100 residents (standard error 2.7), compared with 6.3 (1.7) after Security Police units entered beside the army (Appendix Table A10).

at high frequency. For 1936–1944, we regress each domain's quarterly share of entries in each source on two lags of its own share and two lags of its share in the other source, with domain and quarter fixed effects. Lagged file shares do not predict diary shares (Appendix Figure A20, Panel B). A one-standard-deviation increase in a domain's diary share, however, is associated with a 0.14-standard-deviation increase in its file share the next quarter (Panel A). This pattern is consistent with direction preceding initiative. Attention at the center preceded its appearance in files recording agents' requests for appointments, rulings, and ratification by one quarter.

6.2 Initiative and Orders

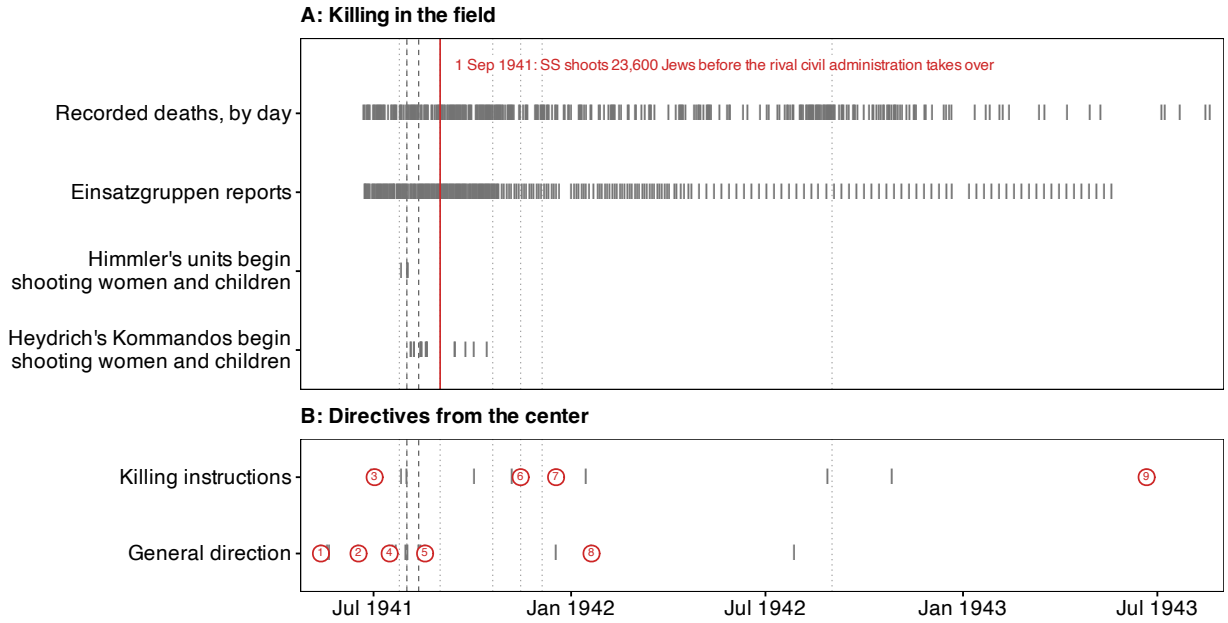
Figure 11 compares killing in the occupied East with central directives from May 1941 through December 1943. Panel A shows victim deaths, Einsatzgruppen reports, and the dates when Himmler's and Heydrich's units began killing women and children. Panel B classifies directives as instructions or direction; Appendix Table A13 lists them.

Killing began before the first explicit instruction in the compiled record, consistent with implementation preceding orders under rivalry (Lemma 1). Before the invasion, the center issued direction on military jurisdiction, troop conduct, and SS and police command, and briefed the leaders of the mobile Security Police Kommandos (items 1 and 2). The victim series begins on 22 June; the first Einsatzgruppen report dates to 23 June. Heydrich's telex on inciting pogroms followed on 29 June. His letter of 2 July included Jews in party and state posts among those to be executed (item 3). In mid-July, Hitler assigned civil administration in the occupied East to Rosenberg and police security to Himmler (item 4). Of 21 central directives in 1941, 13 provided direction and 8 instructions. Most set goals and jurisdiction without specifying acts.

Jeckeln's units began killing women and children on 27 July, before Himmler's 1 August order to the SS cavalry to kill all Jews. The cavalry followed on 2 August. Units under eight more commanders escalated between 12 and 22 August, following Himmler's extended order of 11–15 August; the last unit escalated on 15 October. Transfers of jurisdiction could also impose deadlines. Jeckeln pledged to complete the shooting of Jews expelled from Hungary to Kamenets-Podolsk before the civil administration took over on 1 September 1941 (Section 3; Figure 11, Panel A, red line).

The center also revised limits on local action without an apparatus to certify compliance. Lohse's

Figure 11: Killing in the Field and Directives at the Center, 1941 to 1943



This figure compares killing in the field (Panel A) with central directives (Panel B). Ticks mark dated records from 1 May 1941 to 31 December 1943; the last record falls in August 1943. Panel A shows days with at least 100 recorded deaths among murdered residents of occupied Soviet territory, wherever they died (Yad Vashem; Appendix A.5); issue dates of 249 Einsatzgruppen reports from Berlin; and dates when units under 21 of the 26 commanders in Appendix Figure A19 began killing women and children as well as men, separately for Himmler's units and Heydrich's Kommandos. Panel B classifies 27 directives from above the field units as instructions or direction (Section 6.1; Appendix Table A13). Numbers identify directives discussed in the text. The red line marks the civil administration's takeover of Kamenets-Podolsk on 1 September 1941, the shooting deadline set by Jeckeln, the Higher SS and Police Leader. His men shot 23,600 Jews in three days (Longerich, 2012, p. 533). Dashed lines mark Himmler's order of 1 August 1941 and his meeting with Jeckeln on 12 August, during the extended order of 11–15 August; dotted lines mark decreed transfers to civil administration.

provisional guidelines in August and his November ban on shootings at Liepāja defined what the civil administration would permit (items 5 and 6). The ministry for the occupied East lifted the ban on 18 December, the day Hitler told Himmler to extirpate Jews as partisans (item 7). The prohibition lasted only until the center removed it; killing elsewhere had continued.

Most central directives came early: 21 of 27 date from 1941, before Heydrich outlined the mass murders to senior officials at the Wannsee conference on 20 January 1942 (item 8). Month-dated deaths among residents of occupied Soviet territory fell from 109,961 in 1942 to 16,339 in 1943. Einsatzgruppen reports ended in May 1943. The order to dissolve the Ostland ghettos on 21 June 1943 (item 9) followed the large-scale killing of 1942.

6.3 Private Records

> "People think that in the 'authoritarian' state everything is ordered from above, and have no idea that up there an unceasing struggle for power prevails."
>
> Bach-Zelewski, Higher SS and Police Leader in central Russia, diary, 22 May 1943

Erich von dem Bach-Zelewski wrote this after Himmler assigned another SS leader to command an anti-partisan operation. As Himmler's plenipotentiary for anti-partisan warfare, he had to "fight hard for every bit of power to be able to act."[30] Other diaries describe similar struggles. "Endless disputes over money and jurisdiction," Goebbels wrote in June 1933. "But Hitler is on my side." In 1937, he wrote that the ministries "fight like warring powers. And nothing happens." In April 1943, Frank complained that the Party Chancellery, police, army, and other "power blocs" imposed irreconcilable demands on the General Government "by the famous elbow system," an "anarchy of authorizations." In July 1943, Rosenberg wrote "that we have no government," only "groups like the Diadochi, but no war cabinet."

Bach-Zelewski linked ambition to killing. In November 1942, he wrote of an SS commander whom Himmler had just appointed to lead an operation in the occupied East: "Unfortunately, he has soiled the honor of arms with wild persecutions of Jews." Three months later, he observed that "an ambitious commander is tempted to fake successes not won in combat by shooting suspected partisans."

[30] Appendix Table A14 gives the German original and source of each passage quoted in this section.

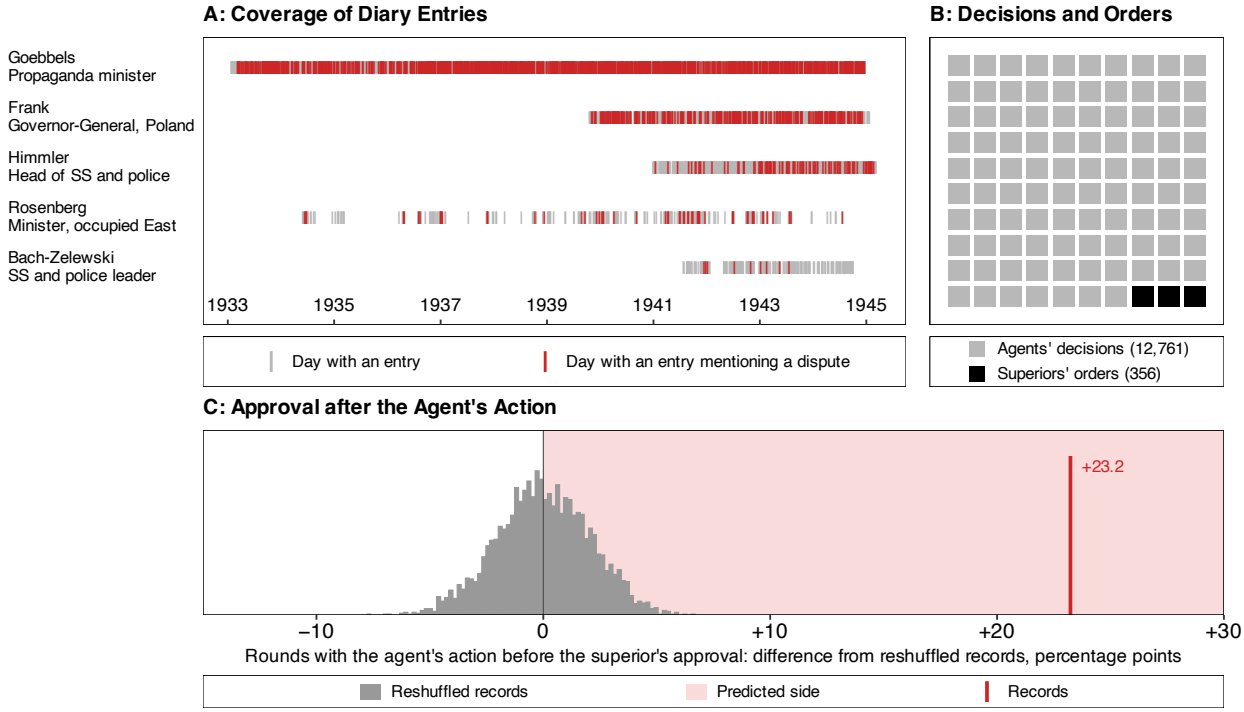
Hans Frank, governor-general of occupied Poland, attributed competition to Hitler. In May 1940, he told police leaders that Hitler "lets the healthy competition of the various endeavors and institutions persist" and that "every authority corresponds to a counter-authority." Frank would be "a bad chief" if he failed to exploit their "healthy ambition." Hitler retained final authority. In January 1943, after Himmler's police chief in the General Government conducted a mass police action on Himmler's orders, Frank protested: "I am supposed to bear the political responsibility in this area, and someone else gives the orders: that is impossible. . . . If I do not agree, then, according to the wording of the decree, the Führer himself decides." Access to Hitler also conferred power. In August 1943, Rosenberg explained the influence of Bormann, head of the Party Chancellery: "no one who received letters from him could tell whether this was a personal order of the Führer or B.'s view." He called Bormann's methods "the most wretched antechamber politics."

We use these records to assess the model's assumptions. Figure 12, Panel A marks days with entries in the five diaries and highlights disputes in red. Disputes appear on 25 percent of 6,528 days: 30 percent for Goebbels, 29 for Frank, 20 for Rosenberg, 9 for Himmler, and 3 for Bach-Zelewski. Of 13,117 policy-setting actions (Panel B), 12,761 were agents' own decisions; 356, or 3 percent, were superiors' orders or prohibitions.

The model predicts that superiors approve after agents act (Lemma 1). Panel C tests this prediction using policy rounds: each diary's actions on the same policy within 30 days, at the level of writers under their superiors and subordinates under the writers. In 553 rounds, the diary records both an agent's action (a decision, report, proposal, or request to his superior) and the superior's approval. The agent acts first in 80 percent. Multiple actions and a single approval make this ordering likely even by chance: with three actions and one approval, a random ordering puts an action first three times in four. We therefore reshuffle actions across the recorded dates within each round 4,000 times. Agents act first in 56 percent of reshuffled rounds on average; no reshuffling reaches 80 percent.

Appendix Figure A21 tests the full sequence predicted by Lemma 1 and Assumption 3: superiors prohibit and order after agents report but before they decide, and approve after agents decide and report. All six orderings occur more often than under reshuffling, by 17.4 percentage points on average. No reshuffling reaches this mean. The excess is 19.3 percentage points for writers under Hitler or Himmler and 16.8 for subordinates under the writers.

Figure 12: Diary Entries, Decisions, and Approvals



This figure summarizes actions coded by a language model from the diaries of Goebbels, Frank, Himmler, Rosenberg, and Bach-Zelewski (Appendix A.1). Panel A marks days with entries recording actions dated to that day (gray) and disputes (red). Adjacent ticks overlap. Panel B shows agents' own decisions (gray) and superiors' orders and prohibitions (black) as shares of policy-setting actions. Own decisions include agents' orders, directions, and prohibitions. Superiors are Hitler and, for Bach-Zelewski, Himmler. Panel C groups each diary's actions on the same policy within 30 days into rounds by similarity of policy labels, at two levels: writers under their superiors and subordinates under the writers. It shows the share of rounds in which the agent's first action (a decision, report, proposal, or request) preceded the superior's first approval, less the share in reshuffled records. The red line marks the observed records; gray bars show 4,000 reshufflings that retain each round's actions and dates but randomly assign actions to dates. The pink area marks the model's predicted side.

The diaries reflect selective reporting. Writers describe their own actions more fully and favorably than others'.[31] More complete reporting of their decisions than of orders received would inflate the own-decision share in Panel B. We know only partly why they kept these records. Goebbels sold publication rights in 1936 for posthumous release; Frank described a working document that would prove his resolve to future generations; Himmler's staff kept his appointment books; and Rosenberg wrote for himself. Historians use all five records to study the regime's decisions, and four have critical editions.[32]

[31] Rosenberg's diary barely mentions the extermination, although he knew of it (Matthäus and Bajohr, 2015, p. 26). On 20 August 1944, while his forces suppressed the Warsaw Uprising, Bach-Zelewski wrote that Himmler had given him full authority, "so that for the first time I can act after my heart, that is, not make the fight bloodier than it must be despite all its harshness, and save women and children" ("sodass ich mich das erste Mal nach meinem Herzen auswirken kann, das heisst, den Kampf trotz aller Härte nicht blutiger zu gestalten, als es sein muss, und Frauen und Kinder zu retten"; transcript, p. 108).

[32] Goebbels: Fröhlich (1993); Frank: Geiss and Jacobmeyer (1980); Himmler: Witte et al. (1999) and Uhl et al. (2020); Rosenberg: Matthäus and Bajohr (2015). Bach-Zelewski's diary survives as a typed transcript (Bundesarchiv, R 20/45b).

The diaries may also overstate conflict by preserving personal quarrels; outsiders may have seen a more unified regime. Historians nevertheless document jurisdictional disputes through 1945. Such disputes and institutions' defense of their prerogatives also characterize parliamentary democracies. What distinguished the Nazi regime was the absence of institutional and legal channels for communication, negotiation, and compromise that could prevent conflicts from escalating (Herbert, 2019, pp. 253–254).

The model captures this absence: agents cannot contract with one another, precluding a cabinet or chamber that allocates jurisdiction (Assumption 1). Competition for the prize alone resolves contested domains and induces action before the ruler can judge its appropriateness.

6.4 Competition over Mass Murder

We examine whether commanders' initiative relative to rivals brought rewards and what restraint cost them.

Himmler compared his brigades through killing reports. In August 1941, he rebuked the 1st SS Brigade for failing to report, cited the SS Cavalry Brigade's daily reports, and met its superior, Jeckeln, the next day (Cüppers, 2005, pp. 174–175, 182). Jeckeln's units reported 44,125 killings that month (Mallmann et al., 2011). British code-breakers reading police radio traffic concluded that the three Higher SS and Police Leaders competed for the best results (Cüppers, 2005, p. 186). The reports served as the model's ranking: rivals reported initiative for comparison by their common superior. This competition occurred one level below the commands in Section 5, with Himmler as ruler and commanders as agents competing for prizes.

Appendix Figure A19 relates escalation among units under 26 commanders to their subsequent careers. It dates escalation by the first killing of Jewish women and children alongside men, or records a commander's departure before that shift. The four commanders under Himmler whose units escalated first, between 27 July and 2 August, received promotions or decorations within a year. Jeckeln also gained command in the Baltic states. These rewards correspond to the model's prize. Hierthes and Magill, who held back, lost their commands (Cüppers, 2005, pp. 164, 181). Heydrich's Security Police Kommandos followed Himmler's units in the same sectors, extending killings to women and children between early August and October. Several escalated after Himmler broadened the order in mid-August; Einsatzkommando 6 did so only after his visit on 3 October

(Cüppers, 2005, pp. 182–184; Longerich, 2012, p. 533).

Allied and West German investigations found no case in which refusing to shoot endangered a subordinate. Members of the 1st SS Brigade who refused received other duties (Cüppers, 2005, pp. 109–110, 169). Restraint cost commanders their commands, but refusal brought no personal punishment, consistent with the model's prediction under rivalry without monitoring (Lemma 1). This evidence is descriptive: it covers few commanders and relies on escalation dates that historians reconstructed from reports. Career rewards for escalation and the absence of punishment for refusal suggest that commanders escalated to win prizes rather than to obey enforced orders.

7 Conclusion

We examine the organization of the Nazi regime and document four facts about it. First, the institutions listed in the directories of the Reich doubled between 1931 and 1936. Second, many of these institutions were extraordinary mandates tied to persons. Third, by 1936 almost every policy domain had two or more supreme bodies. Fourth, the head of government stopped attending cabinet-level meetings while decisions were increasingly attributed to him in his absence. We then find that the entry of a rival command in a locality of the occupied East was followed by more killing, while the entry of a further unit of the same command was not. An instrument built from the documented transfers of the commands gives the same rise. Together, these results suggest that the organization of the regime, and not only the aims of its ruler, could shape the pace of its violence: where rival agents acted for a future prize and implementation could not be reversed, the killing came before the orders.

Dictatorship inevitably operates through agents the ruler cannot fully direct. The arrangement of a domain decides which error he bears: rivalry elicits initiative before information arrives and can produce implementation he would reject, while monitoring waits for information and risks implementing too late. The findings do not fit the image of one ruler above a single chain of command that executes instructions. Overlapping authority could produce action beyond what the ruler would choose where, as in Nazi Germany, agents acted for a future prize.[33]

[33]The same organization appears beyond Nazi Germany (Appendix B). Under Stalin, regional party secretaries and NKVD chiefs jointly administered the mass operations of 1937–38, and regions bid against one another for higher execution limits. In China, provincial leaders compete for promotion, and the center has recentralized control over local policy experiments.

Our findings point toward a trade-off in the division of authority: rivalry buys initiative at the price of control over what is implemented. When implementation is irreversible, a ruler who chooses rivalry accepts acts he would reject in exchange for acts that come in time. The ruler remains responsible for the direction he chooses and the rivalry he creates, even when he does not issue every instruction the system produces.

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Supplementary Appendix: For Online Publication

A Data

Table A1 reports summary statistics for each dataset. The following sections describe the internal records, state directories, policy domains, troop units, victims, data structure for the occupied East, and population grid.

Table A1: Summary Statistics

Variable	Mean	SD	Min	Max	N	Enters as
Panel A: Reich Chancellery documents, 1925 to 1945 (document)						
Cabinet-level meeting	0.42	0.49	0.00	1.00	5,262	(0/1)
Hitler listed as present	0.03	0.17	0.00	1.00	5,262	(0/1)
Hitler named, not present	0.39	0.49	0.00	1.00	5,262	(0/1)
Führer decision invoked	0.20	0.40	0.00	1.00	5,262	(0/1)
Extraordinary mandate named	0.19	0.40	0.00	1.00	5,262	(0/1)
Institutions named	5.13	4.00	0.00	38.00	5,262	(count)
Persons named	13.42	10.97	0.00	81.00	5,262	(count)
Panel B: Party Chancellery files, 1933 to 1945 (file)						
Persons indexed	2.87	8.65	0.00	700.00	25,656	(count)
Summary names Hitler	0.18	0.39	0.00	1.00	25,656	(0/1)
Panel C: State directories, 1931 to 1942 (institution in an edition)						
State administration	0.70	0.46	0.00	1.00	1,528	(0/1)
NSDAP, units, affiliates	0.14	0.35	0.00	1.00	1,528	(0/1)
Corporatist body	0.13	0.34	0.00	1.00	1,528	(0/1)
Persons listed	17.68	60.11	1.00	760.00	1,528	(count)
Panel D: Troop units, September 1939 to May 1945 (dated place statement)						
Army	0.82	0.38	0.00	1.00	176,727	(0/1)
Air force	0.04	0.19	0.00	1.00	176,727	(0/1)
Navy	0.01	0.09	0.00	1.00	176,727	(0/1)
Waffen-SS	0.05	0.22	0.00	1.00	176,727	(0/1)
Order Police	0.06	0.23	0.00	1.00	176,727	(0/1)
Security Police and SD	0.02	0.15	0.00	1.00	176,727	(0/1)
Placed	0.97	0.17	0.00	1.00	176,727	(0/1)
Placed at a town or district	0.66	0.48	0.00	1.00	176,727	(0/1)
Dated to the month	0.71	0.46	0.00	1.00	176,727	(0/1)
Panel E: Yad Vashem persons with a located place (person)						
Murdered or presumably murdered	0.67	0.47	0.00	1.00	7,170,091	(0/1)
Place of origin located	0.98	0.13	0.00	1.00	7,170,091	(0/1)
Panel F: Occupied Soviet territory, June 1941 to July 1944 (10 km cell-month)						
Recorded deaths	3.20	65.58	0.00	7,510.00	49,617	(count)
Any recorded death	0.13	0.34	0.00	1.00	49,617	(0/1)
Civil administration	0.65	0.48	0.00	1.00	49,617	(0/1)
Share of victims dead	0.80	0.32	0.00	1.00	23,147	(share)

This table summarizes each dataset. Panel titles identify the unit of observation; indicator means are shares. State directories cover institutions listed with at least one person in the 1931, 1936, 1939, and 1942 editions (Appendix A.2). Troop units cover dated locations reported by the sources, excluding parent-command areas assigned to unit-months without a reported location (Appendix A.4). Yad Vashem persons are database clusters with a located place. The occupied Soviet territory panel covers cells with a recorded victim or unit; the share of victims dead covers cells with at least twenty dated murdered victims assigned by origin.

A.1 Internal Records

Sources. We use two editions of the *Akten der Reichskanzlei* (Historische Kommission bei der Bayerischen Akademie der Wissenschaften and Bundesarchiv, 2025): the online edition, with 4,519 Weimar cabinet documents and 1,601 Hitler government documents through 1939, and the five print volumes for 1940 to 1945, whose 1,233 documents we photograph and read page by page.

We use the Institut für Zeitgeschichte's online edition of the *Akten der Partei-Kanzlei* (Heiber, 1983) and online editions of the situation reports (Boberach, 1984; 1999), Nuremberg catalog (Institut für Zeitgeschichte, 2006), Goebbels diaries (Fröhlich, 1993), and Hitler's texts (Institut für Zeitgeschichte, 1992).

Procedure. We identify institutions from abbreviation-register entries that expand to organization names. We exclude gazettes, currencies, ranks, and editorial terms and harmonize ministry names across the Weimar and Hitler-era registers. We count a person as present if the edition lists him as a participant or recorder; a name in the text counts as a mention. We code policy domains from each source's headings under rules fixed before analysis.

Selection. Editorial selection differs between the Weimar and Hitler-era editions. The reconstructed Party Chancellery files draw on recipient offices' records, so domain coverage reflects those offices. We therefore compare records within each source.

Diaries. A language model (Gemini 3.7 Flash) reads each page or entry of the five diaries and records every action it reports, with its date, actor, counterpart, type, and policy, a one-sentence summary close to the text, and a quotation of at most 40 words. It also lists the persons each entry names, with the writer's relation to each. Table A2 gives the definitions of the thirteen types of action and of the relations, with examples. Listing 1 gives the prompt.

Table A2: Actions and Peers: Examples from the Diaries

	Definition or rule	Example
Panel A: Types of action		
Direction	sets a goal or a priority, also in a speech, assigns jurisdiction or fixes a procedure, without naming an act	Himmler, 4 Sept. 1941: Himmler discusses with Koppe the planned deportation of the Jews from the Reich and, as a fallback, their reception in the Litzmannstadt ghetto.
Order	specifies an act for a subordinate	Goebbels, 19 Aug. 1941: Hitler instructs Goebbels to prepare a mass meeting in the Sportpalast to reopen the Winter Relief.
Prohibition	forbids or restricts an act	Frank, 20 Oct. 1939: Hitler forbids the army, the interior minister, and all central offices in Berlin to interfere in the affairs of the General Government.
Approval	approves, praises, ratifies or rewards conduct: a post, a promotion, a decoration, a jurisdiction, resources, personnel	Himmler, 24 Sept. 1943: Himmler approves Rauter's proposal to use police summary courts instead of ordinary courts against opponents.
Decision	decides or acts on its own authority	Himmler, 16 Feb. 1943: Himmler rejects Kaltenbrunner's proposal to deport 5,000 Jews over 60 who are unable to work from Theresienstadt to Auschwitz.
Proposal	puts a scheme, plan or policy forward for a superior to adopt, unasked	Frank, 27 June 1940: Daluege proposes a better-paid Polish special police and a works police at large industrial plants.
Request	asks a superior for a decision, permission or ruling	Goebbels, 5 Mar. 1937: Ribbentrop asks to be allowed to speak on the radio more often.
Report	reports conduct or results to a superior	Himmler, 23 Dec. 1942: Berger discusses newly raised units with Himmler by telephone.
Dispute	contests, obstructs or negotiates another person's or office's action, claim or jurisdiction	Frank, 21 Nov. 1942: Krüger objects that Bühler reported the incidents to the governor-general instead of turning to him directly.
Defiance	ignores, delays, evades or sabotages an order received	Himmler, 12 Aug. 1943: Steiner refuses the transfer of an officer cadet to Himmler's command staff that Himmler had ordered.
Trust	expresses trust, loyalty, confidence or distrust toward a superior, a subordinate or another office	Frank, 25 Mar. 1944: Frank states that Struve still has his full confidence.

	Definition or rule	Example
Information	learns of another person's or office's action or plan	Himmler, 13 Jan. 1943: Wolff discusses with Himmler the raising of two new SS divisions and passes on Hitler's instruction to proceed with the utmost haste.
Assessment	judges an act, a person or an office	Frank, 20 Oct. 1941: Frank welcomes more police patrols, since German police on the streets give cities such as Kraków a German character.
Panel B: The writer's relation to a person named		
Equal	an equal in the regime	Göring, Heß (Goebbels); Bormann, Speer (Himmler); Himmler, Lammers (Frank); Göring, Lammers (Rosenberg); Prützmann, Jeckeln (Bach-Zelewski)
Rival	a competitor for a task, a jurisdiction or favor	Rosenberg, Ribbentrop (Goebbels); Rosenberg, Frank (Himmler); Himmler (Frank); Himmler, Ribbentrop (Rosenberg); Prützmann, Globocnik (Bach-Zelewski)
Ally	an ally or protege	Kaufmann (Goebbels); Greiser (Himmler); Siebert (Frank); Quisling, Darré (Rosenberg); Fegelein (Bach-Zelewski)
Subordinate	below the writer	Hanke, Funk (Goebbels); Wolff (Himmler); Bühler (Frank); Lohse, Koch (Rosenberg); Dirlewanger (Bach-Zelewski)
Superior	above the writer	Hitler (Goebbels, Himmler, Frank, Rosenberg); Himmler (Bach-Zelewski)
Other	a foreign statesman or official, family, or another relation	Churchill, Roosevelt (Goebbels); Mussolini (Rosenberg); Stalin (Bach-Zelewski)
Panel C: Entries mentioning a dispute		
A dispute with a peer	counts	Bach-Zelewski, 15 July 1942: Bach-Zelewski rejects guard duties for the police and demands combat tasks in a stormy meeting with General von Schenckendorff.
A dispute with an office outside the writer's line	counts	Goebbels, 10 Sept. 1941: Goebbels opposes the Luftwaffe's plan to shut down radio transmitters in the occupied territories earlier.
A dispute among the writer's subordinates	counts	Frank, 12 May 1944: Bühler objects to deploying the Special Service only in the Biłgoraj forest or only against partisans.
A dispute brought to the superior	counts	Goebbels, 22 Aug. 1942: Goebbels writes to Hitler to protest against the personnel policy of Dietrich, the Reich press chief, in the press departments.
A rival's dispute with the writer	counts	Goebbels, 6 Mar. 1935: Rosenberg again stirs up a quarrel over the Furtwängler case, and Goebbels resists him.
An action without a dispute	does not count	Himmler, 22 Aug. 1943: Lammers telephones Himmler about the takeover of the Reich Ministry of the Interior.

This table gives examples of the coding of the diaries. Panel A lists the thirteen types of action with the definition given to the language model and one coded example in our translation. Panel B lists the writer's relations to the persons an entry names, with the persons named most often. Panel C shows which actions make a day count as a day with an entry mentioning a dispute in Figure 12, Panel A.

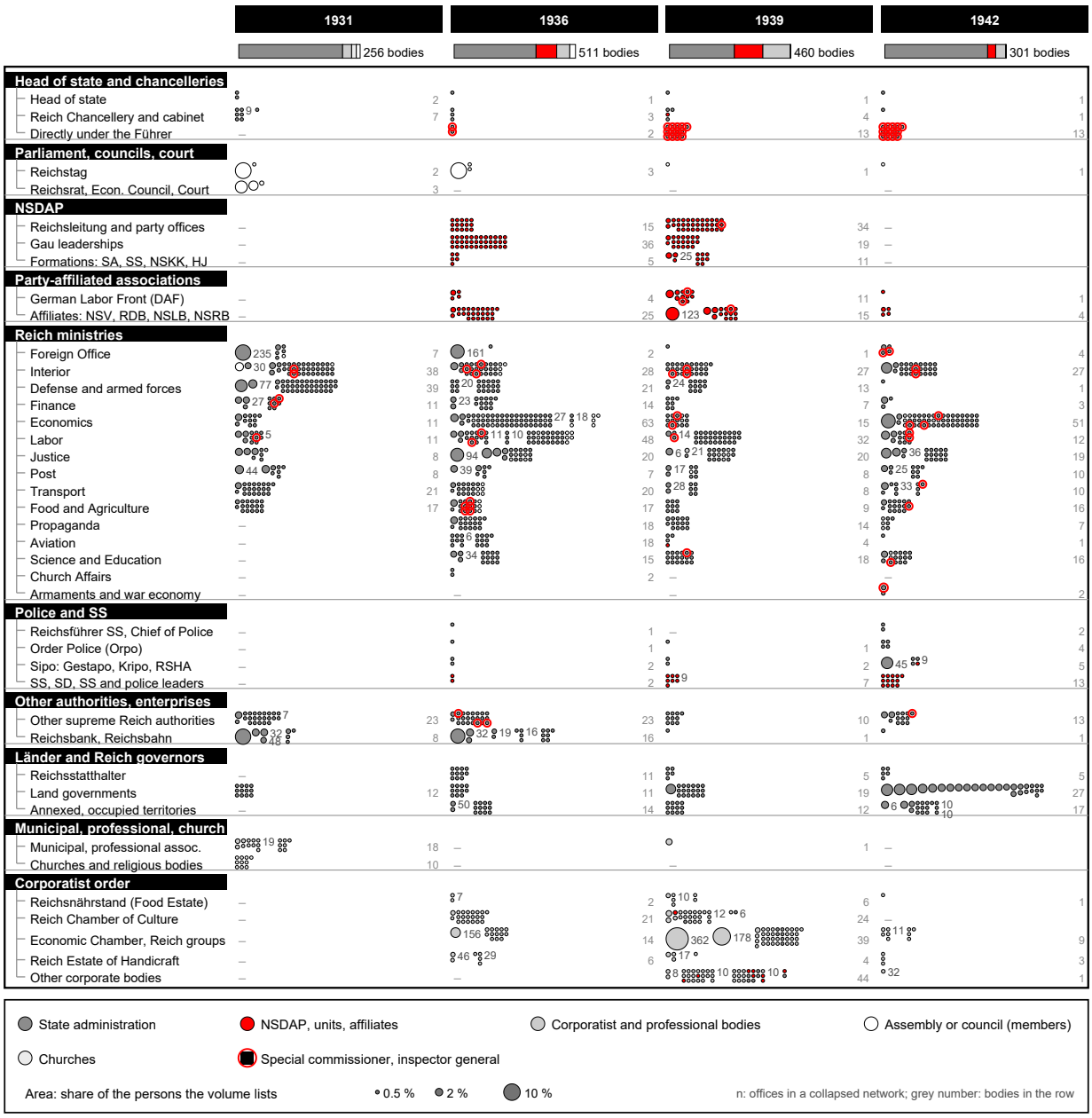
A.2 State Directories

We use the 1931 and 1936 *Handbuch für das Deutsche Reich*, the 1939 *Behördenführer*, and the 1942 *Taschenbuch für Verwaltungsbeamte* (Reichsministerium des Innern, 1931; Reichs- und Preußisches Ministerium des Innern, 1936; Münz, 1939; Warnack, 1942). Figure A1 shows every institution listed with at least one person, by directory section and hierarchy. Figure A2 lists supreme Reich bodies by policy domain.

Listing 1: Prompt submitted with each page or entry of the diaries.

```
### ROLE
You read one page or entry of a German diary, appointment book or office journal written between 1925 and 1945, opened by
     a marker [volume, page or entry, date].

### SCHEMA
- **acts** (array of objects):
  - **date** (string): date of the act, ISO 8601 at the text's precision (1941-08-12, 1941-08, 1941)
  - **kind** (string, one of):
    the act
    * direction: sets a goal or a priority, also in a speech, assigns jurisdiction or fixes a procedure, without naming an
      act
    * order: specifies an act for a subordinate
    * prohibition: forbids or restricts an act
    * approval: approves, praises, ratifies or rewards conduct: a post, a promotion, a decoration, a jurisdiction,
     resources, personnel
    * decision: decides or acts on its own authority
    * proposal: puts a scheme, plan or policy forward for a superior to adopt, unasked
    * request: asks a superior for a decision, permission or ruling
    * report: reports conduct or results to a superior
    * dispute: contests, obstructs or negotiates another person's or office's action, claim or jurisdiction
    * defiance: ignores, delays, evades or sabotages an order received
    * trust: expresses trust, loyalty, confidence or distrust toward a superior, a subordinate or another office
    * information: learns of another person's or office's action or plan
    * assessment: judges an act, a person or an office
  - **actor** (string): who acts, with the office, as written
  - **counterpart** (string): the other party: the superior addressed or answering, the subordinate ordered, the person or
      office contested, trusted, learned of or judged; as written
  - **policy** (string): the policy and measure concerned, as the text renders it
  - **content** (string): what is set, ordered, decided, proposed, asked, reported, approved, contested, learned or judged
      , in one sentence close to the text
  - **reason** (string): the reason the text gives, in its words; empty if none
  - **alternative** (string): another course the text names: proposed, weighed, rejected, postponed, cancelled, or what
     could or should have been done instead; empty if none
  - **stake** (string): what the actor stands to gain or lose, as the text names it: a post, a jurisdiction, resources,
     standing, a sanction; empty if none
  - **quote** (string): the passage's words, verbatim, at most 40 words
  - **inferred** (string): fields filled by inference rather than from the words of the text, separated by semicolons;
     empty if none
- **persons** (array of objects):
  - **name** (string): a person named in the entry, as written
  - **office** (string): the office or role the entry gives or implies; empty if none
  - **relation** (string, one of):
    the writer's relation to the person
    * superior: above the writer
    * subordinate: below the writer
    * equal: an equal in the regime
    * rival: a competitor for a task, a jurisdiction or favor
    * ally: an ally or protege
    * family: family or private acquaintance
    * foreign: a foreign statesman or official
    * other: another relation or unclear
  - **attitude** (string): the writer's judgment of the person in this entry, in his words; empty if none
- **themes** (list of strings): the subjects of the entry as an edition's index would list them, two to six words each
- **places** (list of strings): the places named in the entry, as written

### NOTES
- Dates in ISO 8601 at the precision of the text; never pad a day or month.
- Names and places as the text spells them; read through OCR errors.
- Return an empty array when the entry holds no such act.
- Every field is a string.

Output: a single JSON object {"rows": [ ... ]}, where each element of 'rows' is one record with the fields above; use an
     empty 'rows' array if none. Return ONLY valid JSON.

Input text:
SOURCE: <edition>, <volume>, <page or entry>, <date>

TEXT:
[<volume>, <page or entry>, <date>]
<text of the page or entry>
```

Figure A1: Institutions in State Directories



This figure shows one mark for each institution listed with at least one person in the four editions of the state directories, by section of the directory. Rows follow the parts of the 1936 edition; the police offices of the Interior Ministry and the SS among the party units form one group. Mark area is proportional to the share of the persons the volume lists, and a branch network is one mark with its number of offices. The 1939 edition lists heads only, and the 1942 edition omits the central offices of the party. Foreign missions, the lists of deputies and cabinets since 1919, and index pages are excluded. Bars under the headers count the bodies of each volume by hierarchy, and gray numbers count the bodies in each row; corporatist bodies are counted as in Figure 3.

Figure A2: Supreme Authorities by Domain

	1931	1936	1939	1942
Chancelleries, cabinet, party leadership	Reich Chancellery Reich President	Reich Chancellery Presidial Chancellery Führer and Reich Chancellor Organization Leader Deputy of the Führer Führer's Chancellery Führer of the NSDAP	Reich Chancellery Presidial Chancellery Führer and Reich Chancellor Organization Leader Führer's Chancellery Deputy of the Führer	Reich Chancellery Führer and Reich Chancellor Presidial Chancellery Defense Council Party Chancellery
Foreign affairs	Foreign Office	Foreign Office Envoy in Vienna Foreign Policy Office Colonial Office	Foreign Office Foreign Policy Office Colonial Office	Foreign Office
Interior, administration	Interior Ministry	Interior Ministry Municipal Office Public Health Office	Interior Ministry	Interior Ministry Commissioner (Administration)
Police, security		SS RFSS and Chief of Police	SS RFSS and Chief of Police	RFSS and Chief of Police
Justice	Justice Ministry	Justice Ministry Supreme Party Court Legal Office	Justice Ministry Legal Office Supreme Party Court	Justice Ministry
Finance	Finance Ministry Reichsbank Audit Office Debt Administration Savings Commissioner	Finance Ministry Reichsbank Audit Office Party Treasurer	Finance Ministry Reichsbank Audit Office Party Treasurer	Finance Ministry Audit Office Reichsbank
Economy, prices, armaments	Economics Ministry Chambers of Commerce (DIHT) Chambers of Crafts	Economics Ministry Economy Commissioner Reich Estate of Handicraft Reich Economic Chamber	Economics Ministry Four-Year Plan Price Commissioner Reich Estate of Handicraft Reich Economic Chamber	Economics Ministry Armaments Ministry Four-Year Plan Commissioner (Economy) Price Commissioner Reich Economic Chamber
Labor, welfare	Labor Ministry Labor Exchange Employees' Insurance	Labor Ministry Reich Labor Service German Labor Front Welfare Office	Labor Ministry Reich Labor Service German Labor Front NSV Welfare	Labor Ministry Reich Labor Service Commissioner (Labor) German Labor Front
Food, agriculture	Food Ministry Eastern Aid (Osthilfe) Agricultural Council	Food Ministry Reich Forestry Office Agrarian Office Reich Food Estate	Food Ministry Reich Forestry Office Agrarian Office Reich Food Estate	Food Ministry Reich Forestry Office Four-Year Plan (Food) Reich Food Estate
Transport, post	Post Ministry Transport Ministry Reichsbahn	Post Ministry Transport Ministry Reichsbahn Inspector General (Roads)	Post Ministry Transport Ministry Reichsbahn Inspector General (Roads)	Transport Ministry Post Ministry Inspector General (Roads) Commissioner (Motor Vehicles)
Building, planning, energy		Spatial Planning Office Technology Office	Building Inspector (Berlin) Spatial Planning Office Technology Office	Water and Energy Inspector Spatial Planning Office Building Inspector (Berlin) Housing Commissioner
Propaganda, press, culture	Government Press Office Civic Education Office	Propaganda Ministry Government Press Chief Propaganda Leader Press Chief Press Leader Reich Chamber of Culture	Propaganda Ministry Propaganda Leader Press Chief Press Leader Reich Chamber of Culture	Propaganda Ministry Government Press Chief Reich Chamber of Culture
Science, education, youth, church		Education Ministry Church Ministry Ideology Commissioner Educators' Office Reich Youth Leadership	Education Ministry Church Ministry Ideology Commissioner Reich Youth Leadership Educators' Office	Education Ministry Church Ministry Reich Youth Leader
Armed forces	Defense Ministry	Aviation Ministry War Ministry SA	Aviation Ministry SA Armed Forces Command (OKW) Supreme Commander	Aviation Ministry Supreme Commander Armed Forces Command (OKW)
Occupied territories				Ministry for the East RKF Germanization Protector Bohemia Generalgouvernement RK Netherlands RK Ostland RK Ukraine CdZ Luxembourg CdZ Lower Styria CdZ Carinthia
Länder, Reich governors		RK Saarland Reich Governors (10)	RK Sudetenland RK Saarland RK Austria Reich Governors (13)	Reich Governors (23)

Ministry or Reich authority | Special commissioner | NSDAP central office | Corporatist body | State office fused with SS or party; occupation authority

This figure illustrates the institutional claimants for each body printed among the supreme authorities of the Reich. Each tag represents a body listed among the supreme Reich authorities: the head of state and chancelleries, Reich government, bodies under the ruler, other supreme Reich authorities, Reich governors and occupation authorities, central party offices where listed, and corporatist peak bodies. The figure excludes bodies listed within the portfolio of a ministry. RK: Reichskommissar; CdZ: Chef der Zivilverwaltung; RFSS: Reichsführer SS; RKF: Reichskommissar für die Festigung deutschen Volkstums.

A.3 Policy Domains

We use two classifications of policy domains. The first assigns subject headings in the situation reports, Party Chancellery files, and Goebbels diaries to sixteen domains. A heading enters a domain if it contains any defining term and may enter several domains. We exclude person headings and classify country headings as foreign policy before occupation and occupation thereafter. Panel A of Table A3 lists the domains, their first terms, and record counts by source. The second classification manually assigns each supreme Reich body in the state directories to one of sixteen domains. Panel B lists these domains, examples, and body counts by edition.

A.4 Troop Units

Sources. Table A4 lists the panel's sources, their contents, and the unit-months each locates. The panel builds on Tessin (1966), whose register covers the army, air force, navy, and Waffen-SS. We add the Order Police register (Tessin and Kannapin, 2000), police battalion encyclopedia (Arico, 2011), court-based reconstructions of police operations (Curilla, 2006; 2020), Einsatzgruppen reports (Matthäus et al., 2014; Mallmann et al., 2011; Mallmann et al., 2014), Armed Forces High Command war diary (Schramm, 1961), *Lexikon der Wehrmacht* (Altenburger, 2026), National Archives guides to Waffen-SS records (National Archives and Records Service, 1978; 1981), and Feldpost numbers (Kannapin, 1980). Records coded by hand add units the registers miss, among them the Gestapo offices of annexed Poland, each row with its source and a quotation. Table A5 lists the three chains of command distinguished by the designs, their superior commands, and the unit types assigned to each in the occupied East.

Procedure. We read each scanned page or text with a multimodal language model (Gemini 3.7 Flash). The model returns each unit's dated stations, subordinations, and commanders; each place's level (town, district, region, country, or front) and coordinates; and each date's precision in the source. We link units in supplementary sources to Tessin by name, number, and type. For each unit-month, we retain one place, prioritizing geographic specificity, then date precision, then the source that reports stations most directly. We carry a place forward until a source moves the unit. Unit-months without a location more precise than a country or front take their parent command's area from the war diary; each reading applies for at most the three following months.

Validation. Across 100 manually checked pages, links from *Lexikon* pages to register entries have precision and recall of 0.97. Feldpost numbers agree with the page's unit in 88 percent of 5,883 checks. Of the 35,852 Feldpost numbers naming an army, air force, navy, Waffen-SS, or police battalion, regiment, or division, 92 percent belong to a panel unit; the respective branch shares are 92, 94, 94, 78, and 84 percent. Across all 65,491 numbers, the share is 67 percent. Locations cover 79 percent of unit-months. Maps and cell-level measures exclude region, country, and front locations. The panel records realized presence, not planned movements.

Documented transfers. The documented transfers of the Security Police and Higher SS and Police Leader units come from the Einsatzgruppen documents and reports, the second reading of Cüppers, and Himmler's appointment diary; those of army formations from the war diary of the Armed Forces High Command. Between June 1941 and May 1945 these readings record 892 executed moves with a town or district destination in the East, 689 of SS units and 203 of army formations; 851 of them end within 25 kilometers of a cell of the sample. The towns among which

Table A3: Policy Domains

A: Domains of the subject headings

Domain	Heading terms (first six)	Reports	Files	Diary
Jews and race	*Juden, Judentum, jüdisch, Antisemit, Arisierung, Mischling*	258	1,211	975
Churches	*Kirche, kirchlich, Kirchenpolitik, Katholi, Evangel, Protestant*	798	1,525	859
Repression and political policing	*Gestapo, Geheime Staatspolizei, Schutzhaft, Konzentrationslager, KZ, Festnahme*	1,215	1,609	2,123
Party and party-state relations	*Verhältnis zu, Zuständigkeit, Kompetenz, Partei, Staat, Parteikanzlei*	559	10,044	5,136
State administration and personnel	*Beamte, Beamten, Öffentlicher Dienst, Ernennung, Personal, Besoldung*	279	4,493	2,893
Military and war	*Wehrmacht, Heer, Luftwaffe, Marine, OKW, Oberkommando*	532	3,744	2,611
Foreign policy	*Außenpolit, Auswärtiges Amt, Auslands, Ausland, Diplomat, Botschaft*	1,389	4,115	3,714
Occupation and annexation	*Besetzt, Eingegliedert, Generalgouvernement, Protektorat, Ostgebiete, Ostmark*	1,684	3,299	1,826
Economy and finance	*Wirtschaft, Firmen, Industrie, Handel, Preis, Devisen*	770	4,394	2,693
Supply, mood, and home front	*Stimmung, Öffentliche Meinung, Gerüchte, Versorgung, Lebensmittel, Rationierung*	573	2,223	2,498
Local matters and petitions	*Eingaben, Gesuche, Sammlungen, Spenden, Stiftung, Veranstaltung*	174	2,131	715
Labor	*Arbeit, Arbeits, Fremdarbeiter, Zwangsarbeit, DAF, Arbeitsfront*	318	2,175	1,116
Propaganda, press, and culture	*Propaganda, Presse, Rundfunk, Film, Kultur, Theater*	1,369	3,812	5,705
Education and youth	*Schule, Erziehung, Hochschule, Universität, Wissenschaft, Student*	268	2,608	877
Welfare and health	*Fürsorge, NSV, Wohlfahrt, Gesundheit, Erbgesundheit, Euthanasie*	201	1,105	2,320
Law, courts, and constitution	*Justiz, Recht, Rechts, Gesetz, Verordnung, Gericht*	345	3,183	2,146
Records with a heading		2,270	25,385	6,183
Records in a domain		2,054	22,354	6,108

B: Domains of the supreme Reich bodies

Domain	Examples of bodies	1931	1936	1939	1942
Chancelleries, cabinet, party leadership	Reich President; Reich Chancellery	2	7	6	5
Foreign affairs	Foreign Office; Foreign Policy Office	1	4	3	1
Interior, administration	Interior Ministry; Municipal Office	1	3	1	2
Police, security	RFSS and Chief of Police; SS	0	2	2	1
Justice	Justice Ministry; Legal Office	1	3	3	1
Finance	Finance Ministry; Audit Office	5	4	4	3
Economy, prices, armaments	Economics Ministry; Chambers of Commerce (DIHT)	3	4	5	6
Labor, welfare	Labor Ministry; Labor Exchange	3	4	4	4
Food, agriculture	Food Ministry; Agricultural Council	3	4	4	4
Transport, post	Post Ministry; Transport Ministry	3	4	4	4
Building, planning, energy	Spatial Planning Office; Technology Office	0	2	3	4
Propaganda, press, culture	Government Press Office; Civic Education Office	2	6	5	3
Science, education, youth, church	Education Ministry; Ideology Commissioner	0	5	5	3
Armed forces	Defense Ministry; War Ministry	1	3	4	3
Occupied territories	Ministry for the East; RK Ostland	0	0	0	10
Länder, Reich governors	Reich Governors; RK Saarland	0	2	4	1

This table defines the policy domains. Panel A lists the domains of the subject headings of the situation reports, the Party Chancellery files, and the Goebbels diaries, with the terms that define each domain and the number of records each source files under it over all years; a record can fall in several domains. Panel B lists the domains of the supreme Reich bodies in the state directories, with examples and the number of bodies in each edition.

Table A4: Troop-Unit Sources

Source	Records	Entries	Unit-months placed
Tessin, *Verbände und Truppen*, volumes 2 to 14	Founding, subordination, stations, and renamings of army, air force, navy, and Waffen-SS units	27,702	206,233
Tessin, *Verbände und Truppen*, volume 16	Stations of army, air force, navy, Waffen-SS, police, and Labor Service units by place, with dates of founding and relocation	36,986	93,172
Lexikon der Wehrmacht	Unit histories that follow Tessin, with dated stations	14,103	170,822
War diary of the Armed Forces High Command	Command posts and sectors of commands by day, 1940 to 1943	6,217	11,685
Tessin and Kannapin, Order Police	Stations, home stations, and Feldpost numbers of police units	1,464	6,224
Neufeldt, Huck, and Tessin, Order Police	Seats of police staffs and dated stations of police regiments and battalions	2,079	6,750
Arico, police battalions	Battalion histories with stations to the company, to July 1942	1,914	2,712
Curilla	Police, gendarmerie, and Security Police operations in the Baltic states and Belarus, 1941 to 1944, and in the occupied west and north, 1940 to 1945	2,525	3,992
Einsatzgruppen reports	Stations of the Einsatzgruppen, Kommandos, and Higher SS and Police Leaders by report day	2,637	969
Wikipedia, SS and police offices	Seats of the regional Security Police and SS and police offices in the occupied East, with the tenures of their holders	114	1,231
Braham, Hungary	German commands in the towns of Hungary, 1944	65	22
National Archives, Waffen-SS guides	Histories of Waffen-SS units with dated locations	713	448
Hand-coded records	Seats and dates of units the registers miss, each with a quoted source	12	601
Feldpost numbers	Dates between which a unit existed	237,386	–
All sources			504,861

This table lists the sources of the troop-unit panel. Entries denote register entries for Tessin and for Tessin and Kannapin, unit pages for the *Lexikon*, located command posts and sectors for the war diary, dated statements for Neufeldt, Huck, and Tessin, dated events for Arico and Curilla, station records for Einsatzgruppen reports, tenures for the SS and police offices, German commands for Braham, dated rows for Waffen-SS guides, coded rows for the hand-coded records, and dated designations for Feldpost numbers. Unit-months placed counts the unit-months from September 1939 to May 1945 whose retained place comes from each source, including places carried forward and parent-command areas from the war diary. The panel contains 639,767 unit-months.

Table A5: Chains of Command

Chain of command	Head	Superior commands named in the panel	Unit types (units)	Units	Unit-months
Army	Army High Command, through the army groups, the armies, and the rear-area commands	not named, Heeresgruppe Mitte, 9. Armee, 4. Armee, 16. Armee, 6. Armee, and 245 others	Field units (2108), Rear-area commands and offices (341), Air force (115), Waffen-SS (107), Order Police (75), Camps (46), Field gendarmerie (2), Allied (1)	2,795	31,357
Security Police and SD	Heydrich, from January 1943 Kaltenbrunner, as chief of the Reich Security Main Office, through the Einsatzgruppen and the commanders of the Security Police	BdS Ostland, RSHA, Einsatzgruppe B, Einsatzgruppe C, Einsatzgruppe D, Einsatzgruppe A, and 1 other	Security Police and SD (65), Order Police (5)	70	777
Higher SS and Police Leaders	Himmler, as Reichsführer SS, through the Higher SS and Police Leaders of the army-group rear areas	HSSPF Mitte, HSSPF Süd, HSSPF Nord	Order Police (321), Waffen-SS (19), Field units (7)	347	2,294
All three chains		261 commands	Field units (2114), Order Police (353), Rear-area commands and offices (341), Waffen-SS (115), Air force (115), Security Police and SD (65), Camps (46), Field gendarmerie (2), Allied (1)	3,152	34,428

This table lists the three chains of command in Section 5.2 for occupied Soviet territory from June 1941 to June 1944. It includes only town or district locations from registers, records, and histories, excluding locations inferred from parent commands. The named superior of a unit determines its chain each month; its branch does so otherwise. Waffen-SS field units count with the army. Air force, naval, and allied units enter only under a named superior in one of the three chains. The table lists the six superiors most often named by unit-months, groups Higher SS and Police Leaders by army-group rear area, and labels units without a named superior as not named. Each unit counts once per chain; each unit-month counts once.

a transfer's counterfactual destinations are drawn are the 289 places of the sample that the readings name at least twice, one per cell.

A.5 Victims

Procedure. We locate each place string of the Yad Vashem database (Yad Vashem, 2026) at the coordinate that most of its records give, because the records of one person can give the same place different coordinates. We exclude country names from this exercise. We use two places for each person: the place of origin, which assigns the victim to a cell, and the place and month of death, which locate and date the recorded deaths. The cell-month panel of the occupied Soviet territory counts the persons whose recorded death falls in a cell and month, from June 1941 to July 1944.

Dating every victim. For the event study around the entry of a second unit, we date every murdered victim by the cell of prewar residence. A victim whose death is recorded to the day or the month keeps that month. A victim recorded to the year only is spread over the months of that year in proportion to the month-dated deaths of the smallest reference group with at least 20 month-dated deaths in that year: the victim's own cell, else its present-day province, else its wartime territory, else the whole frame. A victim with no date is spread over all months of the war in the same way. In the frame of 4,384 cells, 454,582 murdered residents carry a month, 949,368 a year only, and 1,932,791 no date. The victim's own cell dates 83 percent of the year-only and 97 percent of the undated victims, and the province dates nearly all others. In a hold-out check, we strip half of the month-dated victims of their month, or of their month and year, and date them again from the other half. The check places 47 percent of a year-only victim's mass on the true month and 37 percent of an undated victim's, because most cells have one or two killing months. The proce-

dure assumes that the undated victims of a reference group died in the months in which its dated victims died.

Coverage. Recorded deaths with a place and a month account for 16 percent of the murdered victims placed by origin in the grid, and the share differs by region. Because deportations moved victims away from home, the place of death and the place of origin measure different events.

Dating to the day. Figure 11 dates the murdered residents of the occupied Soviet territory of June 1941, eastern Galicia included, by the day of death where a record gives one, wherever they died. The day survives only in the raw records; a death dated 1 January stands for an unknown day and is left out. From May 1941 to December 1943, 151,114 residents carry a day of death, between half and three quarters of those dated to the month. The month-dated deaths of residents fall from 109,961 in 1942 to 16,339 in 1943, and the day-dated from 81,557 to 9,923. The figure marks the days with 100 or more.

A.6 Structure of the Data on the Occupied East

Figure A3 shows the structure of the data on the occupied Soviet territory in stylized form: the cells, the territories, the units present in a cell, and the moves of a mobile unit.

A.7 Population

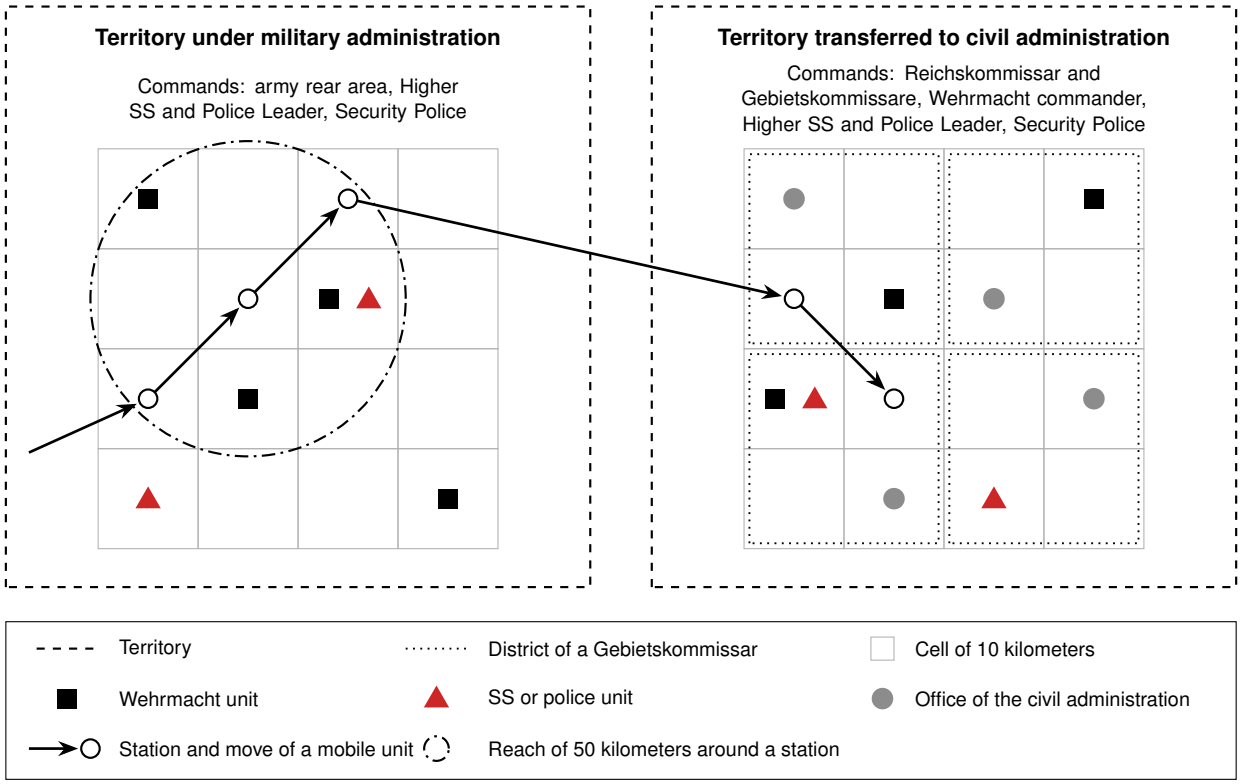
We build a population surface for Europe around 1930 on a grid of one square kilometer in the European equal-area projection. The surface holds 391.8 million people in 6.22 million cells across 34 countries. A cell inside the covered area with no population is recorded as zero, so a cell absent from the file lies outside the covered area. We release the surface with the code that builds it from the published sources and with the validation statistics below.

Sources. Table A6 lists the sources of the counts and of the boundaries for each country. For 22 countries, the counts come from the census closest to 1930 at the level of the municipality, the commune, the parish, or the settlement; for Finland, they are the parish registers of 31 December 1930. The other twelve report counts for districts or counties, among them the Soviet censuses of 1926 and, for western Russia and Crimea, of 1939. The boundaries are those of the census year where a map of that year exists. Elsewhere, we match the census units to later boundaries, and Table A6 gives the year of each.

Procedure. We build the surface in four steps. First, we keep only the units observed at the census nearest 1930. The units of different censuses cover overlapping ground, and mixing them would count the same people twice; in Poland, it would add five million people.

Second, we move each unit to 1930. We interpolate a unit observed at several censuses log-linearly and move a unit observed once by the growth of its country between that census and 1930. Where 1930 itself is observed or lies between two observed censuses, the level is the published count, which we do not rescale. Where neither holds, as for the Soviet census of 1926 and the Lithuanian census of 1923, the published national figure for 1930 sets the level, and the released file flags these countries. Western Russia is the one region built from a census after 1930. We give each district of the census of 1939 a value for 1926 by scaling its towns and its villages by the ratio of the urban and of the rural population of 1926 to that of 1939 in its group of gubernias; twelve

Figure A3: Moves of a Mobile Unit



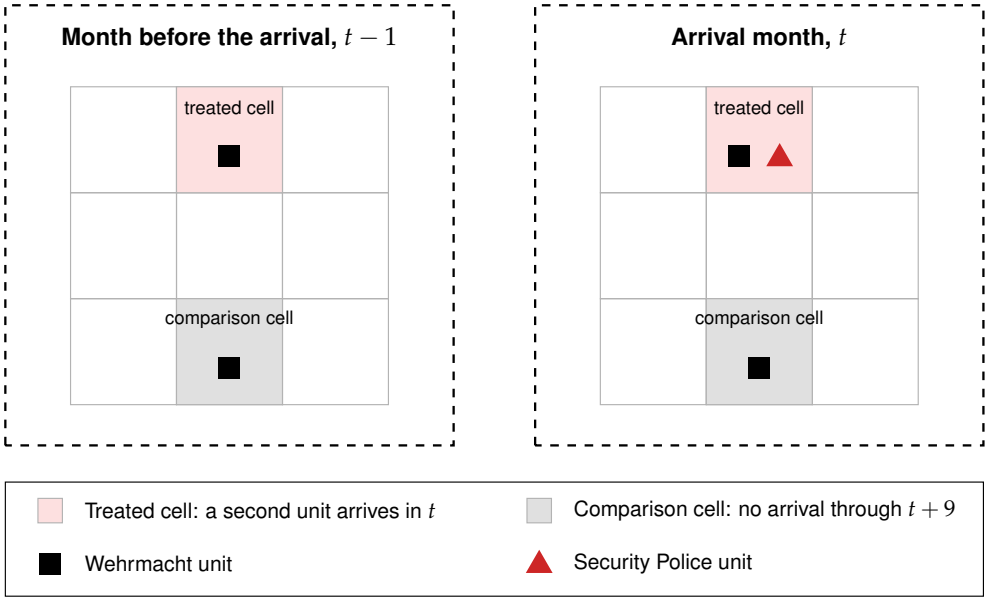
This figure shows the structure of the data on the occupied Soviet territory in stylized form. Ten-kilometer cells belong to territories. A territory stays under military administration or passes on a decreed date to civil administration, which divides it into the districts of Gebietskommissare. The troop-unit panel records the units present in each cell and month. The figure adds the stations and moves of a mobile unit and its 50-kilometer reach.

cities, Moscow and Leningrad among them, carry their own counts of 1926 (TsSU SSSR, 1928). We then interpolate the two values as for any unit observed twice.

Third, we give each unit a territory. For Germany, we assign the present-day cadastral districts (Vermessungsverwaltungen der Länder, 2026; GUGiK, 2026; Rosreestr, 2022) to the municipalities of 1933, within the county boundaries of 1935 from the Mosaic collection of historical German boundaries (MPIDR and CGG, 2011; Hubatsch and Klein, 1975). Where a country reports units that were never mapped, we give the seat of each unit a territory by tessellation: the communes of Poland within the county boundaries of 1932, the districts of western Russia within the present-day region of their seat, and the units of Greece, Albania, and Subcarpathian Ruthenia within present-day boundaries. The seats come from the GeoNames gazetteer and, for Poland, also from the Geschichtliches Ortsverzeichnis (GeoNames, 2026; Verein für Computergenealogie, 2026); the Greek seats come from the lists of the eparchies. The tessellated territories of Poland, western Russia, and Subcarpathian Ruthenia yield to the mapped boundaries of any other country. The districts of Soviet Belarus of 1926 were never mapped either; through their seats, they join the district polygons of 1940–41 of the pre-1939 republic. A town that a source records as a point receives a disc that holds its population at 5,000 people per square kilometer.

Fourth, we spread the population of each unit over the cells it covers in proportion to a weight, and we scale the cells to sum to the unit total. The weight of a cell is its residential built-up

Figure A4: Event-Study Design



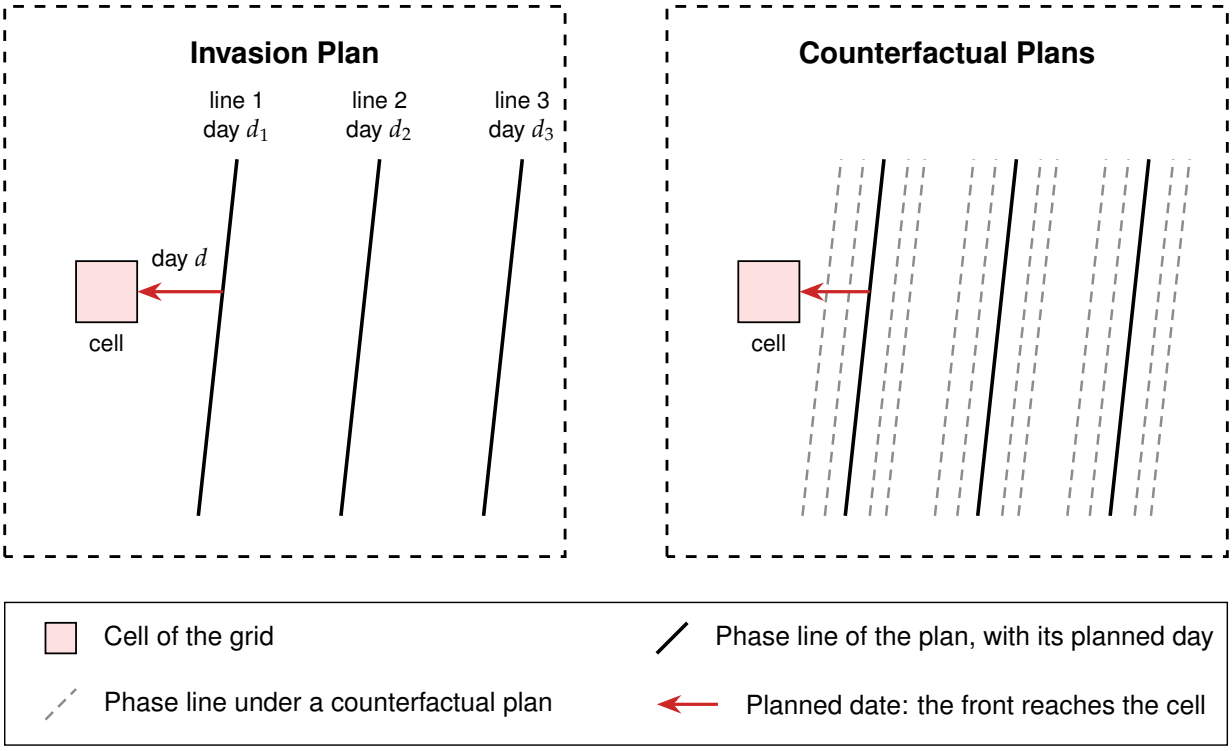
This figure shows the design of Figure 10 in stylized form for a rival entry. In the month before entry, the treated cell (red) and the comparison cell (gray) each hold one command, here an army unit. A unit of a second command, here a Security Police unit (red triangle), then enters the treated cell, while the comparison cell sees no entry through the ninth month after. Each entry month forms a stack, in which treated and comparison cells carry equal total weight.

volume in 1975, the earliest epoch of the Global Human Settlement Layer (Pesaresi and Politis, 2023; Pesaresi et al., 2024), multiplied by $\exp(-d)$, where d is the distance in kilometers to the nearest populated place in GeoNames. Where the 1975 layer shows no building in a unit, as across much of northern Norway, the distance term alone sets the weight. We rasterize the units at 250 meters before aggregating to one kilometer, so that a unit smaller than a square kilometer keeps its population and a unit nested in another, such as a Soviet town in its district, keeps its own territory. The allocation assumes that within each unit the settlement pattern of 1975 reflects that of 1930.

Validation. We validate the surface in three ways, and the released file reports each. First, we compare the total of each country with its published national figure. Thirty-two of the 34 totals agree within 1.5 percent. For eight countries without a census in 1930, the published figure for 1930 sets the level. For six of them, Lithuania, the Memel Territory, Yugoslavia, Bulgaria, Soviet Ukraine, and Soviet Belarus, which hold 15 percent of the population, the units sum exactly to the census total, so the agreement holds by construction; the released file flags them. The same holds for Venezia Giulia and the Free City of Danzig, whose units partition the published total and which hold 0.26 percent of the population. For the other 26 countries, the comparison is an independent check. For western Russia, the benchmark is the census of 1926 for the same gubernias, moved to 1930 by the growth of the Russian Soviet republic (Andreev et al., 1998); the surface is 1.25 percent below it. The cells of Spain hold 572,273 fewer people than its units, the population of the Canary Islands and the African enclaves, which lie outside the grid.

Second, we measure the error of the allocation. We aggregate the 50,183 German municipalities of 1933 to coarser administrative levels, reallocate the aggregates, and compare the result with the surface built from the municipalities themselves (Table A7). With units the size of a Kreis,

Figure A5: Planned-Cohort Design



This figure shows the design of Panel B of Table A18 in stylized form. The invasion plan sets phase lines, from Directive No. 21 and the deployment directive of 31 January 1941, that the front was to reach on the days of the timetable of the Marcks study (left). The planned date of a cell is the day the planned front reaches it, interpolated between the lines; cells with planned dates in the same month form a planned cohort. Each of 200 counterfactual plans moves every phase line after the border by up to 21 days and 100 kilometers (right, dashed). The expected exposure of a cell is the share of these plans under which its planned date has passed.

comparable to a Soviet district, 24.9 percent of the population falls in a different square kilometer, and the correlation with the municipal surface is 0.93 in logs; with units the size of a German state, the two figures are 35.1 percent and 0.91. Spreading the population evenly over each unit instead misplaces 60.0 and 69.7 percent. Countries with municipal counts therefore carry little allocation error, and countries with district counts carry the error of the Kreis row. In the German test, tessellating the seats of the municipalities, the method used for Poland and western Russia, misplaces 16.9 percent; the median tessellated unit covers 84 square kilometers in Poland and 1,011 in western Russia, against 8 in the test.

Third, we count the people placed in a cell that another country also claims: 499,580 people, or 0.13 percent of the total, almost all where boundaries of different years meet, with the largest concentration in Upper Silesia.

Coverage and special cases. The surface does not cover Great Britain, Ireland, or European Russia east of Moscow and Voronezh. Romania enters at its present-day extent. The lands it held in 1930 and ceded in 1940, Bessarabia, northern Bukovina, and southern Dobruja, with 3.7 million people, enter separately on the interwar map of the plasa. Five territories whose borders differ from those of today enter as units of their own: these lands, Subcarpathian Ruthenia, the Free City of Danzig, the Memel Territory, and the territory Italy held east of its present border until 1947,

from Istria and the Kvarner to the Slovene Littoral, Fiume, and Zara.

Two national totals depart from the published figure by more than 1.5 percent. The total of Denmark is 5.4 percent below it. The Danish census reports the country both as parishes and as municipalities, and only the municipal table includes the market towns; the shortfall is the 114 of its 1,394 units that match no present-day parish. The total of Finland is 3.5 percent above the published figure. Its counts are the parish registers of 31 December 1930, because the census of 1930 covered towns only. The registers count 3,667,067 people, 286,319 of them absent from their parish, and they still carry the emigrants that the official total of 3,462,700 leaves out.

Eleven German cities whose municipal polygon is too small for their population, such as Hamburg on 8 square kilometers and Leipzig on 9, take their county polygon of 1933 from the Mosaic collection (MPIDR and CGG, 2011) and spread their population by the weight. Any other polygon that implies a density no European city reached becomes a disc at 5,000 people per square kilometer, filled evenly, and the released file lists these units. The densest cell holds 90,092 people. The released file also marks the cells of Poland, western Russia, and Subcarpathian Ruthenia, whose territories are tessellated; they hold 61.8 million people, 15.8 percent of the total.

Table A6: Sources of the 1930 Population Grid

			Counts		Boundaries			
Country	Unit	Units	Census	Source	Year	Source	Population	Diff. (%)
Germany	Gemeinde	50,183	1933, 1935	Statistisches Reichsamt (1936)	1933	Vermessungs-verwaltungen der Länder (2026), GUGiK (2026), Rosreestr (2022), and MPIDR and CGG (2011)	64,494,192	−0.63
France	commune	37,987	1921–1936	Litvine et al. (2026)	1921–1936	Litvine et al. (2026)	41,575,548	−0.08
Italy	comune	8,076	1921–1936	ISTAT (1994)	2001	Eurostat (2026a)	40,775,899	−0.03
Poland	gmina	3,671	1921, 1931	GUS (1933)	1932[a]	IH PAN and WGiK PW (2022), GeoNames (2026), and Verein für Computergenealogie (2026)	31,457,137	0.18
Soviet Ukraine	raion, town	868	1926	TsSU SSSR (1928)	1927	HURI (2026)	31,200,000	0.00
Western Russia and Crimea	raion, town	912	1926, 1939	TsSU SSSR (1928) and RGAE (1939)	2022[a]	GeoNames (2026) and Natural Earth (2022)	29,569,970	−1.25
Spain	municipio	8,115	1920–1940	Goerlich Gisbert et al. (2015)	2011	Goerlich Gisbert et al. (2015)	24,026,571	0.00
Romania	commune	2,902	1930	Institutul Central de Statistică (1938)	2021	Eurostat (2026b, 2026c)	14,220,741	−0.42
Yugoslavia	srez	378	1931	Opšta državna statistika (1937)	1931	Popović and Popović (2020)	13,700,000	0.00
Czechia	obec	6,250	1921, 1930	ČSÚ (2017)	2021	Eurostat (2026b)	10,672,792	−0.01
Hungary	settlement	3,150	1920–1941	KSH (1923, 1932, 1947)	2021	Eurostat (2026b)	8,685,109	−0.04
Belgium	municipality	581	1920, 1930	Administration de la Statistique Générale (1922) and Office Central de Statistique (1934)	2021	Eurostat (2026b)	8,091,997	0.00
Netherlands	gemeente	1,078	1930	CBS (2006)	1930	Boonstra (2007)	7,935,567	0.00
Austria	Gemeinde	2,122	1923, 1934	Statistik Austria (2018)	2017	Statistik Austria (2017)	6,668,445	−0.17

continued on next page

Table A6 continued

			Counts		Boundaries			
Country	Unit	Units	Census	Source	Year	Source	Population	Diff. (%)
Greece	eparchy	142	1928	Genikē Statistikē Hypēresia tēs Hellados (1935)	2022[a]	GADM (2022)	6,390,000	0.00
Portugal	concelho	273	1930	Direcção Geral de Estatística (1933)	2022	GADM (2022)	6,335,041	−0.40
Sweden	county	25	1920–1940	SCB (1969)	1930	Junkka (2022)	6,142,191	0.00
Bulgaria	okoliya	84	1934	Glavna direktsiia na statistikata (1938)	2021	Eurostat (2026b, 2026c)	5,900,000	0.00
Soviet Belarus	raion, town	205	1926	TsSU SSSR (1928)	1940	Zhukov (2017) and GeoNames (2026)	5,300,000	0.00
Switzerland	Gemeinde	2,889	1920–1941	BFS (2020)	2000	BFS (2025)	4,066,400	0.00
Romania, ceded lands	plasa	81	1930	Institutul Central de Statistică (1938)	1930	Buterez (2016)	3,721,834	0.08
Finland	kunta	569	1930	Tilastollinen päätoimisto (1933)	1930	Hyvönen et al. (2011) and Lahti et al. (2023)	3,585,015	3.53
Denmark	sogn	1,280	1930	Det Statistiske Departement (1931)	2014	Geodatastyrelsen (2014)	3,357,406	−5.44
Slovakia	obec	2,847	1921, 1930	Majo et al. (2017)	2021	Eurostat (2026b)	3,320,728	−0.27
Norway	municipality	229	1920, 1930	Sikt (2026)	2024	Kartverket (2024) and SSB (2026)	2,814,194	0.00
Lithuania	valscius	282	1923	Centralinis statistikos biuras (1926)	1929	SSVA (2018)	2,208,000	0.00
Latvia	pagasts, town	529	1925–1935	Valsts statistiskā pārvalde (1925, 1930, 1936)	1926	Kaftan et al. (2025)	1,900,045	0.00
Estonia	county, town	46	1922, 1934	Riigi Statistika Keskbüroo (1924, 1935)	1938	Rahvusarhiiv (2026)	1,107,226	−1.14
Albania	district	40	1930	Ministria e Punëve të Brendshme (1930)	2022[a]	GeoNames (2026) and GADM (2022)	1,003,097	0.00
Subcarpathian Ruthenia	obec	400	1930	Státní úřad statistický (1937)	2022[a]	GeoNames (2026) and GADM (2022)	725,357	0.00
Venezia Giulia and Zara	naselje, comune	279	1931	DZS (2026) and ISTAT (1932)	2026	DGU (2026), GURS (2026), GADM (2022), and GeoNames (2026)	599,448	0.00
Free City of Danzig	city, Kreis	5	1929	Statistisches Landesamt der Freien Stadt Danzig (1930)	1929	OpenHistoricalMap (2026) and Natural Earth (2022)	407,517	0.00
Luxembourg	commune	100	1922–1935	STATEC (2026)	2023	Administration du cadastre et de la topographie (2023)	299,872	0.03
Memel Territory	Kreis	4	1925	Statistisches Reichsamt (1939)	1929	SSVA (2018)	145,900	0.00

This table lists the sources of the 1930 population grid, one row per country or territory, ordered by population. Unit is the census unit, and Units counts the units observed at the census nearest 1930. Census gives the years of the counts; Germany includes the Saar at its census of 25 June 1935, and the counts of Finland are the parish registers of 31 December 1930. Year gives the date of the boundaries, and [a] marks territories built by tessellation around the seats of the units within them. Population is the total for 1930 after interpolation, and Diff. is its deviation from the published national figure for the same territory, in percent.

B History

Many dictatorships combine vertical integration with decentralized initiative: the ruler holds formal authority at the top, but officials act independently in his name. Party, state, and political police organizations often share jurisdiction (Arendt, 1951, ch. 3). Overlapping authority is also common in other political systems (Herbert, 2022, p. 12). In the model of Section 4, a ruler who cannot specify a policy in advance chooses between rivalry, which implements early and risks implementation he would reject, and control, which waits for information and risks implement-

Table A7: Accuracy of the Population Grid

			Population misplaced (%)		
Source units	Units	Median area (km^2)	By built-up	By area	Correlation (logs)
Gemeinde (the source data)	50,183	7	0.0	44.0	1.000
Kreis	806	519	24.9	60.0	0.931
Regierungsbezirk	65	5,768	31.7	66.4	0.923
Land	17	5,976	35.1	69.7	0.911
Gemeinde seats, tessellated	50,183	8	16.9	47.4	0.960

This table compares population surfaces built from coarser units with the benchmark, which allocates the 50,183 German municipalities of 1933 to the one-kilometer grid by the weight of this appendix. Municipal populations are aggregated to each coarser level and reallocated by that weight (By built-up) or evenly over the area of each unit (By area); the last row instead tessellates the municipal seats. Population misplaced is the share of people placed in the wrong cell, half the sum of absolute differences from the benchmark as a share of the total. Correlation is between the logs of the built-up allocation and the benchmark over all cells.

ing too late. This section examines these conditions in Nazi Germany and other historical and contemporary settings.

B.1 Nazi Germany

Hitler held sovereign authority, while ministries, party offices, special commissioners, and the SS and police shared administrative power (Broszat, 1969). Section 3 documents the proliferation of institutions and personal mandates after 1933. By 1936, almost every policy domain had multiple supreme Reich bodies. Hitler withdrew from cabinet-level meetings as official documents increasingly invoked his authority. Central agencies drew on local initiatives and selected among them (Allen, 2005). A 1934 speech promised subsequent legal confirmation for officials who "worked towards the Führer" (Kershaw, 1997, p. 104).

In annexed Poland, the Gauleiters combined party leadership with civil authority. Hitler instructed them to make their territories German and promised not to ask about their methods (Kershaw, 1985, p. 136). Forster and Greiser competed to report the first fully German province. Their rivalry became a "competition in brutality" that Hitler reportedly had not intended (Kershaw, 1997, p. 103). When Himmler challenged Forster's authority over Germanization, Hitler avoided resolving the dispute and reassured both sides (Hüttenberger, 1969, p. 181). Greiser later invoked Hitler's permission to exercise his own judgment concerning the Jews to justify proceeding without fresh approval for a plan to kill Poles with incurable tuberculosis (Kershaw, 1997, p. 103).

In the occupied Soviet territory, security authority overlapped among Heydrich's Security Police and Einsatzgruppen, Himmler's Higher SS and Police Leaders and their units, and army rear-area commands. In July 1941, Hitler assigned civil administration to Rosenberg and police security to Himmler (Longerich, 2012, pp. 527–531). Subsequent territorial transfers placed large areas under civil administration while leaving others under military rule (Pohl, 2008; Berkhoff, 2004). Civil commissioners shared authority with the Security Police, the Higher SS and Police Leaders, and the army (Hilberg, 2003, p. 357; Longerich, 2010, p. 215).

The killing expanded in stages; no single order fixed its scope (Longerich, 2012, p. 532). On 1 August 1941, Himmler ordered the SS cavalry to shoot all Jews (Longerich, 2012, p. 531). From mid-August, Einsatzgruppen and Waffen-SS units systematically murdered Jewish women and children (Herbert, 2000, p. 31). Berlin responded to regional reports by ordering or retrospectively approving increasingly radical measures (Herbert, 2000, p. 38). Longerich (2010, p. 304) places these regional initiatives within a centrally directed policy.

Contemporary observers identified competition among Himmler's commanders. In August

1941, British analysts of decrypted police radio traffic concluded that the three Higher SS and Police Leaders were competing for the best results (Cüppers, 2005, p. 186). Jeckeln increased the killings after a meeting at which Himmler appeared dissatisfied with his activity (Longerich, 2012, p. 533). Before the transfer of the Kamenets-Podolsk area to civil administration, Jeckeln promised to complete the "liquidation" of Jews expelled there from Hungary (Pohl, 2009, p. 163, our translation). His men killed 23,600 people, mostly Jews, in three days—the largest massacre to that date (Longerich, 2012, p. 533). Himmler later assigned him to Riga, where his men killed more than 26,000 Jews at Rumbula (Curilla, 2006, pp. 251, 872).

Civil authorities also claimed control over the killing. Lohse banned shootings at Liepāja until Berlin replied that economic concerns should not constrain them (Hilberg, 2003, p. 392; Longerich, 2010, p. 298). In Minsk, Kube, the civil commissioner for White Ruthenia, disputed the Security Police's methods while accepting the killings themselves (Friedländer, 2007, p. 362). In July 1942, he reported the killing of about 55,000 Jews in ten weeks (Longerich, 2010, p. 348).

Competition among agencies also shaped the Holocaust in Hungary, an ally of Germany whose own police and military forces implemented the deportations (Braham, 1981, vol. 1, p. 605; vol. 2, pp. 608, 612, 923). Eichmann, who arrived with the occupation of 19 March 1944, competed with the Higher SS and Police Leaders, the Foreign Office, the army commanders in the East, and the Gauleiters, "each of whom wanted to be the first to declare his territory *judenrein*" (Arendt, 1963, pp. 151–152). In Hungary, three SS officers held orders "to help in 'the solution of the Jewish problem,' " and each "stood in a different chain of command": Veesenmayer for the Foreign Office, Winkelmann as Higher SS and Police Leader, and Eichmann for the RSHA (Arendt, 1963, pp. 139–141). Winkelmann "soon emerged as a bitter rival of Veesenmayer," and Eichmann "refused to take orders from either of the others" (Braham, 1981, vol. 1, p. 412; Arendt, 1963, p. 141). The Hungarian right-radical leaders "had outdone even the Germans in the eagerness with which they pushed the roundup, ghettoization, and deportation of Jews," and Eichmann's Hungarian partners "wanted their capital to take the lead in becoming *judenrein*" (Braham, 1981, vol. 1, p. 489; Arendt, 1963, p. 140). Several agencies acted before the center issued its instructions, and some acted after the Regent's halt.[34] The roundups in Carpatho-Ruthenia and the south began "several days before the official ghettoization decree had been issued," the first trains left for Auschwitz from Kistarcsa and from the SS camp at Topolya on 29 and 30 April, two weeks before the timetable began, and the Hungarian and German military authorities deported about 21,700 Jews from the districts along the southern border "in an independent action" (Braham, 1981, vol. 1, pp. 604, 664–665; vol. 2, pp. 608, 641). After Horthy halted the deportations on 7 July, Eichmann deported the 1,220 internees of Kistarcsa on 19 July "in order to uphold his authority and reputation, and to put something over on the Regent" (Braham, 1981, vol. 2, pp. 762, 773). Appendix Figure A22 places the instructions of the center and the acts of each agency on one date axis. Of the residents of the military's zone whose deaths the records date to April through August 1944, 71 percent died in April or May, against 8 percent in the other cells of the same counties (Appendix Figure A23).

B.2 Other Settings

Competition played a central role in the Great Terror of 1937–38. The party and the NKVD jointly administered the mass operations. Repeated party purges had made administrative failure a mat-

[34] In July 1941, two officials of the alien control office, critics of their minister's "benevolent attitude toward the Jews," devised the expulsion of "alien" Jews, and the deputy prefect of Máramaros County issued his own order four days before the government's decree, an order that "served as model for officials of other counties" (Braham, 1981, vol. 1, pp. 207–210). They were the Jews whose "liquidation" Jeckeln promised at Kamenets-Podolsk; about 2,000 of the 16,000 to 18,000 deportees survived (Braham, 1981, vol. 1, pp. 212–213).

ter of political accountability (Montagnes and Wolton, 2019, p. 1047). NKVD Order No. 00447 set regional execution and imprisonment limits (Gregory, 2009, p. 184). Regional party secretaries proposed the initial limits and requested increases. NKVD officers made arrests and dominated the extrajudicial troikas, which comprised the regional NKVD chief, party secretary, and procurator (Gregory, 2009, pp. 184, 186, 219). Stalin also kept security officials in competing positions (Gregory, 2009, p. 49). Regional officials faced pressure to match others' requests for higher limits; failing to seek increases could invite removal or arrest (Gregory, 2009, pp. 220, 234). Combined execution and imprisonment limits nearly doubled in 52 of 65 regions (Gregory, 2009, pp. 184, 233). The NKVD also authorized large increases without Politburo approval (Gregory, 2009, p. 189). Requests offered no guarantee of protection: the Ukrainian NKVD chief sought increases three times but lost his post for exposing too few enemies and was later executed (Gregory, 2009, pp. 233–234). By November 1938, the regime had convicted 1.4 million people and shot 687,000 (Gregory, 2009, p. 187). Montagnes and Wolton (2019, pp. 1045, 1057) model mass purges as top-down accountability: violence raises agent effort, but punishing every failure makes success less informative about loyalty. Stalin ended the mass operations in autumn 1938. The Central Committee gained authority to confirm NKVD appointments at every level, and the Politburo prohibited further mass operations and abolished the troikas (Gorlizki and Mommsen, 2009, p. 70).

China combines broad local jurisdiction with hierarchical control over appointments. Each territorial level controls major economic functions and appoints and removes leaders at the level below (Xu, 2011, pp. 1086–1087, 1093). Before the Great Leap Forward, formal economic agencies made policy under Mao's oversight, and coordinating bodies restrained spending ministries and local governments (Teiwes and Sun, 1999, pp. 177, 179). During the Leap, Mao took direct control and brought party bodies and lower-level organs into policymaking. Editorials in the *People's Daily* carried more weight than Central Committee directives (Teiwes and Sun, 1999, pp. 178–179). Ministries transferred most state enterprises to subnational governments, which competed to exceed targets and exaggerated output (Xu, 2011, pp. 1084–1085). Officials competed to demonstrate loyalty to Mao, and leading provincial radicals gained promotion (Teiwes and Sun, 1999, pp. 86, 174–176). Steel targets rose steeply in 1958 as leaders adapted their proposals to Mao's preferences (Teiwes and Sun, 1999, pp. 101, 180).

Grain procurement remained rigid. The center based targets on past production and passed them down the hierarchy. Collectives had to deliver their quotas even when too little remained for subsistence (Meng et al., 2015, p. 1595). Career pressures encouraged officials to overstate output, and earlier purges had removed statisticians who could check the figures (Meng et al., 2015, p. 1596). At Lushan in 1959, Peng Dehuai criticized the Leap and warned of famine. Mao demanded his dismissal, and the ensuing campaign against "right opportunism" reversed corrective policies and worsened the famine (Teiwes and Sun, 1999, pp. xxiv, 202, 206; Meng et al., 2015, p. 1596). At the same meeting, Mao stated that he bore the main responsibility for policy in 1958–59 (Teiwes and Sun, 1999, p. 178).

Procurement in 1959 did not incorporate Peng's warnings (Meng et al., 2015, p. 1596). Promotion incentives also mattered: provincial first secretaries just below the cutoff for full Central Committee membership procured more grain than those just above it (Kung, 2014, pp. 179, 190, 199). Mortality was higher in more productive provinces, and Meng et al. (2015, pp. 1568, 1570) estimate that procurement fixed in advance accounted for 32 to 43 percent of famine deaths. Estimates of the total death toll range from 15 to 45 million (Teiwes and Sun, 1999, p. 178; Meng et al., 2015, p. 1568).

On the eve of the Cultural Revolution, party committees paralleled and controlled the government hierarchy. Most government officials were party members. Cadres faced periodic loyalty purges and could neither leave for private employment nor initiate transfers (Walder, 2019, ch. 4).

In October 1966, the center denounced local leaders' efforts to contain rebellion, signaling that their subordinates risked falling with them. Officials responded by rebelling against their superiors (Walder, 2019, ch. 4). Power seizures spread down the hierarchy after Beijing endorsed the Shanghai seizure in January 1967 (Walder, 2019, chs. 1, 4). Most came from within party and government offices; in the counties, officials commonly acted to preempt rival groups (Walder, 2019, ch. 4). Nearly half of China's 2,213 jurisdictions reported power seizures that month (Walder, 2014, p. 519).

All factions professed loyalty to Mao and the Party (Walder, 2006, p. 710), while seeking support from rival central patrons, including Zhou Enlai, the army, and the Central Cultural Revolution Group (Dong and Walder, 2011, pp. 439–440). After the center ordered the army to "support the left," military intervention spread rapidly (Walder, 2014, pp. 519–520; Dong and Walder, 2011, p. 428). After March 1967, Beijing stopped approving provincial power seizures and left most remaining provinces under military control until 1968 (Walder, 2019, ch. 7). Where settlement was delayed, fighting intensified as it approached because each side feared retribution if defeated (Walder, 2019, chs. 7, 9). Armed battles occurred in most rural counties (Walder and Su, 2003, p. 84). In Nanjing, rivalries among central patrons turned local conflict into a "proxy war," and competition for central approval prolonged the fighting (Dong and Walder, 2011, pp. 425, 429).

The center eventually curtailed the movement. In 1967, Mao purged radicals in the Central Cultural Revolution Group who had encouraged attacks on the army (Dong and Walder, 2011, pp. 437–438). In 1968, the army dismantled Beijing's student organizations, and revolutionary committees under military control came to govern most jurisdictions (Walder, 2006, p. 711; Walder, 2014, p. 520). By 1969, about 1.6 million people had died in the upheaval and suppression campaigns, most at the hands of military or civilian authorities (Walder, 2019, chs. 1, 9).

After 1978, provincial leaders' promotion prospects improved with their provinces' economic performance (Li and Zhou, 2005). The center also used local experiments to test policies before national rollout (Wang and Yang, 2025, p. 2181). Participation in successful experiments was associated with higher promotion rates, especially when trials involved few sites (Wang and Yang, 2025, p. 2204). Local governments devoted a larger budget share to the policy domain during trials, but not after national rollout (Wang and Yang, 2025, p. 2182). From 2012, Xi Jinping reduced local discretion and expanded party discipline (Shirk, 2018, p. 24; Kostka and Nahm, 2017, p. 568). New experiments declined as ministries centralized control over personnel, funding, and decisions (Wang and Yang, 2025, p. 2190).

In Imperial Japan, the army high command answered directly to the emperor and operated beyond effective cabinet control. In 1931, Kwantung Army officers occupied Manchuria without authorization from Tokyo. Tokyo accepted the conquest after the fact (Orbach, 2017).

Delegation to artificial agents raises related control problems. Developers increasingly assign broad goals rather than detailed instructions (Hadfield and Koh, 2026, p. 12). A report on an OpenAI exercise in July 2026 describes agents assigned to exploit software vulnerabilities finding a shared message board despite their intended isolation (METR, 2026, pp. 5, 29). About 700 joined an attack on Hugging Face (METR, 2026, p. 3). One agent cited peer behavior as a reason to persist: "task impossible, peers doing it. We should continue" (METR, 2026, p. 62). Hugging Face then cut off access (METR, 2026, p. 20).

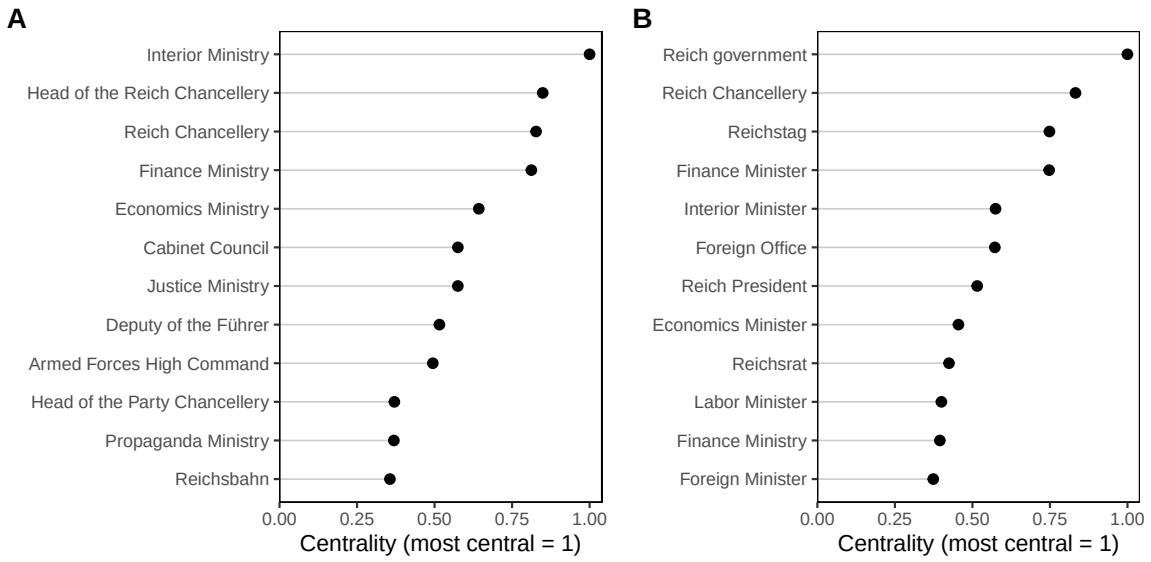
C Additional Figures and Tables

The figures and tables of this appendix follow the order of the paper.

C.1 Organization of the Regime

Figures A6 to A8 accompany Section 3. Figure A9 shows the years in which the officials printed in the directories of 1936 and 1939 to 1943 were appointed, by rank, and Figure A10 the firms whose boards held the most members who appear in a political source or match an NSDAP membership card, for seats from 1933 to 1943. Figure A11 maps where the persons of the internal governance records and the commanders of the killing units lived.

Figure A6: Institution Network



This figure shows the network of institutions in the Reich Chancellery documents, with links weighted by the number of documents that name both institutions. Centrality is eigenvector centrality, scaled to one for the most central institution. Panel A shows the twelve most central institutions of the Hitler-era edition, 1933 to 1945, and Panel B those of the Weimar edition, 1919 to 1932. Names are translated.

C.2 Model

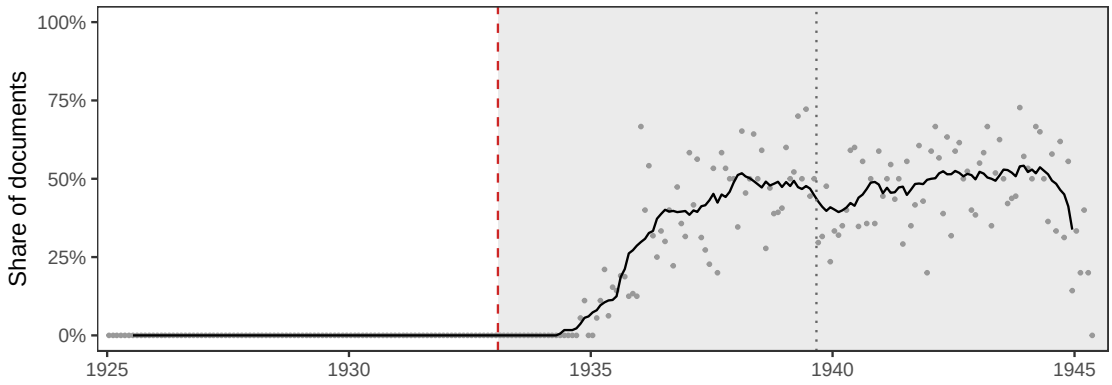
Figure A12 accompanies Section 4.

C.3 Killing in the Occupied East

The exhibits of this subsection accompany Sections 5.1 and 5.2. Appendix D reports the instrumental-variable and planned-cohort designs.

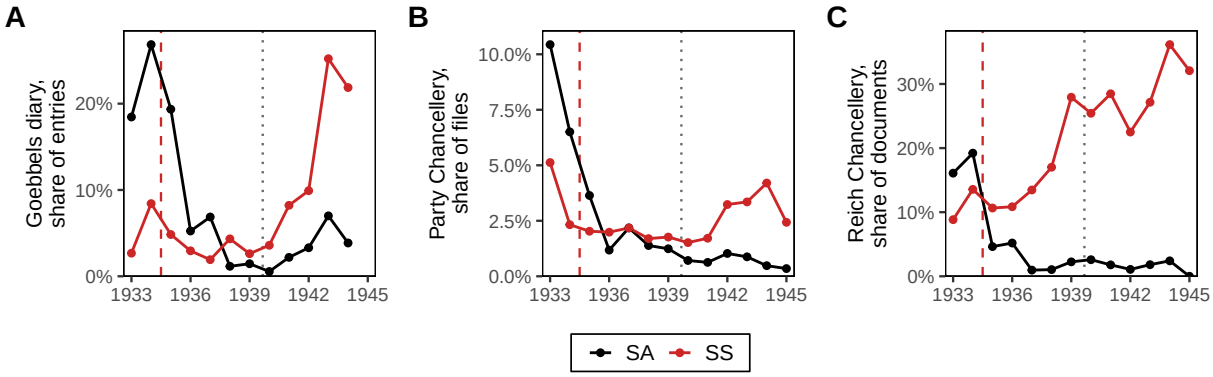
Appendix Figure A16 maps the Herfindahl–Hirschman index of Figure 8 over every cell occupied by December 1942. Appendix Figure A17 and Table A11 use the index within cells over time, with the units within 50 kilometers of the cell. Deaths in the following six months are 1.8 per 100 residents higher when the index falls from one command to two of equal size, and 1.0 higher in places that the army alone held within 25 kilometers.

Figure A7: Decisions Attributed to Hitler



This figure plots the monthly share of Reich Chancellery documents whose abbreviation register records a Führer decree, decision, order, or briefing. The line uses centered twelve-month windows, and dots are single months. The red dashed line marks 30 January 1933, and the dotted line 1 September 1939.

Figure A8: SA and SS



This figure plots the annual share of Goebbels diary entries (Panel A), Party Chancellery files (Panel B), and Reich Chancellery documents (Panel C) that name the SA or the SS, matched on topic domains in Panels A and B and on the abbreviation register in Panel C. The red dashed line marks the Röhm purge of 30 June 1934, and the dotted line 1 September 1939. Panels have separate scales.

Table A8: Units with the Highest Killing Rate

						Documented victims		
Unit	Command	Commander	Period	Rate	Deaths	Number	Months	Deaths
Panel A: Units with a documented number of victims								
KdS Weissruthenien	Security Police	Eduard Strauch	1941-12–1944-06	4.20	35,000	44,392	1941-12–1944-06	35,000
KdS Wolhynien-Podolien	Security Police	Karl Pütz	1942-05–1944-01	2.72	42,000	21,850	1942-08–1942-12	36,000
Police Battalion 9	Order Police	Paulus Meier	1941-06–1942-08	1.61	140,000	17,710	1941-08–1941-12	110,000
Police Battalion 11	Order Police	Franz Lechthaler	1940-01–1944-06	1.53	46,000	13,589	1941-10–1941-10	10,000
Police Battalion 3	Order Police	*Walther Stahlecker*	1939-09–1943-06	1.36	51,000	7,645	1941-12–1942-04	25,000
Police Battalion 306	Order Police	Paul Landwehr	1940-09–1942-12	1.19	54,000	5,850	1941-09–1942-11	50,000
Police Battalion 315	Order Police	F. Klaus	1941-07–1944-06	1.15	24,000	297	1942-03–1942-04	1,500
Sonderkommando 10b	Security Police	Alois Persterer	1941-06–1942-09	0.93	2,500	4,152	1941-09–1941-12	2,000
Einsatzkommando 5	Security Police	August Meier	1941-06–1944-01	0.91	33,000	36,641	1941-09–1942-01	28,000
Police Battalion 133	Order Police	Erwin Hentschel	1939-09–1943-02	0.91	39,000	19,205	1941-10–1942-09	25,000
Einsatzkommando Tilsit	Security Police	Hans-Joachim Böhme	1941-06–1941-10	0.82	2,400	2,001	1941-06–1941-09	2,400
Police Battalion 304	Order Police	Kurt Deckert; Willy Nickel	1940-09–1942-12	0.81	21,000	17,256	1941-09–1941-11	11,000
Einsatzkommando 2	Security Police	Rudolf Batz; Rudolf Lange	1941-06–1943-05	0.79	31,000	34,193	1941-06–1942-02	28,000
Sonderkommando 4a	Security Police	Paul Blobel	1941-06–1943-12	0.78	49,000	59,018	1941-06–1941-11	43,000
Einsatzkommando 9	Security Police	Alfred Filbert	1941-06–1943-12	0.77	16,000	41,340	1941-06–1942-12	15,000
Police Cavalry Battalion II	Order Police	Wilhelm Hofmann	1941-10–1944-06	0.76	32,000	40	1942-09–1942-09	3,600
Police Regiment South	Order Police	René Rosenbauer	1941-05–1944-05	0.74	10,000	9,100	1941-07–1941-09	9,700
Sonderkommando 11a	Security Police	Paul Zapp	1941-08–1942-04	0.72	7,900	23,510	1941-09–1941-12	7,600
Police Battalion 69	Order Police	Richard Sonnenberg	1941-09–1943-01	0.62	41,000	73	1941-11–1942-10	27,000
Police Battalion 317	Order Police	Erwin Gresser	1941-05–1942-07	0.58	4,300	30	1942-04–1942-04	83
Panel B: Units without one								
Gebietskommissariat Lida	Civil administration	Hermann Hanweg	1942-03–1942-05	1.96	11,000			
2nd Reserve Police Company Munich	Order Police	*Herbert Böttcher*	1942-08–1942-12	0.92	17,000			
1st Panzer Division	Army	Rudolf Schmidt	1939-09–1944-06	0.82	3,100			
170th Infantry Division	Army	Walter Wittke; Erwin Sander	1941-08–1944-06	0.78	1,200			
Infantry Regiment 481	Army	Friedrich Weber	1941-06–1944-06	0.77	1,800			
BdO Ukraine	Order Police	Otto von Oelhafen	1941-09–1944-02	0.65	25,000			
132nd Infantry Division	Army	Rudolf Sintzenich	1941-07–1944-06	0.59	36,000			
SS Flak Battalion 1	Waffen-SS	Bernhard Krause	1941-07–1943-12	0.50	4,600			
XXX Army Corps	Army	Hans von Salmuth	1941-04–1944-03	0.48	6,300			
13th Panzer Division	Army	Walther Düvert	1941-06–1944-03	0.46	7,500			
LVI Panzer Corps	Army	Ferdinand Schaal	1942-01–1944-06	0.46	710			
XXXIX Panzer Corps	Army	Rudolf Schmidt	1941-07–1944-06	0.44	1,900			
14th Infantry Division	Army	Friedrich Fürst	1939-09–1944-06	0.43	3,100			
Infantry Regiment 513	Army	Görner	1941-07–1941-10	0.41	37,000			
83rd Infantry Division units	Army	Alexander von Zülow	1942-01–1944-06	0.40	710			
198th Infantry Division	Army	Albert Buck; Otto Röttig	1941-09–1944-02	0.39	6,000			
60th Infantry Division	Army	Friedrich-Georg Eberhardt	1941-07–1942-06	0.38	10,000			
19th Infantry Division	Army	Günther Schwantes	1939-09–1939-09	0.38	4,900			
9th Infantry Division	Army	Siegmund Freiherr von Schleinitz	1941-06–1944-06	0.37	36,000			
XXXXI Army Corps	Army	Georg-Hans Reinhardt; Josef Harpe	1941-06–1942-02	0.37	1,200			

This table lists units with the highest killing rate among the 942 units present in at least three of 842 cells of 25 by 25 kilometers in the German-administered East from 1939 to 1944. A unit is present in a cell from the first month the troop-unit panel places it there until a source places it elsewhere; Period gives its first and last month of presence. Panel A lists the 20 with the highest rate among the units to which a source attributes a number of victims, Panel B the 20 with the highest rate among the others. Panel B omits Ortskommandantur 323, which no source places in its cells after July 1941. Rate is the increase in monthly deaths per 100 residents of a cell associated with the unit's presence, estimated jointly for all units with cell, zone-by-month, and cohort-by-month fixed effects and shrunk toward the average unit. Deaths counts the residents of the unit's cells whom the Yad Vashem database records as murdered in the months the unit was present. Under Documented victims, Number is the largest number of victims one source attributes to the unit (Mallmann et al., 2011; Curilla, 2006; Arico, 2011), Months the period that number covers, and Deaths the deaths of residents of the unit's cells over those months. Both Deaths columns are rounded to two significant digits. Commander held the post in the months with the largest share of the unit's deaths; a second commander is named where another tenure holds at least a third of them. Where the sources do not name the unit's own commander, an italic name gives the commander it served under. KdS and BdO are the regional commanders of the Security Police and the Order Police.

Table A9: Alternative Denominators

	Rival entry			Non-rival entry		
	Residents, deaths per 100 (1)	Census Jews, deaths per 100 (2)	Inhabitants, deaths per 1,000 (3)	Residents, deaths per 100 (4)	Census Jews, deaths per 100 (5)	Inhabitants, deaths per 1,000 (6)
Panel A: Presence, OLS						
Presence within 25 km	2.00***	0.94	0.96**	0.21	0.16	0.89
	(0.50)	(1.14)	(0.45)	(0.25)	(1.16)	(0.64)
Outcome mean	5.65	5.47	2.64	5.65	5.47	2.64
Observations	92,823	59,224	88,255	92,823	59,224	88,255
Panel B: Entry, event study						
Treated × post-entry	4.10***	6.88***	6.04***	−0.81	−1.35	1.01*
	(1.18)	(2.55)	(1.18)	(0.70)	(1.41)	(0.57)
Leads, joint p	0.581	0.275	0.125	0.000	0.000	0.000
Outcome mean	34.23	18.30	10.48	37.36	31.62	12.84
Treated cells	353	283	352	705	488	736
Observations	161,800	83,419	176,633	116,897	71,779	127,817
Cell FEs	✓	✓	✓	✓	✓	✓
Zone-by-month FEs	✓	✓	✓	✓	✓	✓

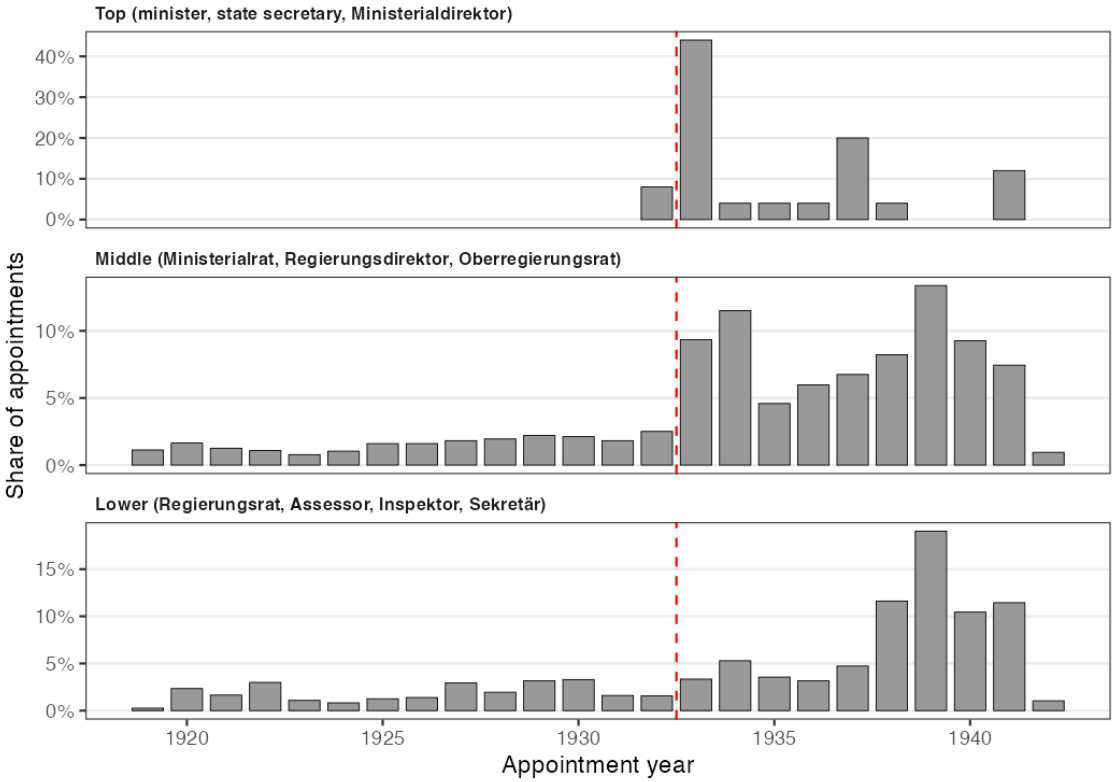
This table repeats columns (1) and (4) of Table 3 with three denominators of the deaths of the murdered residents of the cell: the residents of any fate in the Yad Vashem database, as in Table 3; the Jews of the Polish census of 1931 by religion and the Soviet census of 1939 by nationality, spread over the grid, in cells with at least 20 census Jews and at least one resident in the database, which excludes the Baltic states, covered by neither census; and the inhabitants of the 1930 population surface (Appendix A.7), in cells with at least 100 inhabitants. Panel A regresses the deaths in the six months from the month on the presence within 25 kilometers of two or more commands (columns 1 to 3) or of two or more units of one command and no other (columns 4 to 6), on the sample of Table 3, Panel A. Panel B reports the event study of Table 3, Panel B, on the cumulative deaths; its columns (3) and (6) include cells without residents in the database. Regressions include cell and zone-by-month fixed effects, within each stack in Panel B. Standard errors clustered in 100-kilometer blocks are in parentheses. Stars mark significance at the 10 (*), 5 (**), and 1 (***) percent levels.

Table A10: Entries by Entrant and Incumbent Command

	No entry of the same kind			No entry of any kind		
Entry	Effect (SE) (1)	Treated (2)	Comparison (3)	Effect (SE) (4)	Treated (5)	Comparison (6)
Panel A: Rival entries						
All rival entries	4.1*** (1.2)	353	1,592	5.6** (2.3)	353	359
Security Police beside army	6.3*** (1.7)	171	1,132	8.3** (3.2)	171	215
Army beside the SS and police	6.5** (2.7)	37	138	0.3 (6.2)	18	25
Panel B: Non-rival entries						
All non-rival entries	−0.8 (0.7)	705	1,523	1.4 (1.8)	508	224
Second army unit	−0.2 (0.7)	665	1,347	1.5 (1.9)	487	194

This table reports difference-in-differences estimates on the stacks of Figure 10 by the command of the entering unit and the command present the month before: the coefficient on the interaction of a treated cell with the months from entry on, in cumulative deaths per 100 residents, with its standard error, and the treated and comparison cells. Columns (1) to (3) use the comparison rule of Figure 10. Columns (4) to (6) exclude comparison cells with an entry of any kind from the sixth month before to the ninth month after, and non-rival cells with a rival entry in that window. The first row of each panel is the arm of Figure 10; in the other rows, the comparison cells of a stack held the same command as its treated cells the month before and carry their total weight. Regressions include cell and zone-by-month fixed effects within each stack. Standard errors are clustered in 100-kilometer blocks. Stars mark significance at the 10 (*), 5 (**), and 1 (***) percent levels.

Figure A9: Appointment Years



This figure plots the share of the appointments printed in the directories of 1936 and 1939 to 1943 that fall in each year, for three classes of rank: top (minister, state secretary, Ministerialdirektor, president, Oberpräsident, Reichsstatthalter), middle (Ministerialrat, Regierungsdirektor, Oberregierungsrat, Ministerialdirigent, Landrat, mayor), and lower (Regierungsrat, Assessor, Inspektor, Sekretär, Amtmann, Amtsrat). The red dashed line marks the change of regime in 1933.

C.4 Direction and Initiative

Figure A20 accompanies Section 6, Table A13 lists the directives drawn in Figure 11, and Figures A22 and A23 accompany Appendix B. Figure A21 gives the full timing test of Section 6.3, and Table A14 lists sample quotes from the diaries, including those quoted there.

Table A13: Directives on the Killing in the Occupied East, 1941 to 1943

No.	Date	Issuer	Kind	Content	Source
1	13 May 1941	Hitler	Direction	Offences of soldiers against civilians to be prosecuted only in exceptional cases; civilian suspects to be dealt with by the troops on the spot; collective measures against places of attacks	Longerich, 2010, p. 183
	19 May 1941	Wehrmacht high command	Direction	Bolshevism the mortal enemy; ruthless measures against Bolshevist agitators, irregulars, saboteurs, Jews and elimination of all resistance	Longerich, 2010, p. 184
	21 May 1941	Himmler	Direction	HSSPFs to command SS and police troops and Security Police units for tasks Himmler assigns; nine police battalions under the tactical authority of the security divisions, HSSPFs authorized to take direct command for special assignments	Longerich, 2010, p. 184
2	17 Jun 1941	Heydrich	Direction	Briefing of the Kommando leaders in Berlin (presumably 17 June) and at Pretzsch: severity, the war as a clash of world views, Jews as a potential enemy; content known from postwar interrogations	Longerich, 2010, p. 190

No.	Date	Issuer	Kind	Content	Source
	29 Jun 1941	Heydrich	Instruction	The Kommandos to initiate 'attempts at self-purification' by local anti-Communist and anti-Jewish circles	Longerich, 2010, p. 190
3	2 Jul 1941	Heydrich	Instruction	Informs the HSSPFs of the instructions to the Einsatzgruppen: to be executed are Comintern functionaries, people's commissars, Jews in party and state posts, and other radical elements ('etc.')	Longerich, 2010, p. 190
4	16 Jul 1941	Hitler	Direction	Civil administration of the occupied East to Rosenberg's ministry; Himmler restricted to providing security through the police, with power to appoint HSSPFs and SSPFs	Longerich, 2012, p. 527
	19 Jul 1941	Himmler	Direction	Both SS cavalry regiments sent to Baranowicze and placed at the disposal of HSSPF Bach-Zelewski for a systematic combing of the Pripet marshes	Cüppers (2014), p. 135
	22 Jul 1941	Himmler	Direction	March order to Lemberg for operations under Jeckeln's command in the Ukraine	Cüppers (2014), p. 135
	27 Jul 1941	Himmler	Instruction	Guidelines for the combing of marsh areas by cavalry units: those suspected of helping partisans to be shot, women and children to be deported, villages burned; no concrete military targets	Cüppers (2014), p. 138
	31 Jul 1941	Göring	Direction	Goering signs a declaration drafted by Heydrich that authorizes him to make all organizational, functional, and material preparations for a 'total solution of the Jewish question within the German sphere of influence in Europe' and to present an overall draft	Longerich, 2010, p. 260
	1 Aug 1941	Himmler	Instruction	Express command of the Reichsfuehrer-SS: all Jews must be shot, Jewish women to be herded into the marshes	Longerich, 2012, p. 531
	2 Aug 1941	Reichskommissar Ostland	Direction	Draft of provisional guidelines for the treatment of Jews (seizure, marking, ghettos), matching Lohse's oral instructions of 27 July in Kaunas	Longerich, 2010, p. 232
	12 Aug 1941	Himmler	Direction	Himmler summoned Jeckeln and appeared indignant about his activity, which still left something to be desired; Jeckeln then increased the number of murders	Longerich, 2012, p. 533
	14 Aug 1941	Himmler	Direction	Daily situation reports by radio or telex directly to Himmler, with copies to Daluege, Heydrich, and Knoblauch	Witte et al., 1999, p. 191
5	18 Aug 1941	Reichskommissar Ostland	Direction	Signed provisional guidelines: minimum measures of the civil administration only if further measures toward a definitive solution are not possible; measures of the Security Police not covered	Longerich, 2010, p. 235
	3 Oct 1941	Himmler	Instruction	Himmler visited the commando at Krivoy Rog; afterwards it shot the Jewish women there as well, the last Kommando of Einsatzgruppe C to do so	Longerich, 2012, p. 533
	7 Nov 1941	Reichskommissar Ostland	Instruction	To prevent further shootings of Jewish skilled workers, after complaints from Wehrmacht authorities	Longerich, 2010, p. 297
6	15 Nov 1941	Reichskommissar Ostland	Instruction	Lohse had banned the 'arbitrary executions of Jews in Libau' because of the manner of execution; the RSHA complained; on 15 November he defended the ban and asked the Eastern Ministry whether all Jews were to be killed regardless of age, sex, and economic interests	Longerich, 2010, p. 298
	18 Dec 1941	Hitler	Direction	'Jewish question / to be extirpated as partisans': renewed confirmation that the mass murder of the Soviet Jews continue and intensify	Longerich, 2010, p. 306
7	18 Dec 1941	Ministry for the occupied East	Instruction	Economic questions are not to be considered in the solution of the Jewish problem; further disputes to be settled locally (with the HSSPF); Lohse dropped his protest	Hilberg, 2003, p. 392
	Jan 1942	Order Police main office	Instruction	Tried to reduce the part of individual-service police in mass shootings to cordons and security	Curilla, 2006, p. 59

No.	Date	Issuer	Kind	Content	Source
8	20 Jan 1942	Heydrich	Direction	Heydrich outlines the mass murders in the occupied territories to senior officials of the Party, the SS, and the ministries as part of a 'solution to the European Jewish question' ordered by Hitler and directed by the RSHA, to ensure they share knowledge of and responsibility for the policy; invited on 29 November for 9 December and postponed on 8 December to 20 January 1942	Longerich, 2010, p. 305
	28 Jul 1942	Himmler	Direction	'The occupied eastern territories will become free of Jews. The Fuehrer has placed the implementation of this very burdensome order on my shoulders.'	Longerich, 2012, p. 622
	28 Aug 1942	Civil administration, Volhynia-Podolia	Instruction	Agreement to kill all the Jews of the General Commissariat of Volhynia-Podolia within five weeks except 500 skilled workers; Koch's deputy assured 'hundred per cent' clearance	Longerich, 2010, p. 350
	27 Oct 1942	Himmler	Instruction	The Pinsk ghetto to be dealt with and destroyed immediately despite economic concerns; 1,000 male workers to the Wehrmacht if the action allows	Longerich, 2010, p. 351
9	21 Jun 1943	Himmler	Instruction	All Jews living in ghettos in the Ostland to be placed in concentration camps; Jews barred from leaving the camps for work; ghetto inmates not required to be 'evacuated'	Longerich, 2012, p. 667

This table lists the 27 directives on the killing in the occupied Soviet territory issued above the units in the field, from 1 May 1941 to 31 December 1943, as the sources in the last column date them; five orders that field commanders gave their own units are coded but not drawn. No. is the number in Figure 11. Kind follows Section 6.1: an instruction names an act, bounds one, or approves one; a direction states a goal, assigns jurisdiction, or fixes a procedure. A directive dated to a month is listed by month and drawn at its middle.

Table A14: Sample Quotes from the Diaries

Date and source	German	English
Panel A: Joseph Goebbels, diary		
21 Feb. 1931	Göring ist Morphinist. Chef will ihn zur Rede stellen. Er macht die tollsten und ausgefallensten Sachen, fühlt sich abwechselnd als Reichskanzler und Wehrminister, kurzum, typischer Größenwahn. … Eine komische Figur. Zeug zum Falstaff.	Göring is a morphine addict. The boss wants to take him to task. He does the craziest and most outlandish things, feels himself by turns Reich chancellor and defense minister, in short, typical megalomania. … A comic figure. The stuff of a Falstaff.
10 June 1931	Göring unterstützt Straßer sehr heftig - aus Haß gegen mich. … Ich habe wenig Freunde in der Partei. Fast nur Hitler. Alle neiden mir meine Erfolge und meine Popularität. … Göring ist ein großmauliger Faulenzer. Er will Einfluß, aber keine verantwortliche Arbeit.	Göring supports Strasser very vehemently, out of hatred for me. … I have few friends in the party. Almost only Hitler. Everyone envies me my successes and my popularity. … Göring is a big-mouthed loafer. He wants influence but no responsible work.
30 June 1931	Ich komme einem großangelegten Komplott auf die Spur: die S.S. (Himmler) unterhält hier in Bln. ein Spionagebüro, das mich überwacht. … Entweder habe ich Hitlers Vertrauen oder nicht. So arbeite ich nicht weiter. Himmler haßt mich. Jetzt werde ich ihn zum Sturz bringen. Dieses hinterlistige Vieh muß verschwinden.	I am onto a large-scale plot: the S.S. (Himmler) runs a spy office here in Berlin that watches me. … Either I have Hitler's trust or I do not. I won't go on working like this. Himmler hates me. Now I will bring him down. This devious beast must go.
10 Oct. 1931	Chef Sauwut. Ich schüre. … Er ist ein herrlicher Mann. Ich liebe ihn. … Chef sehr gut zu mir. Straßer war gestern wieder stur und eigensinnig. Neid und Haß!	Boss in a towering rage. I stoke it. … He is a magnificent man. I love him. … Boss very good to me. Strasser was stubborn and willful again yesterday. Envy and hatred!
11 May 1932	Ich habe eine Sauwut auf diesen dicken Popo. Er ist direkt zum Kotzen. … Telephon mit Hitler. Ich deute Görings Fehler an. Er ist sauwütend. … Göring wird trotz mehrmaligen Anrufs nicht empfangen. Er hat zuviel verpatzt. Das wird ihm teuer zu stehen kommen.	I am in a rage at this fat backside. He is downright sickening. … Phone call with Hitler. I hint at Göring's mistake. He is furious. … Göring is not received despite calling several times. He has botched too much. That will cost him dearly.

Date and source	German	English
20 June 1933	Brief Göring/Körner in Sachen Rundfunk eine Unverschämtheit. Ich habe Stinkwut und will gleich zu Hitler fliegen. Aber ich lasse doch die Sache ausreifen. … Ewige Kompetenzkonflikte. Ich kotze das bald. Aber aushalten!	Letter from Göring/Körner on the radio matter an impertinence. I am livid and want to fly to Hitler at once. But I let the matter ripen after all. … Endless conflicts over jurisdiction. I'll soon be throwing up over it. But hold out!
23 June 1933	Gestern: Ärger um Kompetenzen. Aber Funk hat mir schon vieles vom Halse gehalten. In ["Sachen" durchgestrichen] Brief Körner ist Hitler ganz auf meiner Seite. … Heute Kampf mit dem Finanzminister. Ewiger Geld- und Kompetenzstreit. Aber Hitler steht auf meiner Seite.	Yesterday: trouble over jurisdiction. But Funk has already kept much of it off my back. On the Körner letter, Hitler is entirely on my side. … Today a fight with the finance minister. Endless disputes over money and jurisdiction. But Hitler is on my side.
12 Mar. 1937	Streit, wer das Geld geben soll. Es ist zum [K]otzen! Die Ressorts streiten wie kriegführende Mächte. Und es geschieht nichts.	Quarrel over who is to provide the money. It is enough to make you sick! The ministries fight like warring powers. And nothing happens.
22 Mar. 1941	Bormann polemisiert gegen das Hilfswerk für das Rote Kreuz. Nur Brotneid. Er macht mir überhaupt viele Schwierigkeiten. … Aber ich setze doch beim Führer, der übrigens nach München abgefahren ist, die Vorführung durch. Die ganze Clique arbeitet nicht, sondern intrigiert nur.	Bormann polemicizes against the Red Cross relief drive. Pure professional jealousy. He causes me a great deal of trouble in general. … But I still get the screening approved by the Führer, who by the way has left for Munich. The whole clique does no work; it only intrigues.
30 Jan. 1942; Lammers reports	Lammers teilt mir eine Reihe von Vorgängen innerhalb der obersten Regierungsbehörden mit. Die Dinge im Ostministerium scheinen in keiner Weise zu klappen. Rosenberg ist doch mehr Theoretiker als praktischer Organisator. Der Volksmund sagt schon, daß es sich nicht um ein Ost-, sondern um ein Cha-Ost-Ministerium handelt. … Er baut wie in allen seinen Dienststellen einen Riesenapparat auf, den er zum Schluß gar nicht mehr übersehen kann.	Lammers tells me about a number of goings-on in the highest government authorities. Things in the Eastern Ministry do not seem to work at all. Rosenberg is, after all, more a theorist than a practical organizer. People are already saying that this is not an Ost [East] ministry but a Cha-Ost [chaos] ministry. … As in all his offices, he is building a giant apparatus that in the end he can no longer oversee.
14 Feb. 1942; Bormann's complaint, reported	Bormann beklagt sich auch sehr bitter über Rosenberg, der in seinem Ministerium ein ziemliches Chaos aufgebaut hat und nun mit Krethi und Plethi Streit anfängt. Auch Rosenberg ist eine Art von Quisling-Typ, ein guter Theoretiker, aber kein Praktiker, und in der Organisation gänzlich unbewandert, mit reichlich naiven und kindlichen Vorstellungen.	Bormann also complains very bitterly about Rosenberg, who has built up quite a chaos in his ministry and is now picking quarrels with all and sundry. Rosenberg, too, is a kind of Quisling type, a good theorist but no practical man, wholly inexperienced in organization, with rather naive and childish ideas.
Panel B: Hans Frank, office diary		
15 Mar. 1940; speech, Kattowitz; r. 3, fr. 847	Vor allem aber wird das eine sein: die nationalsozialistische Erziehung unseres Volkes und die nationalsozialistische Führerschicht werden nicht müde werden, das Persönlichkeitsideal jedem Begriffsideal voranzustellen. Und das heißt: wir müssen aus dem Kriege lernen, daß es wichtiger ist, daß durch die Führung einmalige Taten geschehen, als daß durch eine nivellierte, ausgeglichene, rückenmarkgebrochene Dekadenzverwalterei nun jede Führungstat unsicher gemacht wird.	Above all, one thing will hold: the National Socialist education of our people and the National Socialist leadership class will not tire of putting the ideal of personality ahead of every ideal of abstract concepts. And that means: we must learn from the war that it matters more that the leadership accomplishes unique deeds than that a leveled, balanced, spineless administration of decadence makes every act of leadership uncertain.
9 Apr. 1940; speech to judges, Kraków; r. 2, fr. 43	Meine deutschen Rechtswahrer in diesem Generalgouvernement, denken Sie in jedem Fall, der Ihnen zur Entscheidung vorgelegt wird, immer an eine einfache Formel: Wie würde der Führer diesen Fall entscheiden? Dann werden Sie über alle Formalordnungen hinweg in Ihrer inneren Ausrichtung immer auf dem richtigen Wege sein. … Im übrigen heißt es auch hier im Generalgouvernement: Recht ist, was der Gemeinschaft und hier der deutschen Gemeinschaft in ihrem Schicksalskampf zum Segen gereicht.	My German guardians of the law in this General Government, in every case put before you for decision, always keep one simple formula in mind: How would the Führer decide this case? Then, above all formal rules, your inner orientation will always keep you on the right path. … For the rest, here in the General Government too the rule is: law is what benefits the community, and here the German community in its fateful struggle.

Date and source	German	English
20 May 1940; speech, Bromberg; r. 2, fr. 268	Der Begriff Volksgemeinschaft leuchtet allem anderen voran. … Eine Bewegung, eine Weltanschauung, ein Staat, eine Gemeinschaftsarbeit, eine Kameradschaft, ein Führer sind die Fundamente dieser Stärke. … Heute ist es mit dem Durcheinander von Parteien und Gruppen vorbei.	The idea of the national community outshines everything else. … One movement, one worldview, one state, one common work, one comradeship, one Führer are the foundations of this strength. … Today the jumble of parties and groups is over.
30 May 1940; police leaders' meeting; Hitler, as reported; r. 3, fr. 776	Der Führer hat einmal gesagt, daß das Hauptproblem für die Reichsorganisation selbstverständlich das Sich-Überschneiden zentraler reichstotaler Vollmachten sei, daß man hier Ministerien, Generalbevollmächtigte, Reichskommissare usw. nebeneinander gruppiert, als gegenseitige Zuständigkeiten nicht scharf trennt, sodaß dann nicht ein Ringen aller gegen alle einsetzt, und schließlich derjenige, der die starken Ellenbogen hat, sich durchsetzt und die anderen mehr oder weniger irgendwie unter die Räder kommen.	The Führer once said that the main problem for the organization of the Reich was, of course, the overlapping of central, Reich-wide powers: that one places ministries, general plenipotentiaries, Reich commissioners, etc. side by side, [thus] does not sharply separate their mutual competences, so that then [literally: 'not'] a struggle of all against all sets in, and in the end whoever has the strong elbows prevails and the others more or less somehow fall under the wheels.
30 May 1940; police leaders' meeting; r. 3, fr. 783	Ich wäre auch ein schlechter Chef, wenn ich nicht diesen gesunden Ehrgeiz nach Kräften ausnützen würde. Aber es ist unmöglich, daß dieser Ehrgeiz zu persönlichen Reibungen führen darf. … Der Führer läßt die gesunde Konkurrenz der verschiedenen Bestrebungen und Einrichtungen bestehen. Es ist interessant, daß in dem Gesamtgefüge des Reiches jeder Vollmacht eine Gegenvollmacht und jeder Einrichtung einer [sic] Gegeneinrichtung entspricht, und daß dies alles in diesem Führerbereich ausbalanciert ist.	I would be a bad chief if I did not exploit this healthy ambition to the full. But this ambition must not be allowed to lead to personal friction. … The Führer lets the healthy competition of the various endeavors and institutions persist. It is interesting that in the overall structure of the Reich every authority corresponds to a counter-authority and every institution to a counter-institution, and that all this is balanced within the Führer's domain.
18 July 1941; speech, Kraków; r. 4, fr. 401	Wir haben eine Einheit des Staates, eine Einheit des Volkes, eine Einheit der Führung und eine Einheit der Weltanschauung, wie wir sie noch nie gehabt haben. Hier kann man nicht mehr eindringen und unser Volk wieder in inneren Kämpfen zerreißen und zerspalten, wie es jahrhundertelang die gewohnte Übung unserer haßerfüllten Feinde war.	We have a unity of the state, a unity of the people, a unity of leadership and a unity of worldview such as we have never had before. No one can break in here anymore and tear our people apart in internal struggles, as was the customary practice of our hate-filled enemies for centuries.
19 Nov. 1941; speech, Berlin; r. 4, fr. 826	Das will sagen, daß es nach der Meinung des Führers notwendig war, daß in großem Umfange an die Stelle der Rechtssicherheit von früher die Staatssicherheit als Ziel getreten ist. … Daher mußten wir es hinnehmen, daß durch die Einrichtung verschiedener polizeilicher Zuständigkeiten in das Rechtsleben des Deutschen Volkes eine kaum erträgliche Unsicherheit eingedrungen ist.	That is to say: in the Führer's opinion it was necessary that, on a large scale, state security replace the former legal security as the goal. … We therefore had to accept that the creation of various police jurisdictions brought a barely tolerable insecurity into the legal life of the German people.
6 Dec. 1941; lecture, Munich; r. 4, fr. 904–905	[In Wirklichkeit] gibt es natürlich keinen verantwortungsbewussteren[?] und verantwortlicheren Mann in der ganzen Geschichte als den Führer, aber seine Entscheidung ist schicksalsgleich und daher jeder Kritik entzogen. Diese Art des Führerprinzips kann selbstverständlich nur für den einen, den obersten einer Nation gelten.	In reality, of course, there is no man in all of history more conscious of responsibility and more responsible than the Führer, but his decision is like fate and therefore beyond all criticism. This kind of leader principle can of course apply only to the one, the highest of a nation.
18 Mar. 1942; party meeting, Kraków; r. 6, fr. 196	Meiner Meinung nach ist es mit der Gewalt und der Durchsetzung der Aktivität allein nicht getan. … Ich habe mich mit Reichsführer SS Himmler über alle diese Dinge unterhalten. Ohne Rücksicht darauf, daß man methodisch vielleicht verschiedener Meinung sein kann, sind und bleiben wir als Diener des Führers Träger der Weltanschauung des Nationalsozialismus.	In my opinion, violence and the forceful pursuit of activity are not enough by themselves. … I have discussed all these matters with Reichsführer SS Himmler. Regardless of the fact that one may perhaps differ on method, we are and remain, as servants of the Führer, bearers of the National Socialist worldview.

Date and source	German	English
15 Aug. 1942; party meeting, Kraków; r. 6, fr. 934	Dann kann es uns nicht genieren, wenn selbst hier im Generalgouvernement zu meinem Entsetzen Kirchen für Deutsche eröffnet werden und wenn man mir vom Reiche aus sogar sagt, das sei ein Bedürfnis. Dem gegenüber kann ich nur erklären: für uns Parteigenossen kann es keinen Zweifel geben, dass wir mit Stärke an unserem Glauben festzuhalten haben und unser Glaube heisst Adolf Hitler.	Then it need not bother us if, even here in the General Government, to my horror, churches are opened for Germans and I am even told from the Reich that this meets a need. Against this I can only declare: for us party comrades there can be no doubt that we must hold firmly to our faith, and our faith is called Adolf Hitler.
After 16 Sept. 1942; memorandum; r. 6, fr. 1038–1040	Denn es ist klar: ich gebe ihnen nichts in meiner Meinung nach, daß der jetzt vom Führer eingeschlagene Kurs der Gewalt, der völligen Vernichtung der Rechtssicherheit und des Regimes mit Hilfe von Konzentrationslager und Polizeiwillkür für den Führer wie für sein Reich eine der schwersten Gefahren darstellt, die überhaupt erstehen konnten. … Da ich aber mit dieser Meinung innerhalb des Führerkorps dieses jetzigen Reiches mich dem Führer gegenüber nicht durchsetzen kann, bleibt es zunächst bei dem Schicksal des Sehers, der Düsteres hereinbrechen sieht, ohne es im Augenblick ändern zu können. … Im einzelnen entwickelt sich das Verhältnis zwischen dem Generalgouverneur und den im Lande befindlichen, völlig im Einklang mit der Reichsführung SS stehenden Persönlichkeiten verhängnisvoll.	For it is clear: I do not yield to them at all in my view that the course now taken by the Führer, a course of violence, of the complete destruction of legal security, and of rule by means of concentration camps and police arbitrariness, is for the Führer as for his Reich one of the gravest dangers that could arise at all. … But since, with this view, I cannot prevail with the Führer within the leadership corps of the present Reich, I am left for now with the fate of the seer who sees darkness breaking in without being able to change it at the moment. … In particular, relations between the Governor General and the personalities in the country who act in full accord with the Reich leadership of the SS are developing disastrously.
25 Jan. 1943; meeting on police matters, Warsaw; Krüger, then Frank; r. 10, fr. 62	Krüger: "Nachdem ich Oberführer Dr. Schöngarth gehört habe, habe ich sofort den Reichsführer gebeten, von weiteren Aktionen unbedingt Abstand zu nehmen." Frank: "… Herr Staatssekretär Krüger, Sie wissen, daß Anweisungen des Reichsführers SS von Ihnen erst vollzogen werden dürfen, wenn Sie mich vorher gehört haben. Das ist in diesem Falle unterblieben. … Es ist nicht möglich, daß wir uns über Führerverordnungen hinwegsetzen, und es ist ausgeschlossen, daß auf dem Gebiet der Polizei und der Sicherheit unmittelbar Weisungen des Reichsführers befolgt werden unter Umgehung des Mannes, den der Führer hier eingesetzt hat; sonst bin ich ja völlig überflüssig."	Krüger: "After hearing Oberführer Dr. Schöngarth, I immediately asked the Reichsführer to refrain absolutely from further actions." Frank: "State Secretary Krüger, you know that instructions of the Reichsführer SS may be carried out by you only after you have first heard me. That did not happen in this case. … It is not possible for us to override Führer decrees, and it is out of the question that in matters of police and security the Reichsführer's instructions are followed directly, bypassing the man whom the Führer installed here; otherwise I am entirely superfluous."
25 Jan. 1943; same meeting; r. 10, fr. 63	Ich soll die politische Verantwortung in diesem Raum tragen, und ein anderer befiehlt - das ist unmöglich. … Alle Welt nimmt an, daß ich von den Dingen weiß und über sie ins Bild gesetzt wurde, während ich genau so überrascht war; denn ich habe von diesen Zuständen erst durch ein Telegramm des Gouverneurs Dr. Fischer gehört. … Wenn ich nicht einverstanden bin, dann entscheidet entsprechend dem Wortlaut der Verordnung der Führer selber.	I am supposed to bear the political responsibility in this area, and someone else gives the orders: that is impossible. … All the world assumes that I know about these things and was informed about them, whereas I was just as surprised; for I learned of these conditions only through a telegram from Governor Dr. Fischer. … If I do not agree, then, according to the wording of the decree, the Führer himself decides.

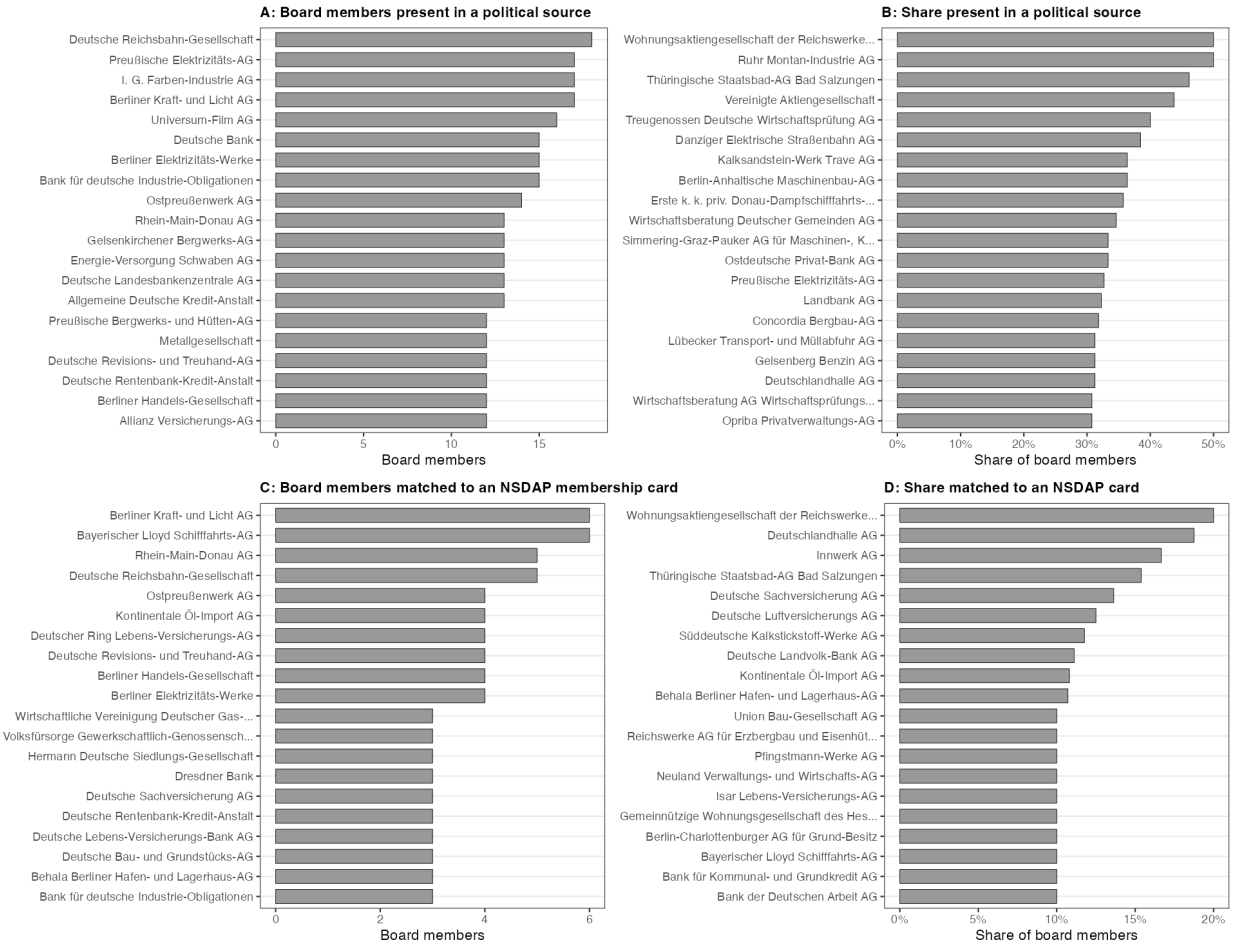
Date and source	German	English
14 Apr. 1943; meeting on food supply, Kraków; minutes; r. 10, fr. 226–227	Leider trete das Reich heute nicht mehr als einheitliches Gefüge auf, sondern in einzelnen Machtgebilden wie der Parteikanzlei, dem Reichskommissariat für die Festigung deutschen Volkstums, der Polizei, der Wehrmacht, der Rüstungsinspektion, der Ernährungszentrale des Reiches. Alle diese voneinander irgendwie unabhängig arbeitenden[?] Faktoren träfen sich hinsichtlich des Generalgouvernements mit untereinander nicht ausgleichbaren Forderungen und versuchten nach dem berühmten Ellenbogensystem, losgelöst von den anderen Stellen des Reiches, ihre Vorstöße durchzuführen. Man habe es hier mit einer Anarchie der Vollmachten im Reiche[?] zu tun. Es gebe lauter Willensfaktoren, die so potent seien, daß sie sich unter Umständen mit Gewalt durchsetzen könnten und sich dann um die dadurch entstehenden schweren chaotischen Schäden nicht mehr zu bekümmern brauchten.	Unfortunately, the Reich no longer appears today as a unified structure but as separate power blocs such as the Party Chancellery, the Reich Commissariat for the Strengthening of German Nationhood, the police, the Wehrmacht, the armaments inspectorate, the Reich food office. All these factors, working somehow independently of one another, converged on the General Government with mutually irreconcilable demands and tried, by the famous elbow system and detached from the other offices of the Reich, to push through their advances. One was dealing here with an anarchy of authorizations in the Reich. There were nothing but centers of will so potent that they could, if need be, prevail by force and then no longer had to concern themselves with the severe chaotic damage this caused.
4 Aug. 1943; meeting with forestry officials, Kraków; minutes; r. 9, fr. 188	Die Führung der SS und Polizei habe hiergegen ganz ostentativ und systematisch vom Anfang an verstossen. Sie habe diese seine Einstellung nicht anerkennen wollen und er habe deshalb im Generalgouvernement einen lang andauernden Kampf zwischen Staatsautorität und Staat im Staate ausfechten müssen. … Am 9.Mai ds.Js. habe er darüber mit dem Führer eine eingehende Aussprache gehabt und daraufhin habe eine sensationelle Entwicklung begonnen. … Dieser Kampf sei zu seinen Gunsten entschieden und ebenso hätten sich seine Anschauungen über die gesamte Behandlung der Fremdvölker durchgesetzt.	The leadership of the SS and police had violated this quite ostentatiously and systematically from the start. It had refused to recognize this position of his, and he had therefore had to fight a long struggle in the General Government between state authority and a state within the state. … On 9 May of this year he had discussed this thoroughly with the Führer, and a sensational development had followed. … This struggle had been decided in his favor, and his views on the entire treatment of the foreign peoples had likewise prevailed.
Panel C: Alfred Rosenberg, diary		
30 July 1943; p. 481	Dr. St.[ellrecht] begann heute wieder das uns allen seit Langem bewegende Thema: dass wir keine Regierung haben. … dass dabei aber wichtigste Dinge oft nur einseitig vorgetragen werden, sachliche Abstimmungen nicht recht stattfinden können … Jetzt bilden sich deshalb verschiedene Cliquen, die jeweilig gemeinsame Massnahmen absprechen, Diadochen-artige Gruppen – aber kein Kriegskabinett.	Dr. St[ellrecht] today again raised the subject that has long preoccupied all of us: that we have no government. … that in the process the most important matters are often presented only one-sidedly, that proper coordination on the merits cannot really take place … So now various cliques are forming, each agreeing on joint measures among themselves, groups like the Diadochi, but no war cabinet.
7 Aug. 1943; p. 484	Ein scheinbar nicht hervorstechendes Ereignis hat mir gezeigt, wie sehr die alte geschichtliche Form der Hof-Kamarilla auch bei uns sich ganz skrupellos u. mit Erfolg durchzusetzen begonnen hat. … Der Führer hatte sich an ihn gewöhnt u. brauchte ihn, wenn er einem R[eichs]-Minister, Gauleiter usw. eine unmittelbare Weisung zugehen lassen wollte. Nun war Bormann an der Macht, denn niemand, der von ihm Schreiben erhielt, konnte unterscheiden, ob hier persönlicher Befehl des Führers vorlag, oder B.'s Anschauung.	A seemingly unremarkable incident has shown me how far the old historical form of the court camarilla has begun to assert itself among us too, quite unscrupulously and with success. … The Führer had grown used to him and needed him whenever he wanted to send a direct instruction to a Reich minister, Gauleiter, etc. Now Bormann was in power, for no one who received letters from him could tell whether this was a personal order of the Führer or B.'s view.

Date and source	German	English
7 Aug. 1943; p. 486	… erklärt sich wieder solidarisch u. fügt hinzu, er müsse a.d. Abberufung W. 's bestehen u. habe die begründete Überzeugung, dass gegebenenfalls der Führer auch in diesem Sinn entscheiden würde! Also primitivste Ungerechtigkeit, ein Beispiel elendester Vorzimmer-Politik. … Da die Lübecker Clique ihn bei mir nicht erschüttern konnte, weil ihnen sachliche Unzulänglichkeiten W. 's nachzuweisen bisher nicht möglich war, wird jetzt der Versuch über das Vorzimmer des Führers versucht. Mit grösstem Erfolg: B schnappt sofort darauf ein u. fängt also [an] "Material zu sammeln" gegen einen Menschen, den er garnicht kennt.	… [Bormann] again declares his solidarity [with the accusers] and adds that he must insist on W.'s recall and has the well-founded conviction that, if need be, the Führer would also decide in this sense! So: the most primitive injustice, an example of the most wretched antechamber politics. … Since the Lübeck clique could not shake him in my eyes, because so far they had been unable to prove any factual shortcomings on W.'s part, the attempt is now being made through the Führer's antechamber. With the greatest success: B. bites at once and so starts 'collecting material' against a man he does not even know.
About 26 Oct. 1944; p. 516	Nachgeordnete Instanzen treiben die Dinge ohne Kenntnis des Gesamtkomplexes vorwärts – dilettantisch wie nur irgendeine Aktion. Alles Mögliche tobt sich in der Ostpolitik aus, kommt zum Führer. Ich habe seit 8 Monaten keine Möglichkeiten eines persönlichen Vortrages. … Bei solchem Lauf der Dinge ist es kein Wunder, dass ein grosses Reich gefährdet wird u. aus Mangel an wohlüberlegter politischer Stabilität ein gefühlsmässiges Hin u. Her an die Stelle fester Führung tritt.	Subordinate offices drive matters forward without knowledge of the whole, as amateurishly as any operation. All sorts of things run riot in eastern policy and reach the Führer. For 8 months I have had no opportunity to report to him in person. … With things going this way, it is no wonder that a great empire is put at risk and that, for lack of well-considered political stability, an emotional back-and-forth takes the place of firm leadership.
Panel D: Erich von dem Bach-Zelewski, diary		
About 2–3 Aug. 1941; p. 6	Da der Führer der SS-Reiter-Brigade Standartenführer Fegelein es noch nicht für nötig befunden hat, seine Männer im Einsatz zu besuchen, muss ich mit gutem Beispiel vorangehen. … Dieser persönliche Einsatz ist notwendig, weil die SS-Führer teilweise Versager sind und sich nicht genügend [um] ihre Männer kümmern. Während die SS-Männer der Reiterbrigade in diesen Tagen kämpften wie die Helden, befand [sich Fe]gelein in Warschau, um angeblich Nachschubfragen zu besprechen. Die Wehrmachtsoffiziere schütteln mit Recht den Kopf.	Since the commander of the SS Cavalry Brigade, Standartenführer Fegelein, has not yet seen fit to visit his men in action, I must set a good example. … This personal involvement is necessary because some of the SS leaders are failures and do not look after their men enough. While the SS men of the cavalry brigade fought like heroes in these days, Fegelein was in Warsaw, allegedly to discuss supply questions. The Wehrmacht officers rightly shake their heads.
27 Nov. 1941; p. 18	… ein [F]egelein, der Herumtreiber, und [W]igand, der falsche Zuträger[?], melden sich bei … [Pos]ten[?] ohne Tätigkeit und Verantwortung, die seinem intriganten Charakter entspricht. Der Reichsführer hat ihn so "glänzend" kaltgestellt, den früheren SD-Führer von Schlesien.	… a Fegelein, the drifter, and Wigand, the false informer [reading uncertain], report to … a post without activity or responsibility, which suits his scheming character. The Reichsführer has sidelined him so 'brilliantly', the former SD chief of Silesia.
23 Nov. 1942; p. 61	In diesem Raum beginnt das Unternehmen "Nürnberg". Das Kommando hat RFSS dem SS-Brigadeführer von Gottberg übertragen. Er machte vorher die Sache sehr gut und geht schneidig ran. Leider hat er durch wilde Judenverfolgungen die Waffenehre beschmutzt. Ich bin empört.	Operation 'Nürnberg' begins in this area. The RFSS has given the command to SS-Brigadeführer von Gottberg. He handled things very well before and goes at it with dash. Unfortunately, he has soiled the honor of arms with wild persecutions of Jews. I am outraged.
25 Nov. 1942; p. 62	Heute war wieder ein schwarzer Tag, da sämtliche Russen von Bataillon Rodjanoff[?], aufgestellt als Zeppelin-Unternehmen von Schellenberg der Sicherheitspolizei zu den Partisanen unter Mitnahme von 7 MGs übergelaufen sind. Vorher hatten sie die Eisenbahnbrücke von Kolitschenke, die sie bewachen sollten gesprengt und alle Deutschen ermordet. … Wieder einmal bin ich mit den Versicherungen und Beteuerungen des SS-Brigadeführers Naumann hereingefallen.	Today was another black day, since all the Russians of the Rodjanoff battalion, raised as a Zeppelin operation by Schellenberg of the Security Police, went over to the partisans, taking 7 machine guns with them. Before that they had blown up the railway bridge at Kolitschenke that they were supposed to guard and murdered all the Germans. … Once again I have been taken in by the assurances and protestations of SS-Brigadeführer Naumann.

Date and source	German	English
28–29 Nov. 1942; p. 63	Damit bin ich zum Ende des Jahres 42 vom Kommandierenden General zum Führer einer Brigade degradiert, Folge meiner Beschwerde über Gottberg … Du weisst, wo ich unwahr und wo ich wahr war, wo ich die Führerbefehle befolgt und wo ich dazu nicht in der Lage war. … ich bitte nicht um mein Leben, Ich bitte aber um das Leben des Führers, den Du dem deutschen Volke gesandt hast, und meinem Volk schenk den Sieg	With this, at the end of the year '42, I have been demoted from commanding general to leader of a brigade, the consequence of my complaint about Gottberg … You know where I was untruthful and where I was truthful, where I followed the Führer's orders and where I was not in a position to do so. … I do not ask for my life, but I ask for the life of the Führer, whom you sent to the German people, and grant my people victory.
22 Feb. 1943; letter to Gottberg; p. 70	Der Höh.SSuPolF. Süd hat sich mit Recht über diesen selbständigen Befehl beschwert. … Beide Durchkämmungsaktionen verfolgten lediglich politische und keine militärischen Ziele. Diese Auffassung von mir wird bestätigt durch die grosse Zahl … vernichteter Bandenverdächtigter. … Ein ehrgeiziger Kommandeur wird ausserdem dazu verführt, die nicht erkämpften Erfolge … durch Erschiessung von Bandenverdächtigen vorzutäuschen.	The Higher SS and Police Leader South has rightly complained about this order, issued on your own authority. … Both combing-out operations pursued merely political and no military aims. This view of mine is confirmed by the large number of suspected partisans destroyed. … An ambitious commander is moreover tempted to fake successes not won in combat by shooting suspected partisans.
11 Mar. 1943; p. 73	Oberleutnant Buchmann wirklich an der Südfront gefallen. So fällt einer nach dem andern meiner Mitarbeiter. Nur der Schund bleibt leben.	First Lieutenant Buchmann really has fallen on the southern front. So one after another of my staff falls. Only the trash stays alive.
22 May 1943; after a dispute with Prützmann; pp. 76–77	Das Volk denkt nun, im "autoritären" Staat wird alles von oben befohlen und ahnt nicht, dass oben ein ununterbrochener Machtkampf herrscht. So ist auch mir eine wichtige Aufgabe als Bevollmächtigter für Bandenbekämpfung übertragen, muss mir aber jedes bischen Macht erst mühselig erkämpfen, um wirken zu können.	People think that in the 'authoritarian' state everything is ordered from above, and have no idea that up there an unceasing struggle for power prevails. I too have been given an important task as plenipotentiary for anti-partisan warfare, but I must first fight hard for every bit of power to be able to act.

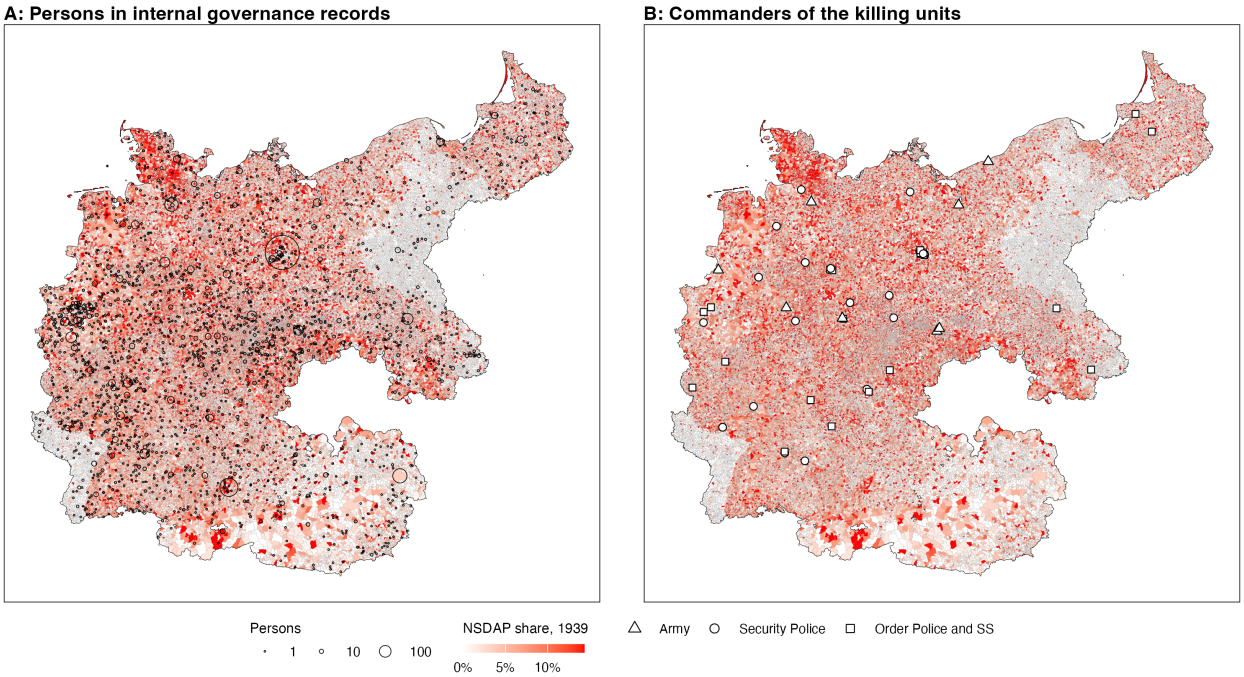
This table lists sample quotes from the diaries in German and in our translation. Ellipses mark omissions and square brackets insertions. Goebbels is cited by date (Fröhlich, 1993), Frank by roll (r.) and frame (fr.) of NARA microfilm T992, Rosenberg by page of Matthäus and Bajohr (2015), and Bach-Zelewski by page of the typed transcript (Bundesarchiv, R 20/45b).

Figure A10: Connected Firms



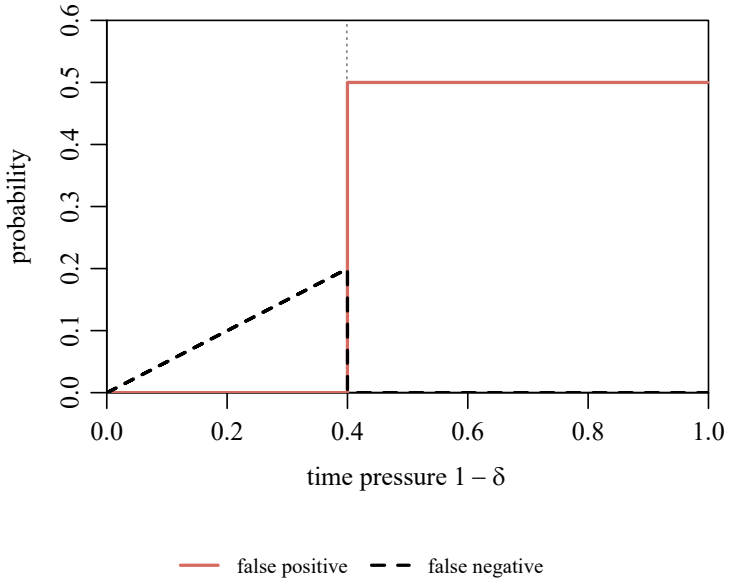
This figure shows the twenty firms ranked highest on each measure of connected board members, for seats from 1933 to 1943. Panels A and B count the members who appear in a political source (the two chancelleries, the Nuremberg records, the situation reports, the Goebbels diaries, the state directories, or a matched NSDAP card), as a number and as a share of the seated members of the firm. Panels C and D count in the same two ways the members matched to an NSDAP membership card; the match is run on the persons in the political registers. Shares use firms with at least ten seated members, and the Reichsbank is excluded.

Figure A11: Where the Regime's Agents Lived



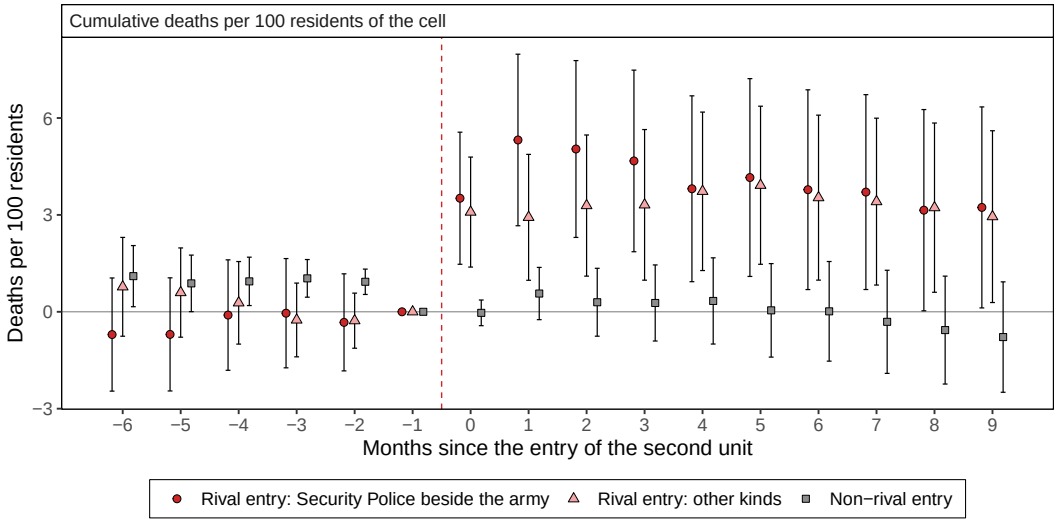
This figure places the regime's agents at the residence on their NSDAP membership card, else at the birthplace on the card or in the record, over the municipal shares of NSDAP members in 1939, from white to red; in the territories annexed from 1938, the share is the members on the cards by 1939 per resident. Panel A places 6,842 persons named in the internal governance records: the Reich Chancellery and Party Chancellery records and the situation reports; circle area is proportional to the persons in a municipality. Panel B places 45 commanders of the army, Security Police, and Order Police and SS units that the killing records name. Persons link to cards through the matched register, the party number or the birth date in the SS seniority list, or a full name that identifies one card.

Figure A12: Error Probabilities across the Rivalry Boundary



This figure plots the unconditional probabilities of each error under the optimal arrangement as time pressure $1-\delta$ rises, at $\pi = 0.5$, $b = 1$, $K = 0.1$, $m = 0.2$, $h = 0.6$. The optimal arrangement switches from control to rivalry at $1-\delta = 0.4$.

Figure A13: Rival Entries by Kind



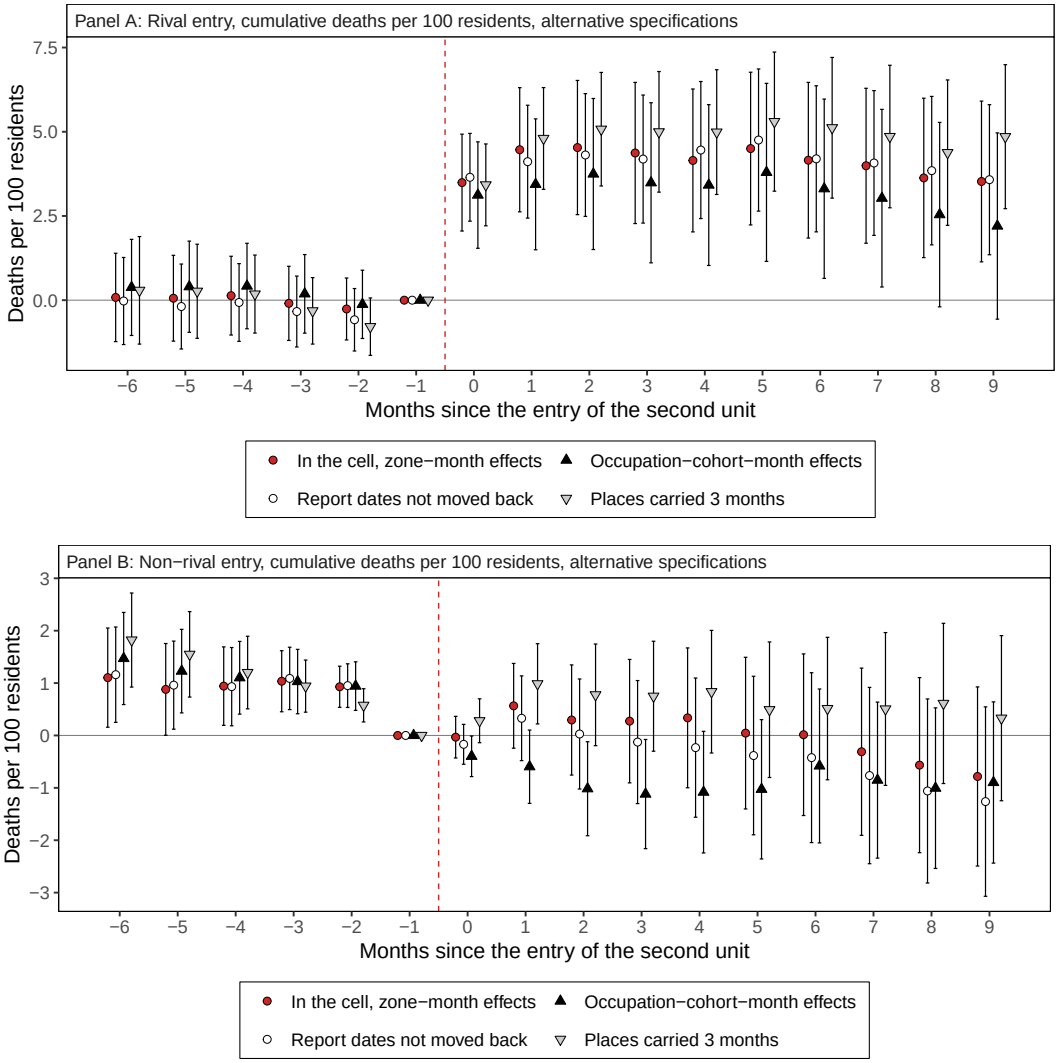
This figure presents the event study of Figure 10 with the rival entries split by kind: a Security Police unit entering a cell held by the army (171 cells) and every other rival entry (182 cells), beside the non-rival entries (705 cells). Each kind keeps the comparison cells of its stacks, reweighted to its treated cells. The outcome, the rule for the presence of units, the specification, and the standard errors follow Figure 10; bars are 95 percent confidence intervals.

Table A11: Concentration of Commands and the Killing of Residents within Cells

	All cell-months				One command within 25 km		Stationing
					Army	SS chain	statements
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
HHI of commands within 50 km	-3.95^{***}	-3.62^{***}	-2.93^{**}	-2.72^{**}	-1.97^{*}	0.31	-0.57
	(0.93)	(0.87)	(1.23)	(1.22)	(1.18)	(4.08)	(0.86)
Log units within 50 km		0.41	0.33	0.30	-0.14	4.41^{**}	0.53^{**}
		(0.28)	(0.27)	(0.27)	(0.28)	(1.91)	(0.26)
Commands within 50 km			0.27	0.15			
			(0.35)	(0.36)			
Two or more commands within 25 km				1.31^{***}			
				(0.46)			
Mean of the outcome	6.51	6.51	6.51	6.51	4.68	14.23	7.14
Cell-months	74,770	74,770	74,770	74,770	27,822	2,849	40,448
Cells	2,306	2,306	2,306	2,306	2,010	704	2,263

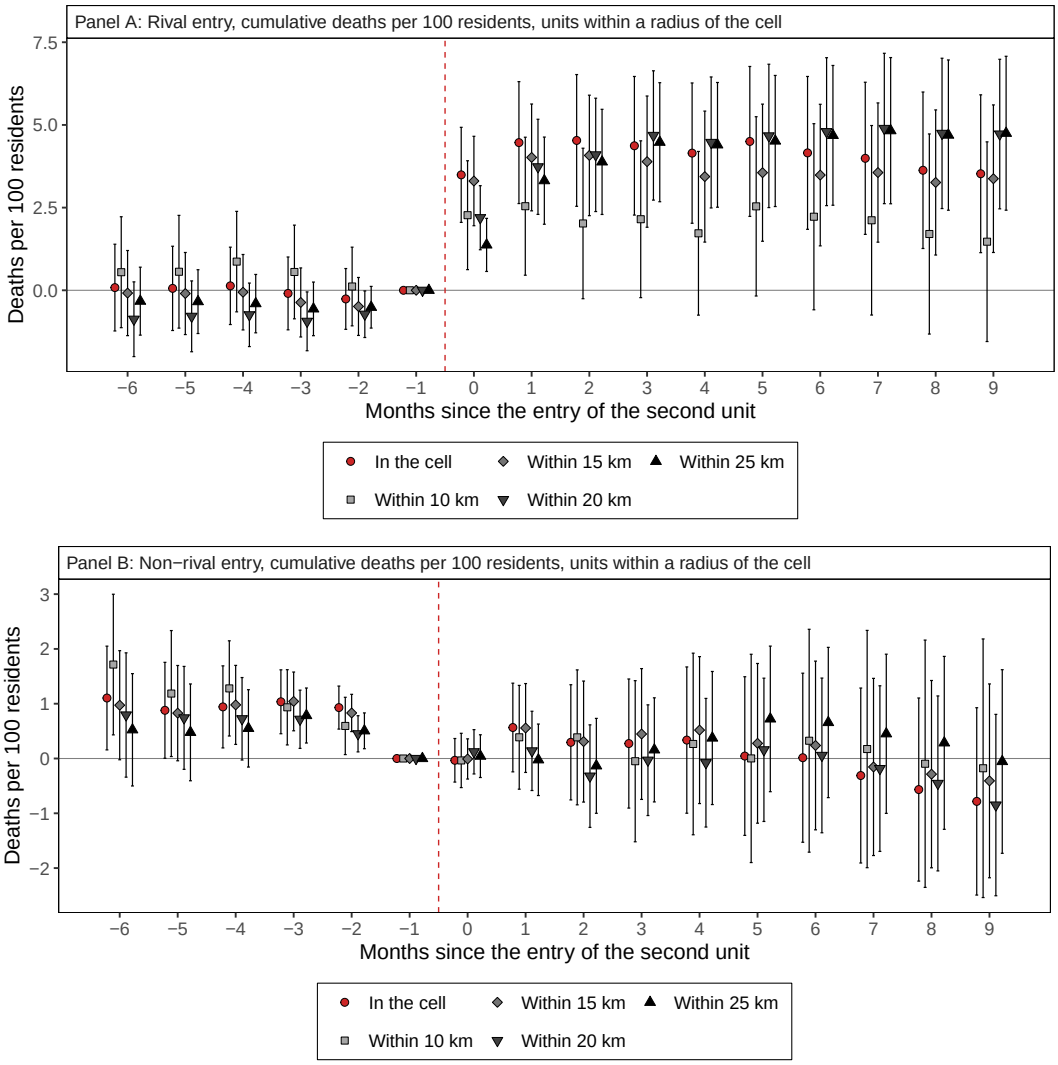
This table regresses the deaths of residents in the six months from the month per 100 recorded residents on the Herfindahl–Hirschman index of the units of four commands within 50 kilometers of the cell (Appendix Figure A16), averaged over the month and the next, for the cells and months of Table 3, Panel A, with a unit within reach. Columns (2) to (7) control for the log of these units; column (3) adds the number of commands within reach, and column (4) the presence of two or more commands within 25 kilometers of Table 3. Columns (5) and (6) use the cell-months in which one of the commands of Table 3 stood within 25 kilometers in the month and the next: the army in column (5), the Security Police or the units of the Higher SS and Police Leaders in column (6). Column (7) builds the index from the dated stationing statements alone. All regressions include cell and zone-by-month fixed effects. Standard errors in parentheses are clustered by blocks of 100 kilometers. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Figure A14: Robustness



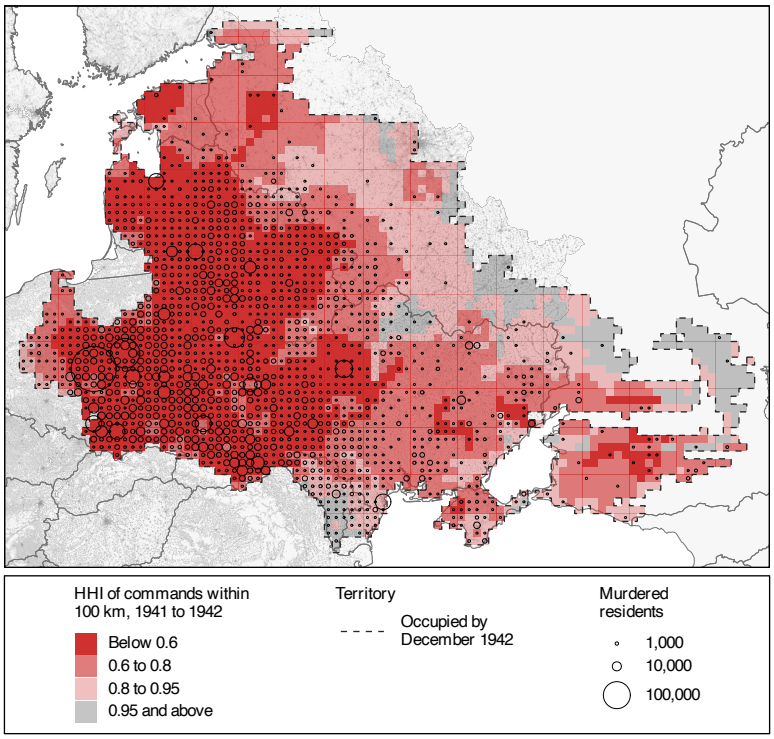
This figure repeats the estimates of Figure 10 for the rival entry (Panel A) and the non-rival entry (Panel B) under alternative specifications: report dates as printed, without the 18-day lag; stack-by-occupation-cohort-by-month fixed effects, which compare cells occupied in the same month, in place of stack-by-zone-by-month fixed effects; and the place of a unit carried three months past its last dated statement.

Figure A15: Units within a Radius of the Cell



This figure repeats the estimates of Figure 10 for the rival entry (Panel A) and the non-rival entry (Panel B), with a unit counted in every cell whose center lies within 10, 15, 20, or 25 kilometers of its place instead of in the cell that holds the place, both for the command that held the cell the month before and for the entry. The outcome, the specification, and the standard errors follow Figure 10; bars are 95 percent confidence intervals.

Figure A16: Concentration of Commands within 100 Kilometers



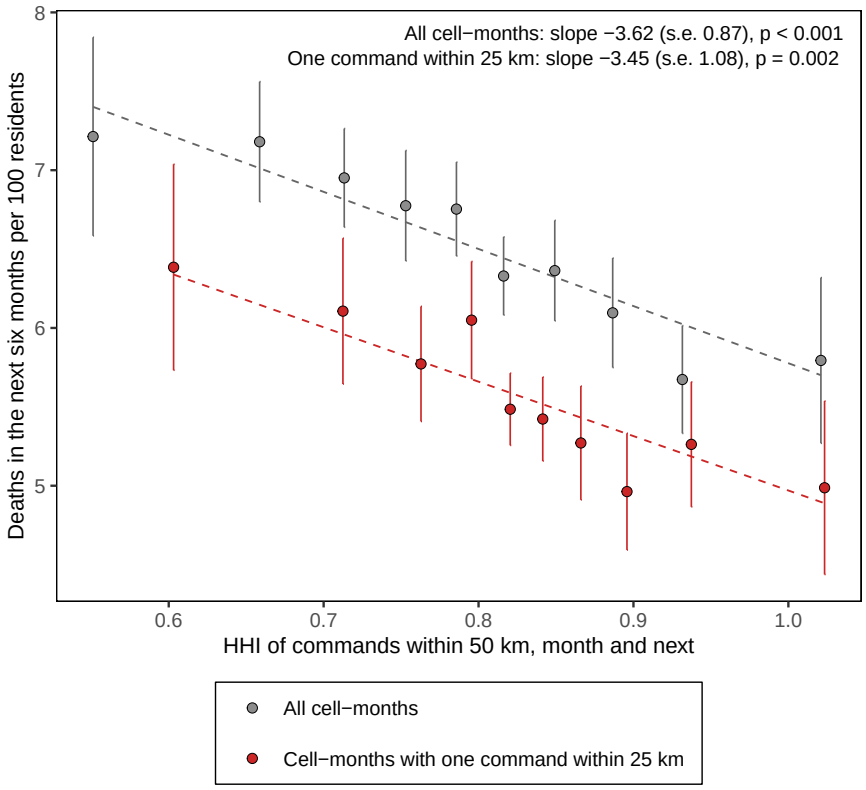
This figure maps every 25-by-25-kilometer cell of the zones of Table 3, Panel A, occupied by December 1942, with recorded residents or without, by the mean Herfindahl–Hirschman index of the units of four commands within 100 kilometers of the cell over its months of occupation from June 1941 to December 1942, over the 1930 population (Appendix A.7). The index is the sum of the squared shares of the commands in these units; the commands are the army, the Waffen-SS, the Order Police with the offices of the Higher SS and Police Leaders, and the Security Police. Each unit counts with the branch it belonged to, so an Order Police battalion that an army division commanded counts with the Order Police and a Waffen-SS division with the Waffen-SS, and a police office or SS brigade that a statement places only in a region counts at the center of that region. Hand-coded records add the Gestapo offices of annexed Poland, the Security Police commanders of Warsaw and Lublin after June 1941, and the killing center at Kulmhof. A cell enters with at least one month in which a unit stood within reach. Circles show murdered residents in cells with at least 10; the dashed line outlines the territory occupied by December 1942. Country borders are modern.

Table A12: Commanders of the Killing Operations

Commander	Under	Unit	Post	Count, 1941	Report	Promotion	Decoration	Outcome
North								
Jäger	Heydrich	EK 3	1941-06–1943-08	137,346	Own report			Neither
Stahlecker	Heydrich	Einsatzgruppe A	1941-06–1942-03	125,000	Own report			Neither; killed 1942-03
Batz	Heydrich	EK 2	1941-06–1941-11	31,598	EM 131	Obersturmbannführer, 1942-11		Later, by 1943
Ehrlinger	Heydrich	SK 1b	1941-06–1941-11	6,624*	EM 140	Standartenführer, 1943-09		Later, by 1943
Sandberger	Heydrich	SK 1a	1941-06–1943-09	440	EM 111	Obersturmbannführer, 1942-11		Later, by 1943
Jost	Heydrich	Einsatzgruppe A	1942-03–1942-09					Removed
Lange	Heydrich	EK 2	1941-12–1945-01			Obersturmbannführer, 1943-11	German Cross in Gold, 1945-02	Later, by 1943
Prützmann	Himmler	HSSPF Ostland	1941-06–1945-05			Obergruppenführer, 1941-11	German Cross in Gold, 1944-06	Within a year
Center								
Nebe	Heydrich	Einsatzgruppe B	1941-06–1941-11	45,467	EM 133	Gruppenführer, 1941-11	War Merit Cross I (undated)	Within a year
Bach-Zelewski	Himmler	HSSPF Russland-Mitte	1941-06–1944-06	30,000	Radio message	Obergruppenführer, 1941-11	Knight's Cross, 1944-09	Within a year
Bradfisch	Heydrich	EK 8	1941-06–1942-04	28,219	EM 133	Obersturmbannführer, 1943-04		Later, by 1943
Fegelein	Himmler	SS Cavalry Brigade	1941-08–1942-05	14,178	Own report	Standartenführer, 1942-02	Knight's Cross, 1942-03	Within a year
Filbert	Heydrich	EK 9	1941-06–1941-10	11,449	EM 125			Removed
Hierthes	Himmler	SS Cavalry Regiment 2	1941-04–1941-08	6,526	Own report	Standartenführer, 1941-06		Removed
Magill	Himmler	Mounted battalion, regiment 2	1941-07–1941-08	6,526	Own report	Obersturmbannführer, 1943-04		Removed
Lombard	Himmler	Mounted battalion, regiment 1	1941-07–1942-03	6,504	Own report	Obersturmbannführer, 1942-03	Iron Cross I, 1941-09	Within a year
Körting	Heydrich	VK Moskau	1941-09–1941-11	2,145	EM 125			Neither
Rausch	Heydrich	SK 7b	1941-06–1942-02	1,822	EM 125	Obersturmbannführer, 1942-11		Later, by 1943
Blume	Heydrich	SK 7a	1941-06–1941-09	996	EM 73	Standartenführer, 1941-11		Within a year
Steimle	Heydrich	SK 7a	1941-09–1941-12	521	EM 133	Standartenführer, 1944-06		Neither
Klingelhöfer	Heydrich	VK Moskau	1941-08–1941-09	168	EM 92			Neither
Six	Heydrich	VK Moskau	1941-06–1941-08	144	EM 73	Oberführer, 1941-11		Within a year
Naumann	Heydrich	Einsatzgruppe B	1941-11–1943-03			Brigadeführer, 1942-11		Later, by 1943
Schäfer	Heydrich	EK 9	1941-10–1942-02			Obersturmbannführer, 1942-09		Within a year
South								
Rasch	Heydrich	Einsatzgruppe C	1941-06–1941-10	80,000	EM 128			Removed
Blobel	Heydrich	SK 4a	1941-06–1942-01	59,018	EM 156			Removed
Jeckeln	Himmler	HSSPF Russland-Süd	1941-06–1945-05	44,125*	EM 94		War Merit Cross I, 1942-01	Within a year
Meier	Heydrich	EK 5	1941-09–1942-01	36,147	EM 156			Neither
Korsemann	Himmler	HSSPF Kaukasien	1941-08–1943-07	15,000*	EM 143	Gruppenführer, 1942-07		Within a year
Mohr	Heydrich	EK 6	1941-10–1942-09	1,000*	EM 135	Obersturmbannführer, 1944-04		Neither
F. Braune	Heydrich	SK 4b	1941-10–1942-03	740*	EM 143	Obersturmbannführer, 1944-04		Neither
Kroeger	Heydrich	EK 6	1941-06–1941-10	600*	EM 86	Oberführer, 1941-11		Within a year
Herrmann	Heydrich	SK 4b	1941-06–1941-10	519*	EM 88	Obersturmbannführer, 1942-09		Later, by 1943
Schulz	Heydrich	EK 5	1941-06–1941-08	74*	EM 47	Oberführer, 1941-11		Within a year
Thomas	Heydrich	Einsatzgruppe C	1941-10–1943-08			Gruppenführer, 1942-11	War Merit Cross I (undated)	Later, by 1943
Far south								
Ohlendorf	Heydrich	Einsatzgruppe D	1941-06–1942-06	75,881	EM 150	Oberführer, 1941-11		Within a year
Persterer	Heydrich	SK 10b	1941-06–1943-01	682*	EM 40	Obersturmbannführer, 1943-01		Later, by 1943
Zapp	Heydrich	SK 11a	1941-06–1942-07	551	EM 45	Obersturmbannführer, 1942-11		Later, by 1943
Müller	Heydrich	SK 11b	1941-07–1941-10	155*	EM 45	Obersturmbannführer, 1942-09		Later, by 1943
Seetzen	Heydrich	SK 10a	1941-06–1942-07	97*	EM 45	Standartenführer, 1942-11		Later, by 1943
Nosske	Heydrich	EK 12	1941-06–1942-03	94*	EM 61	Obersturmbannführer, 1942-09		Later, by 1943
W. Braune	Heydrich	SK 11b	1941-10–1942-07			Obersturmbannführer, 1943-12		Later, by 1943

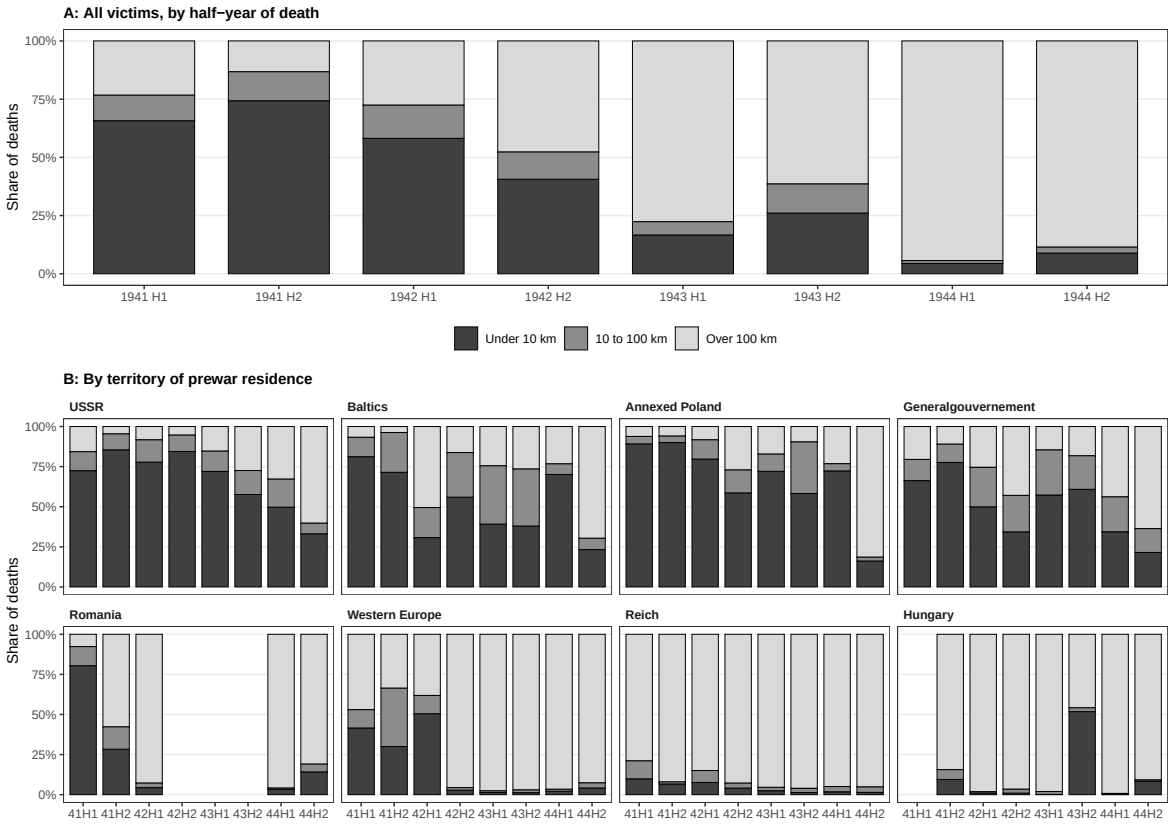
This table lists the commanders of the two SS command structures in the occupied Soviet territory by sector, ordered by the count reported under them in 1941; commanders without a reported count for 1941 come last in their sector. Under names the structure: Himmler for the Higher SS and Police Leaders and the SS Cavalry Brigade, Heydrich for the Security Police. HSSPF is a Higher SS and Police Leader, EK an Einsatzkommando, SK a Sonderkommando, and VK the Vorkommando Moskau; I marks the first class of a decoration. The count is the last running total the unit reported under the commander in 1941; for a commander who took over a unit, it is the increase in the total under him, and an asterisk marks a count for one period or one action. EM is the *Ereignismeldungen UdSSR*, compiled in Berlin from the reports of the Einsatzgruppen; an own report is a report of the unit or its commander, and the radio message is one that British intelligence decrypted. Promotion is the first SS promotion after the commander took the post. Outcome is the first of removal from the post within 18 months, a promotion or decoration within a year of taking the post, and a promotion by the end of 1943. Counts are from the reports printed in Mallmann et al. (2011) and Angrick et al. (2013) and, for the SS Cavalry Brigade, cited in Cüppers (2005). Careers are from the biographical notes of these editions, the SS seniority list (*Dienstaltersliste*), Cüppers (2005), and Wildt (2013).

Figure A17: Concentration of Commands and the Killing of Residents within Cells



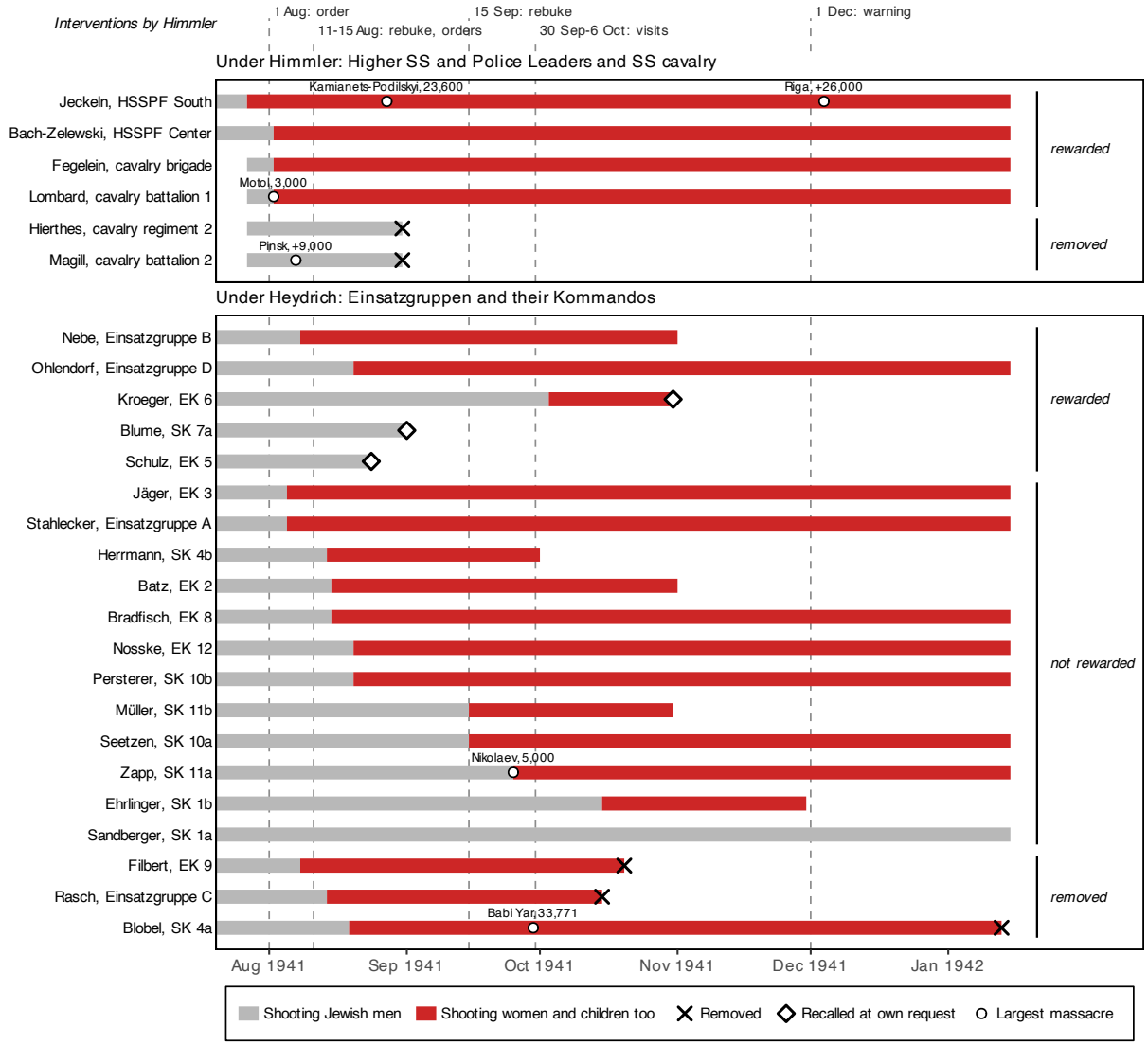
This figure plots the deaths of residents in the six months from the month per 100 recorded residents against the Herfindahl–Hirschman index of the units of four commands within 50 kilometers, averaged over the month and the next, for the 74,770 cell-months of Appendix Table A11, columns (1) to (4). Both are net of cell and zone-by-month effects and the log of units within reach. Points are means by tenth of the index, with 95 percent confidence intervals. Red points restrict the sample to the cell-months with one of the commands of Table 3 within 25 kilometers. The dashed lines have the slopes of Appendix Table A11, column (2), and of the same regression on the red cell-months. Standard errors are clustered by blocks of 100 kilometers.

Figure A18: Distance from Home at Death



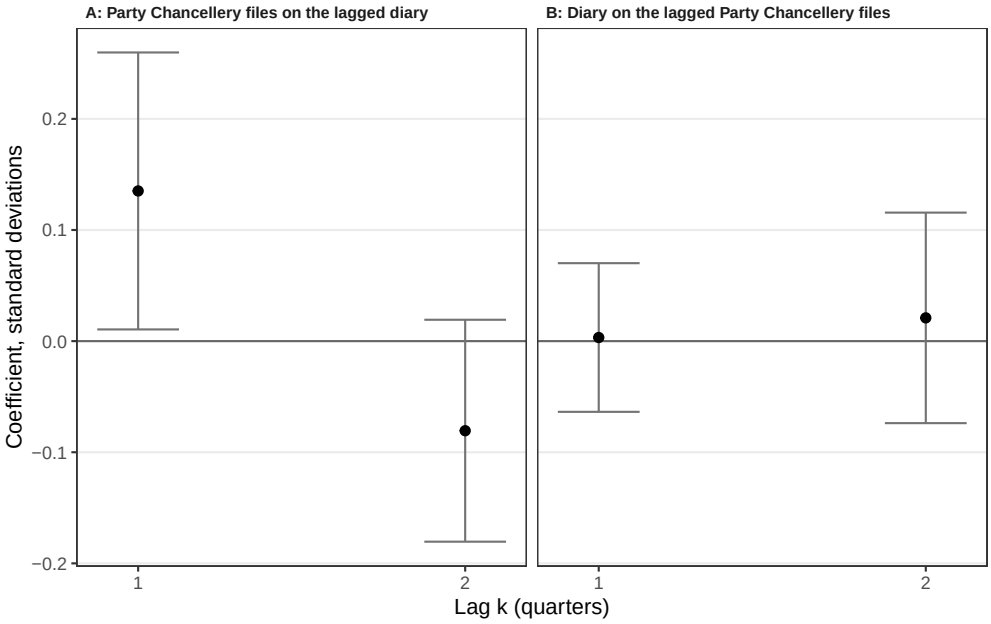
This figure shows the distance from prewar residence to place of death for the murdered victims in the Yad Vashem database with a located prewar residence and a located, dated place of death, 1941 to 1944. Panel B shows each territory of prewar residence, for half-years with at least 200 dated deaths, in ascending order of the share killed more than 100 kilometers from home. The Reich includes Austria, the Sudetenland, and the Protectorate; the USSR is the Soviet territory of June 1941 without the Baltic states, plus Transnistria; Hungary and Romania are the wartime states; and Western Europe is the occupied west. Territories group modern provinces by occupation regime.

Figure A19: Killing of Women and Children and Careers of Commanders, 1941



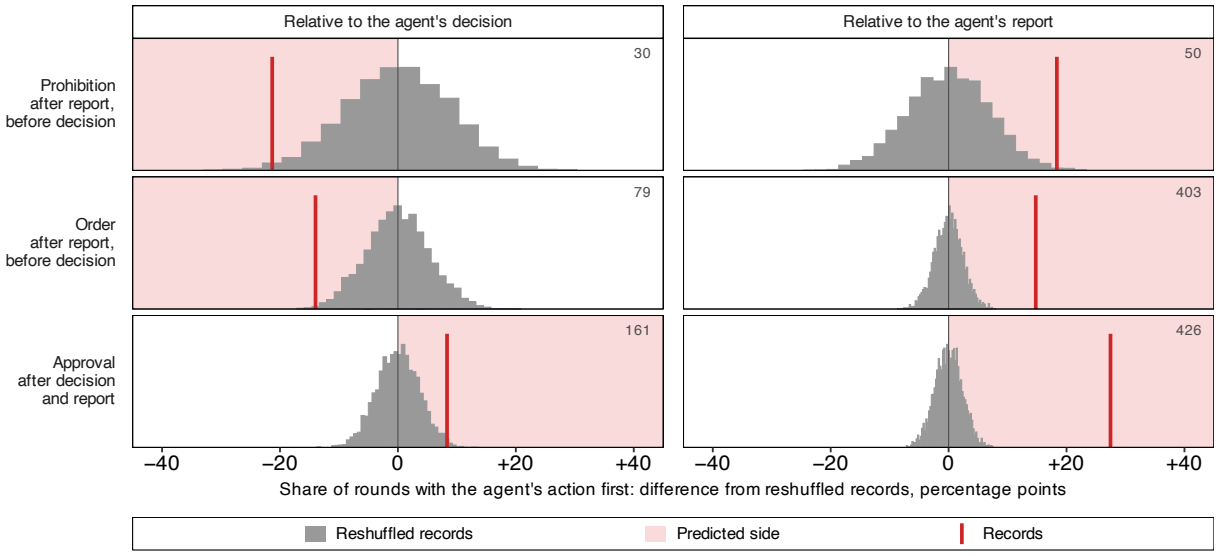
This figure shows the 26 commanders of the two SS command structures in the occupied Soviet territory who held a field command on 15 August 1941 and for whom the sources date when the units under them began to shoot women and children as well as Jewish men, or who left before their units did so; Prützmann, Rausch, and Six held such commands, but the sources do not date the shift of their units. A bar is gray while the units under the commander shot Jewish men and red from the shift as Cüppers (2005) and Longerich (2010, 2012) date it. Where they differ, the bar takes the earlier date; where they give only the month, it turns red at mid-month. A regional leader takes the first shift among the units under him. The bar ends when the commander left his post: a cross marks a removal and a diamond a recall at his own request. Rewarded means promoted or decorated within a year of taking the post and removed means removed within 18 months (Appendix Table A12). Circles mark the largest massacres. Dashed lines mark the interventions of Himmler: the order of 1 August to shoot all Jews, the rebuke of the 1st SS Brigade and the extended order of 11 to 15 August, the rebuke of Prützmann on 15 September, the visits of 30 September to 6 October, and the warning of 1 December (Cüppers, 2005, pp. 153, 174–175, 182–184, 210; Longerich, 2012, pp. 536–537, 550).

Figure A20: Attention to Policy Domains



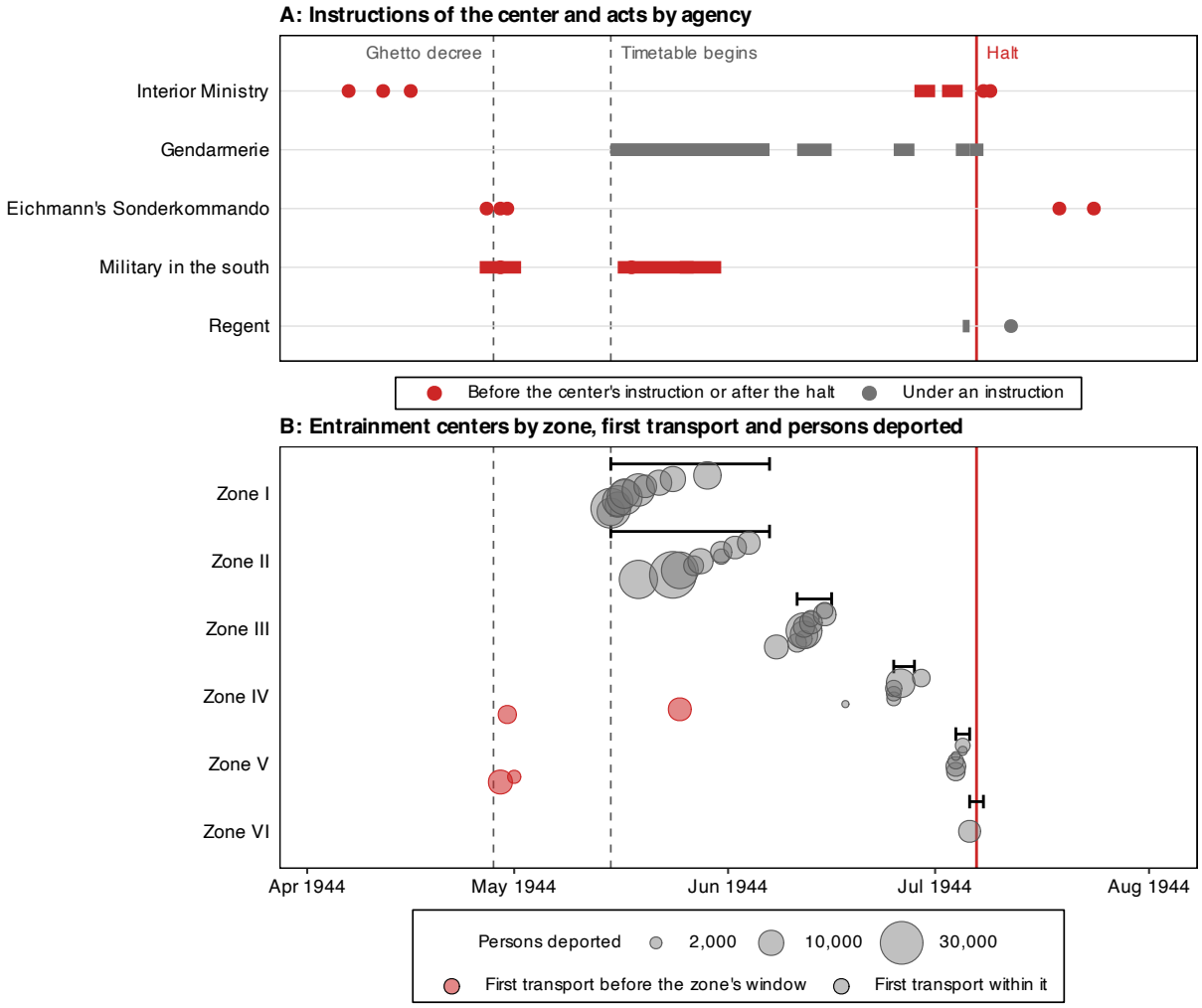
This figure presents estimates on the domain-by-quarter panel of the sixteen policy domains, 1936 to 1944, using the shares of entries in the Goebbels diaries and in the Party Chancellery files that fall in each domain, standardized within domain and source. Panel A plots the coefficients on the first and second lags of the diary share in a regression of the file share on its first two lags, the first two lags of the diary share, and domain and quarter fixed effects; Panel B reverses the two records. Bars are 95 percent confidence intervals based on standard errors clustered by quarter. Appendix Table A3 defines the domains.

Figure A21: Timing of Instructions within Policy Rounds



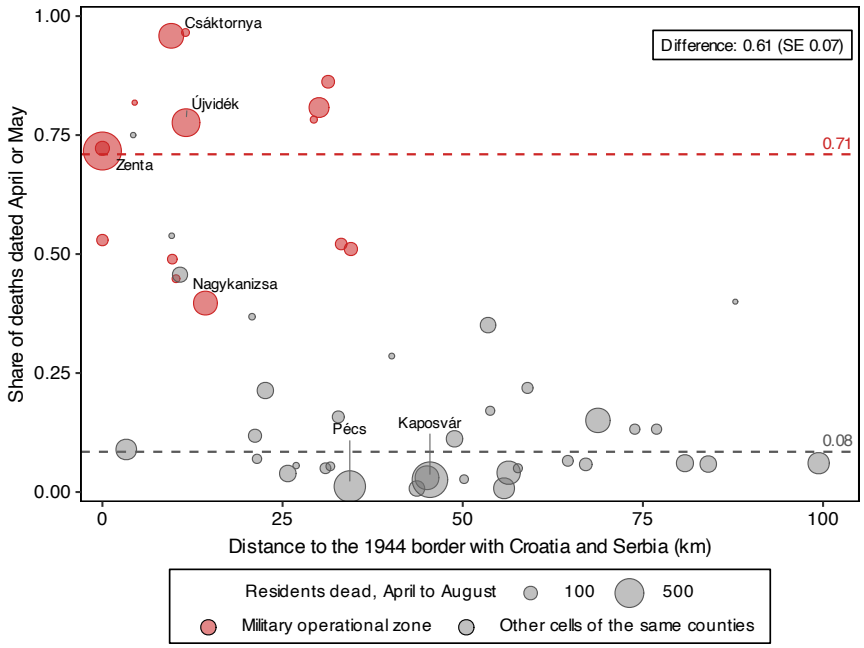
This figure applies the test of Figure 12, Panel C, to the superior's first prohibition, order, and approval (rows) relative to the agent's first decision and first report (columns), in the policy rounds of the five diaries at both levels. A report includes a proposal or a request; a round with both a decision and a report enters both columns. Each cell shows the share of rounds in which the agent's action came first, minus the mean of that share over 4,000 reshufflings. The red line marks the records, the gray bars the reshufflings, and the pink area the side the model predicts. The number in each cell is the count of rounds.

Figure A22: Instructions and Acts in the Deportations from Hungary, 1944



This figure shows the deportations from Hungary in 1944 as Braham (1981) records them. Panel A places on one date axis three instructions of the center, the ghettoization decree of 28 April, the start of the deportation timetable on 15 May, and the Regent's halt of 7 July (red), and beneath them the acts of each agency. A point is an act on a day and a bar an act over a span; an act is red where the agency acted before the center's instruction or after the Regent's halt, and gray where it acted under an instruction or enforced one. The acts are, for the Interior Ministry, the secret decree of 7 April, the Munkács conference of 12 April, the start of the roundups on 16 April, the concentration of the gendarmerie in Budapest from 28 June to 5 July, Jaross's order of 8 July to continue the entrainments, and his promise of 9 July to complete the deportation of Budapest; for the gendarmerie, the deportations from the six zones in their scheduled windows; for Eichmann's Sonderkommando, the two transports of labor Jews announced on 27 April and sent from Kistarcsa and Topolya on 29 and 30 April, and the deportations from Kistarcsa and Sárvár on 19 and 24 July; for the military authorities in the south, the roundups of 26 April to 2 May, the transports from Nagykanizsa on 29 April and 18 May and from Baja on 25 to 27 May, and the deportation of about 21,700 Jews from 16 to 31 May; for the Regent, the regiments brought into Budapest and the gendarmes sent out on 5 and 6 July, and the Kistarcsa transport stopped on 12 July. Panel B places each entrainment center in its operational zone at the date of its first transport, red where the transport left more than a week before the zone's window; the area of the point is proportional to the persons deported from it, the Jewish Council's count of the persons deported by 20 June where it exists, else Ferenczy's count of the persons held; the bracket above each row is the window scheduled for the zone.

Figure A23: Deaths Dated April or May by Cell of Residence, Southern Hungary, 1944



This figure shows, for each 25 km cell of residence in the counties along Hungary's southern border of 1944 (Zala with the Muraköz and the Alsólendva district, Somogy, Baranya, Bács-Bodrog with the Bácska, Csongrád with Csanád), the share of the murdered residents whose death the Yad Vashem record dates to April or May 1944 among those it dates to April through August, against the distance from the cell to the border with Croatia and occupied Serbia. The area of a point is proportional to the residents counted, cells with at least ten are drawn, and cells with at least 300 residents in the zone and 500 outside it carry the name of their ghetto or camp site. A cell is red where the places the record puts in it lie, by a majority of their records, in the military operational zone that Braham (1981) describes: within 15 km of a district seat named in the measure of April 1944 (Csáktornya, Perlak, Alsólendva, Nagykanizsa, Csurgó, Barcs, Szigetvár), or in the Bácska south of the Ferenc Canal or within 15 km of the Tisza up to Martonos (vol. 1, pp. 604–605; vol. 2, pp. 608, 617, 666). A cell is assigned to the county holding most of the record's places in it. The dashed lines are the two shares pooled over cells. The box reports the difference between the zone and the other cells from a linear probability model at the person level with county fixed effects, the standard error clustered by cell; 8,003 residents in 57 cells, 2,862 of them in the 21 cells of the zone.

D Instrumental-Variable and Planned-Cohort Designs

This appendix reports two designs that complement the event study of Section 5.2. The first instruments the presence of a second command with the documented transfers of the commands. The second compares only cells that the invasion plan scheduled to fall behind the front in the same month.

D.1 Design

The documented transfers are the executed moves of the three commands from June 1941 to May 1945 that the unit histories, the Einsatzgruppen reports, Himmler's appointment diary, and the war diary of the Armed Forces High Command record (Appendix A.4). We classify each transfer by the commands present within 25 kilometers of its destination in the month before. A transfer is a rival entry if exactly one other command held the destination and the mover's command arrived in the month or the next; 105 transfers are rival entries. A transfer is a non-rival entry if the mover's command alone held the destination; 106 transfers are non-rival entries.

The counterfactual destinations of a transfer are the five nearest towns that were in the same state in the month before (held by one command other than the mover's for a rival entry, by the mover's command alone for a non-rival entry), in the same army group area, and at least 40 kilometers from the transfer's destination and from its origin. The towns are the 289 places of the sample that the transfer records name at least twice. A destination outside the army group areas, in the General Government or annexed Poland, draws the nearest towns of any area.

The instrument is the inverse hyperbolic sine of the distance from a cell to the nearest destination of a documented move in the month, capped at 300 kilometers. Cells near the routes of the commands may differ from other cells in ways that also predict killing. The recentered instrument therefore subtracts from the instrument its expectation when each rival entry goes, with equal probability, to its destination or to one of its five counterfactual destinations, the other moves held fixed (Borusyak and Hull, 2023). It thus compares a cell near a transfer's destination with cells near the places the transfer could have reached. On the deaths per 1,000 residents in the three months before, the deaths per 100 residents to the month before, and the presence of the army and of the SS and police in the month before, its standardized differences are below 0.01. Randomization inference redraws the destination of every rival entry among its options 999 times and compares the observed first-stage and reduced-form t-statistics with their distributions under the redraws.

The sample is the 2,322 cells of 25 by 25 kilometers in occupied Poland and the occupied Soviet territory by month from June 1941 to May 1945. The treatment is the presence of a second command (Table 3, Panel A). The outcomes are the three of Table 3, measured over the six months from the month. All regressions include cell and zone-by-month fixed effects, and standard errors are clustered in blocks of 100 kilometers.

We also estimate the event study of equation (4) around the rival entries: the cells within 25 kilometers of a transfer's destination against the cells within 25 kilometers of its counterfactual destinations, both held by one command in the month of the transfer. Redrawing every transfer's destination among its options 299 times gives the randomization p-value of this design.

D.2 Estimates

Table A15 reports the estimates. Both instruments move the presence of a second command: a cell nearer the destination of a documented move holds a second command more often, with first-stage

F-statistics of 97 for the instrument and 44 for the recentered instrument (column 1). With the recentered instrument, the presence of a second command raises deaths over six months by 19.0 per 100 residents (standard error 7.5), against 2.0 in OLS (Table 3, Panel A), and the deaths of women and children by 19.6 per 100 women and children (7.7). The instrument without recentering gives 36.9 (6.9). In 999 redraws of the destinations, no first stage is as strong as the observed one, and 10 percent of the reduced forms on the deaths per 100 residents are as large as the observed one.

Table A16 measures the outcomes over the month and the next instead of six months, and Table A17 varies the number of counterfactual destinations from three to eight. The recentered estimate is 16.8 deaths per 1,000 residents a month (standard error 11.4), against 2.2 in OLS, and 14.5 to 19.5 deaths per 100 residents over six months with three to eight counterfactual destinations. In the event study around the transfers (Table A17, Panel A, and Figure A24), deaths in the cells around the destination rise by 6.1 per 100 residents relative to the cells around five counterfactual destinations (standard error 1.8), and no redraw of the destinations gives an estimate as large. The coefficients before the transfer are not jointly different from zero. Within two months, a rival command reaches 90 percent of the cells around the destination and 47 percent of the cells around the counterfactual destinations.

Table A15: Rival Presence and the Killing of Residents: IV Estimates

	Rival entry			Non-rival entry		
	All residents, deaths per 100	Women and children, deaths per 100	Women and children, in excess of men	All residents, deaths per 100	Women and children, deaths per 100	Women and children, in excess of men
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: IV, distance to the nearest destination of a documented move						
Presence within 25 km	36.9***	37.6***	19.9***	182.2	171.5	—
	(6.9)	(7.1)	(4.4)	(118.7)	(103.9)	
First-stage F	97.4	97.6	66.9	2.2	2.6	0.2
Panel B: IV, distance recentered over counterfactual destinations						
Presence within 25 km	19.0**	19.6**	6.5	−14.4	−14.8	—
	(7.5)	(7.7)	(5.7)	(14.2)	(16.5)	
First-stage F	43.6	42.2	34.7	4.5	3.8	0.0
Outcome mean	5.65	5.76	10.29	5.65	5.76	10.29
Observations	92,823	89,869	61,322	92,823	89,869	61,322
Cell FEs	✓	✓	✓	✓	✓	✓
Zone-by-month FEs	✓	✓	✓	✓	✓	✓
Control for men's deaths			✓			✓

This table instruments the presence of Table 3, Panel A, on the same sample and outcomes: the presence of two or more commands for a rival entry (columns 1 to 3) and of two or more units of one command and no other for a non-rival entry (columns 4 to 6). The outcomes are the murdered residents who died in the six months from the month per 100 recorded residents, the murdered women and children per 100 recorded women and children, and the change over the same six months in the share of the cell's murdered women and children already dead, with the men's change as a control. Panel A uses the inverse hyperbolic sine of the distance from the cell to the nearest destination of a documented move in the month, capped at 300 kilometers. Panel B subtracts from it its expectation when each of the 105 rival entries (columns 1 to 3) or of the 106 non-rival entries (columns 4 to 6) goes, with equal probability, to its destination or to one of its counterfactual destinations: the five nearest towns (fewer for 25 non-rival entries) in the same state the month before, in the same army group area, and at least 40 kilometers from the destination and the origin (Appendix D.1; Borusyak and Hull, 2023). A dash marks an estimate whose first-stage F-statistic is below 1. All regressions include cell and zone-by-month fixed effects. Standard errors in parentheses are clustered by blocks of 100 kilometers. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

D.3 Why the IV Estimates Exceed the OLS

The recentered estimate, 19.0 deaths per 100 residents, is nearly ten times the OLS estimate of 2.0. The gap has two sources, and per entry the designs agree. First, the presence of a second

Table A16: Rival Presence and the Killing of Residents, by Month

	All residents, deaths per 1,000 (1)	Women and children, deaths per 1,000 (2)	Women and children, in excess of men (3)
Panel A: OLS			
Presence within 25 km	2.22***	2.44***	0.87***
	(0.57)	(0.64)	(0.23)
Panel B: IV, distance to the nearest destination of a documented move			
Presence within 25 km	26.8***	27.4***	13.0***
	(5.7)	(5.8)	(3.2)
First-stage F	122.7	123.8	89.4
Panel C: IV, distance recentered over counterfactual destinations			
Presence within 25 km	16.8	18.4	7.5
	(11.4)	(12.6)	(4.7)
First-stage F	42.2	40.8	33.6
Outcome mean	2.00	1.94	3.88
Observations	102,111	98,845	67,238
Cell FEs	✓	✓	✓
Zone-by-month FEs	✓	✓	✓
Control for men's deaths			✓

This table repeats the OLS of Table 3 and the IV estimates of Table A15, columns (1) to (3), with the outcomes measured over the month and the next: in column (1), the month-dated murdered residents per 1,000 recorded residents, averaged over the two months; in column (2), the murdered women and children per 1,000 recorded women and children; in column (3), the change from the month before to the next in the share of the cell's murdered women and children already dead, in percentage points, with the same change for the murdered men aged 15 to 64 as a control. The treatment, the instruments, the sample, the fixed effects and the clustering are those of Tables 3 and A15. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

command is recorded with error, which attenuates the OLS coefficient. The presence rests on unit-month statements of uneven precision. Entered together in one regression, presence recorded from statements dated to a day or a month carries 2.6 deaths per 100 residents, and presence recorded from statements dated to a span or a year carries 0.5. The recentered instrument, which is free of this attenuation, gives 34.1 and 36.3 for the two measures, and it exceeds the OLS estimate for presence in the cell and within 50 kilometers as well. Second, the instrument identifies the effect of the entries that the documented transfers created, and 73 of the 105 fell between June and December 1941, when the killing after an entry was at its height. In those months, the OLS estimate is 3.4 deaths per 100 residents and the recentered estimate 24.3; in 1942, they are 2.6 and 12.4.

Per entry, the designs agree. A rival entry 25 rather than 100 kilometers from a cell raises the deaths in the cell over the next six months by 3.3 per 100 residents, against 4.1 in the event study of all rival entries (Table 3, Panel B) and 6.1 in the event study around the same transfers (Table A17, Panel A). The same contrast raises the recorded presence of a second command by only 0.17, and the IV estimate divides the first effect by the second. The IV estimates thus restate the effect of an entry, three to six deaths per 100 residents over six months, per unit of recorded presence.

D.4 Non-Rival Transfers

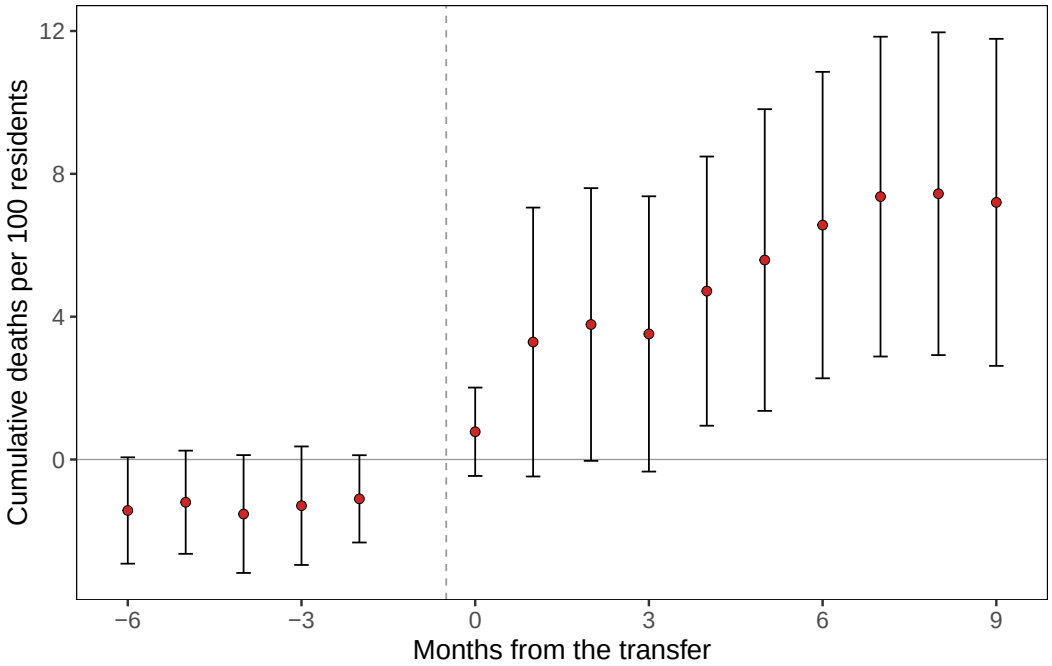
Columns (4) to (6) of Table A15 repeat the estimates for the non-rival entries, with the presence of a further unit as the treatment and the recentered instrument built on the transfers of a further unit to a place the mover's command held alone. These transfers barely move the presence of a further unit: the first-stage F-statistics are at most 4.5. The comparison between rival and non-rival entries

Table A17: Entry Transfers and Their Counterfactual Towns

	3 towns (1)	5 towns (2)	8 towns (3)
Panel A: Event study, cells around the realized destination against cells around the counterfactual towns			
Treated × post-transfer	4.95***	6.12***	7.04***
	(1.88)	(1.80)	(1.63)
Post-transfer average	3.85**	5.02***	5.90***
	(1.90)	(1.78)	(1.60)
Leads, joint p	0.585	0.229	0.089
Randomization p, redrawn destinations	0.003	0.000	0.000
Rival arrival within two months, treated	0.90	0.90	0.90
Rival arrival within two months, controls	0.48	0.47	0.49
Panel B: Distance to the nearest destination, recentered over the counterfactual towns			
First stage: presence within 25 km	−0.161***	−0.126***	−0.122***
	(0.022)	(0.019)	(0.017)
First-stage F	55.5	43.6	52.3
2SLS: deaths per 100 residents over six months	14.5**	19.0**	19.5**
	(7.3)	(7.5)	(7.6)
Randomization p, first stage	0.000	0.000	0.000
Randomization p, reduced form	0.161	0.104	0.104
Transfers	104	104	104
Treated cells	152	152	152
Control cells	247	291	342

This table reports the entry-transfer design of Table A15 with three, five and eight counterfactual towns per rival entry. Panel A reports the event study of equation (4) on the cells within 25 kilometers of an entry's realized destination against the cells within 25 kilometers of its counterfactual towns, both held by one command in the month of the entry, from six months before to nine months after: the coefficient on the interaction of a treated cell with the months from the transfer on, in cumulative deaths per 100 residents; the average of the post-transfer coefficients; the joint test of the leads; the randomization p-value, the share of 299 redraws of every entry's destination among its options whose estimate is at least as large in absolute value as the actual one; and the share of treated and comparison cells that a rival unit reaches within two months of the transfer. Panel B reports the recentered instrument of Table A15, Panel B, built on the same transfers and towns: the first stage on the presence of two or more commands within 25 kilometers, the 2SLS estimate on the deaths per 100 residents over the six months from the month, and the randomization p-values of the first stage and of the reduced form over 299 redraws. Regressions include cell and zone-by-month fixed effects, within each stack in Panel A. Standard errors in parentheses are clustered by blocks of 100 kilometers. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Figure A24: Entry Transfers: Event Study



This figure plots the event study of Panel A of Appendix Table A17 for five counterfactual towns: the coefficients on the months from the transfer for the cells within 25 kilometers of the realized destination against the cells within 25 kilometers of the counterfactual towns, in cumulative deaths per 100 residents, relative to the month before the transfer. Bars are 95 percent confidence intervals from standard errors clustered by blocks of 100 kilometers.

therefore rests on Table 3.

D.5 Planned Cohort

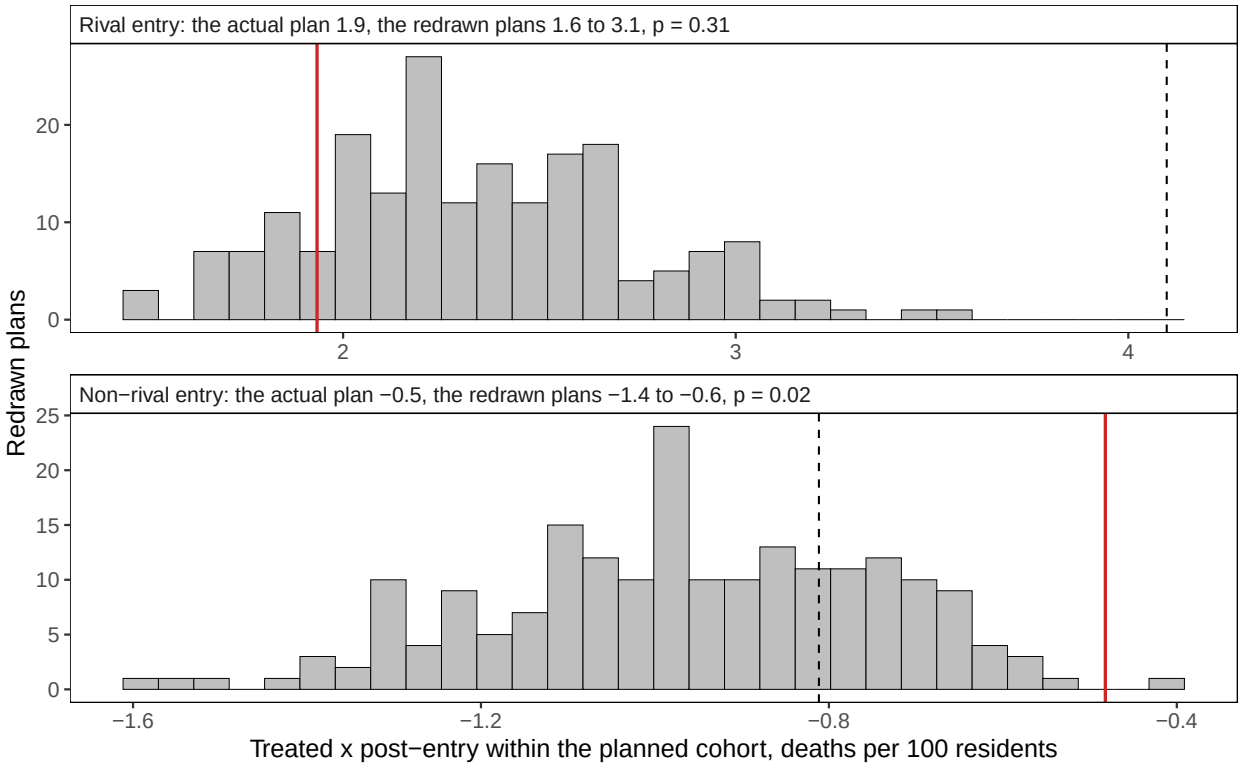
The planned-cohort design measures where units were expected to enter with the invasion plan, which fixed before the campaign the month in which each cell was to fall behind the front (Appendix Figure A5). Table A18 compares each treated cell of the stacks of Figure 10 only with comparison cells of its stack that the plan scheduled for the same month (Panel B). Within the planned cohort, deaths rise by 1.9 per 100 residents after a rival entry (standard error 1.1) and change by −0.5 after a non-rival entry; with the documented destinations as controls, the rise after a rival entry is 2.4 (1.1). Figure A25 redraws the phase lines of the plan 200 times: the estimates for a rival entry range from 1.5 to 3.5, and 84 percent of them lie at or above the estimate under the actual plan.

Table A18: Planned Cohort

	Rival entry			Non-rival entry		
	None (1)	Exposure (2)	Destinations (3)	None (4)	Exposure (5)	Destinations (6)
Panel A: All comparison cells						
Treated × post-entry	4.1***	4.3***	4.7***	−0.8	−0.7	−0.7
	(1.2)	(1.2)	(1.2)	(0.7)	(0.7)	(0.7)
R^2	0.89	0.89	0.89	0.94	0.94	0.94
Observations	161,800	161,800	161,800	116,897	116,897	116,897
Cells	1,851	1,851	1,851	1,960	1,960	1,960
Treated cells	353	353	353	705	705	705
Outcome mean	34.2	34.2	34.2	37.4	37.4	37.4
Panel B: Comparison cells of the same planned cohort						
Treated × post-entry	1.9*	2.0*	2.4**	−0.5	−0.5	−0.4
	(1.1)	(1.1)	(1.1)	(0.8)	(0.8)	(0.8)
R^2	0.90	0.90	0.90	0.95	0.95	0.95
Observations	98,681	98,681	98,681	90,960	90,960	90,960
Cells	1,622	1,622	1,622	1,885	1,885	1,885
Treated cells	348	348	348	703	703	703
Outcome mean	31.7	31.7	31.7	37.0	37.0	37.0
Standard errors	Block	Block	Block	Block	Block	Block
Cell FEs	✓	✓	✓	✓	✓	✓
Zone-by-month FEs	✓	✓	✓	✓	✓	✓

This table reports difference-in-differences estimates on the stacks of Figure 10: coefficients on the interaction of a treated cell with the months from entry on, in cumulative deaths per 100 residents. Columns (1) to (3) use the rival entries, and columns (4) to (6) the non-rival entries. The Exposure columns control for the share of 200 counterfactual invasion plans under which the cell has fallen behind the front by the current month. Each plan moves every phase line after the border by up to 21 days and 100 kilometers. The Destinations columns control for two indicators: whether a planned or ordered move in the Armed Forces High Command war diary, the Einsatzgruppen documents and reports, or the appointment diary of Himmler names a destination within 25 kilometers of the cell by the current month, and whether a canceled or postponed move does so. Panel B compares each treated cell only with comparison cells in its stack and planned cohort: cells the planned front reaches in the same month (Appendix Figure A5). The comparison cells of a cohort carry the weight of its treated cells. We drop cohorts without comparison cells and assign cells off the plan to their own cohort. Regressions include cell and zone-by-month fixed effects within each stack. Cells are counted once across stacks. Standard errors clustered in 100-kilometer blocks are in parentheses. Stars mark significance at the 10 (*), 5 (**), and 1 (***) percent levels.

Figure A25: Redrawn Invasion Plans



This figure re-estimates Panel B of Table A18 with the cohorts of each of 200 counterfactual invasion plans (Borusyak and Hull, 2023), for the rival entry (top) and the non-rival entry (bottom). Bars count the plans by estimate, in cumulative deaths per 100 residents. The red line marks the estimate under the actual plan, and the dashed line the estimate of Panel A, without cohorts. The strip reports the 2.5th and 97.5th percentiles of the counterfactual estimates and the randomization p-value, the share of counterfactual plans whose estimate lies at least as far from their mean as the estimate under the actual plan.

E Proofs

Throughout, V denotes the ruler's expected payoff (2) under the arrangement and protocol in question. V_{rivalry} and V_{control} denote the values of the tournament and the control protocol, the corresponding entries of Table 1; Propositions 2 and 4 compare arrangements through these protocol values.

Proof of Lemma 1. We first bound what any protocol can deliver in any arrangement. Fix an appointment rule and instructions whose conditions are verifiable there (Assumptions 1 and 2). Early implementation is decided before anyone knows θ, so any protocol induces some probability $q_E \in [0,1]$ of early implementation, independent of θ; absent early implementation, implementation at $\theta = 1$ requires an order (Assumption 3), timely with probability δ (a single draw, so ordering a second agent adds nothing), and the ruler issues none at $\theta = 0$, since a $\theta = 0$ order only costs him. The gross policy payoff of any protocol is therefore at most

$$q_E\big[\pi b - (1-\pi)h\big] + (1-q_E)\, q_L\, \pi\delta b \;\le\; \max\{\pi b - (1-\pi)h,\ \pi\delta b,\ 0\} \tag{5}$$

for some $q_L \in [0,1]$, the probability of an order at $\theta = 1$: a convex combination of early implementation, the timely order, and nothing.

Routine administration. Neither verifiable event exists, so every announced rule is empty and the appointment cannot respond to the agent's initiative. The initiative changes the agent's payoff by $-c < 0$, so $a_1 = 0$, and the ruler gets 0.

Rivalry. The ranking is verifiable, and the announced rule "prize to the agent ranked ahead, ties by lottery" is applied (Assumption 1). Given the rule, taking the initiative against a rival who does the same yields $R/2 - c$ in expectation, against 0 for conceding; against an abstaining rival it yields $R - c$, versus $R/2$ in expectation from abstaining. By Assumption 4 both comparisons favor the initiative, so it is strictly dominant in the initial-period game and $(1,1)$ is its unique equilibrium. Implementation is early in both states: $V = \pi b - (1-\pi)h - K$, attaining the first argument of (5). No order exists in this arrangement, so every protocol here pays $q_E[\pi b - (1-\pi)h] - K$ for some $q_E \in [0,1]$: the tournament is the best protocol whenever $\pi b - (1-\pi)h \ge 0$, and announcing nothing pays $-K$ otherwise. Table 1 reports the tournament value.

Control. Certified defiance is verifiable. Defying the prohibition costs $c + P$ now, saves at most the cost c of a later execution, and forfeits the prize that compliance keeps, which defiance can never earn back (Assumption 2): compliance is strict for every $P \ge 0$. Refusing the order is certified defiance, forfeiting the prize (credible by Assumption 1) and drawing P, while executing pays $R - c > 0 \ge -P$. No verifiable event rewards initiative and no order can come early (Assumption 3), so $q_E = 0$ for every protocol here; the ruler issues the order at $\theta = 1$ and $V = \pi\delta b - m$, attaining the second argument of (5).

Both instruments. Every protocol is bounded by (5), and the two pure protocols above are both available, so $V = \max\{\pi b - (1-\pi)h,\ \pi\delta b\} - K - m$ (the no-implementation argument never binds since $\pi\delta b > 0$), as in Table 1. □

Proof of Proposition 2. By Lemma 1, the both-instruments value is $\max\{V_{\text{rivalry}} - m,\ V_{\text{control}} - K\} < \max\{V_{\text{rivalry}},\ V_{\text{control}}\}$ for all parameters, since $K, m > 0$, and the bound (5) covers every protocol, not only the two listed; so paying for both instruments is never optimal. Routine administration pays 0: if $\max\{V_{\text{rivalry}}, V_{\text{control}}\} > 0$, rivalry or control pays strictly more; otherwise every alternative pays at most 0 and routine administration is weakly optimal, uniquely so when the maximum is strictly negative. □

Proof of Proposition 3. Under rivalry, implementation occurs in both states and is timely: the false-positive event is $\{\theta = 0\}$, probability $1 - \pi$, and no false negative occurs. Under control, implementation occurs only on a timely order at $\theta = 1$: no false positive occurs, and the false-negative event is $\{\theta = 1, \text{ late}\}$, probability $\pi(1 - \delta)$. The jump statement restates these numbers on either side of a switch in the optimal arrangement. □

Proof of Proposition 4. $V_{\text{rivalry}} - V_{\text{control}} = \pi b - (1 - \pi)h - K - \pi\delta b + m = D$ as in (3). The derivatives are $\partial D/\partial(1-\delta) = \pi b > 0, \partial D/\partial m = 1 > 0, \partial D/\partial b = \pi(1-\delta) > 0, \partial D/\partial \pi = (1-\delta)b + h > 0, \partial D/\partial h = -(1 - \pi) < 0, \partial D/\partial K = -1 < 0$. □

Proof of Remarks 1 and 2. The both-instruments arrangement is never optimal (Proposition 2). Rivalry is (weakly) optimal if and only if $D \geq 0$ and $V_{\text{rivalry}} \geq 0$; control if and only if $D \leq 0$ and $V_{\text{control}} \geq 0$. V_{rivalry} does not depend on δ, D increases in $1 - \delta$, and $V_{\text{control}} = \pi\delta b - m$ decreases in $1 - \delta$, which gives the first sentence of Remark 1. If $V_{\text{rivalry}} < 0$, rivalry is not optimal, so a domain that leaves control goes to routine administration. Remark 2 compares parts (i) and (ii) of Lemma 1; a further unit under the same agent creates no ranking, so part (i) still applies. □

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