BUREAUCRACY AS A TOOL FOR POLITICIANS

Leander Heldring[*]

October 2019

Abstract

This paper studies effective government under changing policy objectives. I compare former Prussian parts of Germany to non-Prussian parts in a geographical regression discontinuity framework, during the Weimar republic and the Nazi regime. During the Weimar republic, violence against Jews is lower in former Prussian areas, whereas during the Nazi period, deportations of Jews are implemented more efficiently. Consistent with the notion that the Prussian state was highly effective, I show that Prussian areas are more effective at raising taxes and spend more on policy implementation under both the Weimar republic and the Nazi regime. After the Allies centralized public finance, former Prussian areas do not raise more taxes. I finally provide evidence for a 'cog in the wheel' interpretation of the German bureaucracy: Prussian areas have a more specialized bureaucracy, which increases efficiency; but also leads to 'diffusion of responsibility'. German bureaucracy was a tool for its politicians, and the effect of a strong state on development therefore varies with policy.

Keywords: State capacity, bureaucracy, Nazi Germany **JEL classification**: O10

1 Introduction

Strong states that enforce property rights, raise taxes and more generally, effectively implement policy are more developed (Besley and Persson, 2010, 2011; Acemoglu et al., 2015; Dell et al., 2015). Yet in the last century, about eighty percent of people killed by their own government were citizens of three strong states: Germany, Russia/USSR and China (Easterly et al., 2006; Rummel, 1998).[1] While a bureaucracy may act as a check on a repressive government, it may also facilitate the implementation of repressive and developmental policies alike. In this paper, I study the effect of the strong German bureaucracy on violence before and during the Nazi regime.

I hypothesize that local state capacity is a tool which can be directed to pursue pro-development or repressive policies. When politicians pursue pro-development policies, such as during Weimar period, this implies a positive effect of local state capacity on development outcomes. When, instead, the Nazis pursue repressive policies, these are implemented more effectively as well.[2] In other words, I hypothesize that German state capacity was a tool for its politicians.

To study this hypothesis, I use the fact that Prussia unified Germany in 1871 as a natural experiment. The strong and highly bureaucratized Prussian state became the national German state, introducing variation at a local level in state capacity between those parts of Germany that were formerly Prussian, and those that were not. I reconstruct the expansion of Prussia and the history of the development of its state, and test the effect of being formerly Prussian within unified Germany. Since exposure to Prussia varies discontinuously at its former borders, I implement a geographical regression discontinuity design, comparing German municipalities that were Prussian before the unification of Germany to those that were part of other states.

I first focus on anti-Semitic violence during the Weimar and Nazi periods as a development outcome that was targeted radically differently by politicians in these periods. In the Weimar period, Jews equal to others before the law, and were legally protected whereas during the Nazi period, Jews were placed outside the law and were deported to concentration camps.[3] In line with the hypothesis of this paper, I find that violence against Jews is lower during the Weimar period. In contrast, during the Nazi period de-

---

[1] As a less extreme example, compulsory sterilization has been more widespread in more developed countries, from the United States or the United Kingdom in the early twentieth century (Barkan, 1992) to China more recently as part of its one-child policy (Gewirtz, 1994).

[2] The Weimar period refers to the period between the First World War and 1933, when the Nazis took over. I collect data from 1928 until 1933 for this period, The Nazi period lasted from 1933 and 1945.

[3] Technically, Jews were considered a separate social class during the Weimar republic.

portations (normalized by the pre-Nazi period Jewish population) are significantly higher. Being Prussian is associated with reducing the number of attacks on Jews before 1933 (on average) to zero, while after the Nazi came to power in 1933, being Prussian is associated with a 20 percent increase in the effectiveness of deporting Jews. These results are not a consequence of the RD specification or a local effect around the border; They hold in a simple t-test of a difference in means across Prussian status, in a bivariate OLS regression, or in a regression with geographical controls without a RD polynomial.

To establish a causal interpretation of these results, I pursue three strategies. First, I verify that the standard RD assumptions are met, by showing that becoming Prussian is uncorrelated with development and anti-Semitism before the founding of Prussia, in the Middle Ages. I also verify that migration rates are not different across the RD boundary. These assumptions are necessary for the RD results to have a causal interpretation. Second, I reconstruct the history of each territorial change that added land to Prussia, and reconstruct whether it was intentional, such as a conquest or a purchase, or unintentional, such as a ruler dying without an heir. I re-estimate all results in this paper subsetting to this 'non-conquest' sample, and verify my results. Finally, I test for a number of alternative explanations, such as social capital (Satyanath et al., 2017), culture (Voigtländer and Voth, 2012), radio ownership (Adena et al., 2015) or religion (Spenkuch and Tillmann, 2018). I find a robust effect of Prussian status on violence.

These results are consistent with the hypothesis of this paper: Prussian places are more successful at implementing pro-development policies, such as the protection of minorities, but also at implementing rapacious policies, such as mass deportations. In the rest of the paper, I first directly show that Prussian places have higher state capacity. I then focus on the internal organization of the Prussian bureaucracy to understand what drives differential bureaucratic efficiency.

I first focus on 'fiscal capacity' as a direct measure of the effectiveness of the state. I measure the amount of tax raised per capita, and the amount of tax raised per Reichsmark spent on tax administration,[4] I find that fiscal capacity is higher in Prussian regions during the Weimar and Nazi period. These results both validate the use of the Prussian border as a way of testing the effect of state capacity on violence and provide evidence that state capacity is one of the mechanism driving the effect of being Prussian. I complement the fiscal capacity results with data on local government spending. Prussian areas spend more per capita during the Weimar and Nazi periods, especially on education.

---

[4]Before the second World War the German currency was called the Reichsmark. After the war, the Germany currency was called the Deutschmark.

It is of course possible that other mechanisms drive this result as well. An important competing mechanism is difference in culture. For example, historians have emphasized the militarized culture of Prussia (Clark, 2006). To distinguish between culture and state capacity as broad mechanisms I implement a placebo exercise. In the immediate aftermath of the war, the Allies centralized public finance, taking away taxation responsibilities from the municipalities. If the effect of being Prussian works through a more effective state, but the tasks of the state are taken away as they were by the Allies, I would not expect to see an effect of being Prussian on the effectiveness of public finance. If, instead, the effect of being Prussian works through, for example, cultural differences between local populations, there may still be a lingering Prussia effect. For both taxation and expenditure, I find precisely estimated zero effects for the postwar period, conditional on several covariates that capture the direct impact of the war. These results suggest that the effect of Prussia works through state capacity.

What is it about the Prussian bureaucracy that made it more effective? I test the idea that Prussian bureaucracy was more functionally (or horizontally) specialized, leading to greater efficiency. At the same time, I draw on a large literature from psychology to hypothesize that functional specialization may lead to diffusion of responsibility. I term this 'dual' mechanism the 'cog in the wheel' mechanism based on the famous trial of Adolf Eichmann.[5] To implement this idea, I construct two measures of specialization: the number of job categories local bureaucrats could hold that are occupied and a Herfindahl index of the concentration of bureaucrats across occupied job categories. Looking at all job categories, I find that Prussian areas have more job categories, and are therefore more specialized, and spread out bureaucrats more evenly across these categories. I then focus on hierarchy, comparing higher level bureaucrats ('beamte' and 'angestellte') to lower level bureaucrats ('arbeiter', or workers). Although there are more job categories for both managers and workers in former Prussian areas, there are significantly more job categories for managers relative to workers. I then construct our Herfindahl indices for managers and workers separately, and find that specialization is confined to managers only. In sum, I find that in Prussian areas, the bureaucracy is more differentiated: more job categories exist, and bureaucrats are more specialized. I interpret these findings as consistent with the psychology literature on the relationship between occupational specialization and diffusion of (moral) responsibility.

---

[5]The term cog in the wheel is based on the trial of Adolf Eichmann, the highest ranking bureaucrat responsible for the Holocaust to survive the war. During his trial in 1967, he repeatedly used the defense that he was but a cog in the wheel, a bureaucrat executing tasks that were so specialized that he could not possibly be held responsible. At one point during the trial, Eichmann stepped out of his glass defendants booth to show an organizational chart of his ministry. He thought it would be obvious to the prosecutors that the differentiation of the responsibilities within the Nazi bureaucracy would establish his innocence (Breton and Wintrobe, 1986). His bureaucratic mindset and insistence on rules and procedure, together with his unremarkable appearance and demeanor led Hannah Arendt to coin the term 'the banality of evil' based on the trials. See also Arendt (2006).

Taken together, the results in this paper support its hypothesis: Prussian areas inherited a local state with higher capacity. When the political goals of the government are developmental, this leads to lower violence against minorities. When the policy objectives changes to persecution and, ultimately, genocide, these objectives are executed more effectively as well.

This paper is related to several contributions in development, political economy and economic history. First and foremost, my results complement a series of papers that document the rise and success of the Nazi party, and the origins of anti-semitism in Germany (Voigtländer and Voth, 2012), (Satyanath et al., 2017), (Adena et al., 2015) and (Spenkuch and Tillmann, 2018). My result also speak to the literature on state capacity and the potential 'dark side' of having a well developed state (Besley and Persson (2010), Besley and Persson (2011), Acemoglu et al. (2015) and Acemoglu et al. (2014)). In earlier work, I have provided evidence that the intensive margin of statehood, the duration of having a centralized state leads to the build up of cultural norms of obedience, and these norms affect development positively or negatively, depending on government policy. The effect of culture in Rwanda is analogous to the effect of the Prussian state here (Heldring, 2018).

Section 2 provides the relevant historical and institutional background to the expansion and organization of Prussia, and the Weimar, Nazi, and postwar period. Section 3 describes the data used in his paper, and section 4 introduces the estimation framework which establishes the validity of the use of a geographical regression discontinuity before presenting the main regression model estimated in this paper. Section 5 presents results for violence and state capacity. Section 6 studies mechanisms, focusing on the inner workings of the Prussian bureaucracy. Section 7 concludes. An appendix presents robustness results, and reconstructs the step by step expansion of Prussia.

2   Setting and context

This section introduces the relevant aspects of Prussian and German history for this paper. I describe the balance of the historical evidence on the strength of the Prussian state, and then briefly discuss the relevant historical background for the three study periods in the paper: the Weimar, Nazi, and postwar periods.

2.1 Prussia

The political entity that became known as Prussia has its origins in the accession to the throne of Brandenburg by the Hohenzollern family in 1415.[6] In 1618, the Hohenzollerns inherited the Duchy of Prussia, which was historically centered on Königsberg (modern Kaliningrad). From 1701, when the Hohenzollerns were allied with victorious France in the War of the Spanish Succession, Prussia elevated to the status of a Kingdom. In 1871, Prussia was the driving force behind the unification of all of Germany, under Prussian leadership, into the German Empire. The king of Prussia now became the German emperor. Prussia, now a state (province) within unified Germany, was the most influential of the constituent states of the new Empire, having the majority of territory and people, as well as the plurality of seats in federal governing council, the *Bundesrat*. After the defeat of the German Empire in the First World War, the emperor was ousted and the Empire formally dissolved into the Weimar Republic.

2.2 Prussian expansion and the organization of government

Prussia is the legal predecessor of unified Germany, and the Prussian bureacratized state is considered by historians to be the origin of the current German bureaucratized state (Clark, 2006). In this section, I outline Prussia's expansion and describe the origins of the idea that Prussian government is especially effective.

In 1500, Brandenburg was an insignificant state at the periphery of Europe. Around this time, expansion was mostly attempted through marriage, but these marriages were scattershot, and lacked strategic focus.[7] Many expansions of the Prussian state were accidents resulting from complicated feudal inheritance arrangements, failed earlier marriage attempts that turned around, and competing rulers dying suddenly without natural heirs. Only later in its history would Prussia be able to militarily expand.

---

[6] The Hohenzollern family was the ruling family, as kings, of Prussia and as emperors of the German Empire after German unification in 1871.

[7] To give an example, Christopher Clark describes the marriage strategies of the Hohenzollerns between 1500 and 1560 as follows: "Marriage was the preferred instrument of policy for a state that lacked defensible frontiers or the resources to achieve its objectives by coercive means. Surveying the Hohenzollern marital alliances of the sixteenth century, one is struck by the scatter-gun approach: in 1502 and again in 1523, there were marriages with the House of Denmark, by which the reigning Elector hoped (in vain) to acquire a claim to parts of the duchies of Schleswig and Holstein and a harbour on the Baltic. In 1530, his daughter was married off to Duke Georg I of Pomerania, in the hope that Brandenburg might one day succeed to the duchy and acquire a stretch of Baltic coast. The King of Poland was another important player in Brandenburg's calculations. He was the feudal overlord of the Duchy of Prussia, a Baltic principality that had been controlled by the Teutonic Order until its secularization in 1525, and was ruled thereafter by Duke Albrecht von Hohenzollern, a cousin of the Elector of Brandenburg. It was partly in order to get his hands on this attractive territory that Elector Joachim II married Princess Hedwig of Poland in 1535. In 1564, when his wife's brother was on the Polish throne, Joachim succeeded in having his two sons named as secondary heirs to the duchy. Following Duke Albrecht's death four years later, this status was confirmed at the Polish Reichstag in Lublin, opening up the prospect of a Brandenburg succession to the duchy if the new duke, the sixteen-year-old Albrecht Frederick, were to die without male issue. As it happened, the wager paid off: Albrecht Frederick lived, in poor mental but good physical health, for a further fifty years until 1618, when he died, having sired two daughters, but no sons." Clark (2006, p. 9-10).

The thirty years war, 1618-1648, devastated Prussia completely, and only after this war would something resembling a modern state be built under the leadership of Frederick William, the 'Great Elector' (b. 1620, d. 1688, reign 1640-1688). During the War he was sent to the Dutch Republic, which was successfully fighting Habsburg Spain, to learn about military affairs and statecraft. His education at Leiden University emphasized "the majesty of the law, the venerability of the state as the guarantor of order and the centrality of duty and obligation to the office of sovereign. A particular concern ... was the need to subordinate the military to the authority of the state" (Clark, 2006, p. 40). Frederick then returned to Prussia to build its state along these lines. By 1680, Prussia had a standing army of 20,000 to 30,000 soldiers, had acquired lands that connected its Brandenburg and Duchy of Prussia possessions and had even colonized a small part of West Africa.

Frederick accomplished this mainly through centralization of feudal forms of government organization into a centralized bureaucracy. He created the 'general war commissariat' and the 'office for the domains' as government ministries that would oversee warfare and economic administration, chipping away at the power of the feudal estates to raise armies and oversee local affairs.[8] In the eighteenth century, the trend towards centralization continued. In 1713, administration of royal possessions (mostly land), and tax collection were centralized into the 'General Finance Directory'. In 1723, this ministry of finance and general war commissariat were merged to form the 'General Chief Directory for Finance, War and Domains'. While day to day tax collection was still run along provincial, rather than functional, lines, centralizing tax collection was an important step towards the rationalization of the government bureaucracy.[9] By 1715, a full land census was executed to recalibrate the appropriate land taxes. From this census, new titles were given out in exchange for a general land ('hyde') tax. This tax centralized the last feudal tax privileges away from local nobles to the state.

This professionalization of organization was not confined to the government but was also present in the military. By 1740, all uniforms, guns, daggers and bayonets were standardized. Even straps that held cartridge pouches were made uniform so as to facilitate production and organization. Universal conscription was introduced in 1714.

---

[8]Further administrative reforms were enacted in 1655, centralizing local government councils under central authority, and in the late 1660s, when the centrally administered excise tax was introduced, providing the state with a source of funding that did not depend on local elites. By 1680, the war commissariat took the responsibility for raising taxes away from the estates further centralizing tax bureaucracy.

[9]Attempts were also made to work on best practices. Responsible bureaucrats for regions or competence areas were directed to attend each others' meetings. Ministers were required to work from 8AM (or 9AM in winter) until 7PM. If they worked late, the ministry provided food.

These innovations in public finance and military organization led to military superiority. By 1714, Prussia could raise the fourth largest army in Europe, even though it was tenth and thirteenth in terms of territory and population (Clark, 2006, p. 98). By 1786, Prussia was still thirteenth in population and tenth in area but had third largest army. 5.8 milion people sustained a professional army of 195,000 (Clark, 2006, p. 215).

Further administrative innovations included an excise tax raised at the point of sale, removing the need to negotiate with cities or nobles, a new government department founded in 1740 to promote manufacturing through encouragement of immigration, providing subsidies and engaging in public-private partnerships. In 1794, the Prussian constitution and law coded was introduced. After the defeat at the hands of Napoleon in 1806, Prussia vowed to modernize even further, abolishing serfdom and introducing equality before the law, harmonizing and reforming public education, and instituting a system of checks and balances through the founding of the 'diet' in 1820. By 1871, Prussia was able to defeat France and force the rest of Germany into accepting its leadership in the German Empire.

Based on this discussion of the centralization and bureaucratization of the Prussian state, I hypothesize that there are differences in the capacity of the local state within unified Germany resulting from the historical differences in the strength of the Prussian state.

I naturally face the question what happened in terms of state formation in the many larger and smaller states outside Prussia. While the larger states such as Bavaria, Baden, and Wuerttemberg were modernizing as well, the consensus among historians is that this process had been much more sustained in Prussia (Nolte, 1990). After presenting the main results, I will present public finance results that validate this claim.

2.3   Weimar period

The first period I study in this paper is the Weimar period. The Weimar republic formally existed from the end of the first World War until the Nazis seized power in 1933. This period was marked by relative openness towards the Jewish population in Germany. Many Jews were in higher ranking positions in the government (such as Walther Rathenau, who was Foreign Minister until his assassination in 1922), and in business (Niewyk, 2018; Brenner, 1998). Jews were over represented in science as well, and their

subsequent emigration to the United States spurred innovation there (Moser et al., 2014). The case studies in Niewyk (2018) show that Prussian courts were perhaps more inclined to uphold the rights of Jews in the cases that were brought to them if they were motivated by anti-Semitism. I study whether the fact that Jews were not targeted by the government in this period, and were protected like other German citizens by law and public order means that violence against Jews was lower, as the hypothesis of this paper would predict.

2.4 Nazi period

The Nazis enacted legislation aimed at driving Jews out of public life (the Nuremberg laws among others), and soon started the deportations of Jews all over Germany to the concentration camps. Since this effort was executed by the government and its bureaucracy, I hypothesize that deportations are more effective in former Prussian areas.

2.5 Postwar period

After the war, the Allies centralized public finance away from the municipalities (Diefendorf, 1993). I therefore expect to no longer see an effect of being Prussian on public finance outcomes after the war, if the effect of being Prussian works through the effectiveness of local government.[10]

This section has given an overview of the historical and institutional background behind using the discontinuity created by the former Prussian border within Germany as the main treatment in this paper. Prussia was the origin of the German bureaucratized state, and I hypothesize that government policy after German unification is more effectively implemented in former Prussian regions. The next section presents the data that I use to test this hypothesis.

3 Data

In this section I describe the main variables used in our analysis, organized by our three study periods, the Weimar period, the Nazi period and postwar period. Summary statistics of all variables used in this paper and a complete description of data sources are in the appendix.

---

[10]Naturally, the Second World War had broader impacts than to change the level at which taxation is implemented. Below, in the empirical implementation of this idea, I introduce several covariates to capture the average effect of the war on the local economy.

The unit of observation in this paper is a German municipality (*Gemeinde* in German). For each of the three study periods in this paper, I use a digital map of municipalities available from the Max Planck Institute for Demographic Research (MPIDR, 2011). For the Weimar period the data vary at the city level, and I attribute each data point to the corresponding municipality.

3.1 The Weimar period

I take my main outcome variable for this period, violence against jews before the Nazis won the 1933 election, from Voigtländer and Voth (2012). They code indicator variables for pogroms in 1929 and 1933. I add up these variables to create a count variable of violence against Jews. There are 78 cities with at least one pogrom in this period.

To measure state capacity, and to understand if state capacity is higher in Prussian parts of Germany, I collected administrative data for cities over 20,000 inhabitants from the Statistical Yearbooks of German Cities. I record total taxes raised locally, total outlays for local expenditure, and the composition of the bureaucratic labor force. In the appendix, I break taxes, expenditure and labor force down into its constituent parts, such as property and business taxes, but in the main body of the paper I restrict myself to aggregate variables. I use total local taxes raised as my first measure of state capacity. I normalize total taxes in two ways to understand differences in *efficiency* of the local state. I first normalize by population to create a measure of total tax raised per capita. I then normalize by expenditure on tax administration to arrive at a sharper efficiency measure: the amount of tax raised per German Reichsmark (the relevant currency) expended on raising taxes. I then measure expenditure in two ways: total local expenditure per capita, and expenditure on education per capita since education is the most important locally provided public good.

To understand the organization of local bureaucracy I construct several measures of specialization across government job categories within a municipality. From the Statistical Yearbooks of German Cities I coded the number of employees in different employment categories. For example, the yearbooks record how many employees are tasked with administering schooling and welfare, or how many are tasked with managing the blue collar workforce the city employs, or how many work in trash collection. Some cities employ bureaucrats in each category, and some only in a few. From this data I construct two measures. First, and most importantly, I construct a Herfindahl index measuring the concentration of bureaucrats across job categories. I compute this index separately for all public sector employees, for white collar

workers, and for blue collar workers. I will refer to these last two categories as managers and workers, in line with the German terminology ('Beamte' and 'Angestellte' for white collar workers, and 'Arbeiter' for workers). The 'cog in the wheel' interpretation of German bureaucracy suggests that Prussian bureaucracy should be more dispersed across employment categories, and the Herfindahl index measures the concentration of bureaucrats across these categories.[11] Second, I count the number of categories that have at least one employee in them. The idea here is that many cities do not have employees in all categories and that employment in more categories is indicative of differentiation in the bureaucracy.[12]

3.2 The Nazi period

The main outcome variable for the Nazi period is the number of Jews deported by the Nazi regime between 1933 and 1944, which I take from Voigtländer and Voth (2012). These data ultimately come from German Federal Archives, which collected background information on 159,972 deported Jews. Since the archive records the place where the deported individual lived at the time of deportation, the authors could compile the number of deported Jews per locale. I normalize this number by the total number of Jews recorded in the 1925 census. In their data appendix, Voigtländer and Voth (2012) discuss how, despite the directive to deport Jews coming from the central government, implementation of these directives was local. While they go on to interpret deportations as, at least in part, driven by the cultural attitudes of the local population, I focus on the effectiveness of the implementation of the directive.

Like in the Weimar period, I focus on taxes and expenditure to measure the effectiveness of the local bureaucracy in general policy implementation. I also compute the same measures on the organization of the bureaucracy as for Weimar period, with the exception of the Herfindahl concentration measure, as the Statistical Yearbooks of German municipalities for the Nazi period, from which these data are taken, do not report detailed data on categories of bureaucrats.

---

[11]To be precise, I compute:

$$H_i = \sum_{n=1}^{c} (employment_{ci}/totalemployment_i)^2 \tag{1}$$

H_i is the Herfindahl index for city i which is computed as employment in category c for city i divided by total employment in city i. $totalemployment_i = \sum_c employment_{ci}$. I sum over the number categories of employment c I have data for. For managers, I have 7 categories and for workers I have 4 categories. Table A-1 in the appendix reports summary statistics for each of these categories.

[12]For this measure, I do include all blue collar categories. See the appendix for all categories. I choose the six percent cutoff since this is the percentage I would expect if bureaucrats were equally dispersed among categories. If a city employs everyone in one employment category this measure is equal to one. As the number of categories that bureaucrats are employed in this measure increases as well. The theoretical maximum of this measure is equal to full dispersion, which occurs if each category employs six percent of employees.

The postwar period   As for the previous periods, I collect data on taxes, expenditure and the structure of local government. To measures the impact of the war, I record the total number of dwellings that were destroyed in the war, as well as the percentage decrease in the number of men between 1939 and 1946.

I introduce all other variables in this paper as they are used in the analyses. Before introducing the framework used in this paper to estimate the causal effect of the Prussian state on these outcomes, I discuss the basic patterns in the data.

3.3   Summary statistics

Table 1 reports summary statistics for the main variables I analyze for the Weimar, Nazi, and postwar periods, respectively. Columns report summary statistics. I report two sets of columns, one for municipalities in Prussia, and one for municipalities outside Prussia. The last columns provide a t-test for a difference in means between the two groups.

The t-tests reveal some very interesting significant correlations. For the Weimar period, for example, violence against Jews is lower in Prussian regions, while deportations in the Nazi period are higher. In both periods, state capacity is higher in Prussian regions. In the postwar period, there are no longer any significant differences in state capacity. These patterns are consistent with the hypothesis of this paper, but can not be interpreted as causal. The rest of this paper is dedicated to estimating the causal effect of being Prussian on violence, state capacity and the organization of the German bureaucracy.

4   Estimation framework

In this section I introduce the estimation framework of this study. I exploit the discontinuous change in historical exposure to the Prussian bureaucratized state created by German unification in 1871. Some municipalities in the Weimar, Nazi, and postwar periods had been exposed to Prussian bureaucracy before German unification and some had not, and I capture the hypothesized treatment effect of this difference. I augment the standard RD design by focusing on parts of Prussia that became Prussia before German unification in 1871 through serendipitous historical events.

For example, take the history of the territory of *Cleve*. In 1614, Cleve's ruler died without a male heir.

Normally, feudal law would dictate that the territory passes to the feudal overlord; however, Cleve had obtained an exception from the Holy Roman Emperor to bequeath through the female line. The daughter of the ruler was married to the heir of the core area of what was then known as the Kingdom of Prussia, the area around Königsberg (present-day Kaliningrad, Russia). When, through a strategic marriage, Brandenburg - the German territory that would be the heartland of Prussia later on - acquired the Kingdom of Prussia, they got Cleve as a new territory as well. The Brandenburg rulers did not set out to acquire Cleve, and Cleve might never have been Prussian if not for this accident of history. Furthermore, Cleve is about four hundred kilometers away from Brandenburg, and many polities lay in between the two territories. Cleve may have become part of Germany at unification in 1871 instead of becoming Prussian in 1614. The appendix to this paper details every expansion, and whether I interpret it as accidental, or as intentional. I present all main results for both the full sample of German municipalities as well as for a restricted sample, which drops the intentional expansion within the Prussian side of the RD, and restricts the sample to areas like Cleve. I refer to this restricted sample as the 'non-conquest' sample.

4.1   Estimating equation

The main regression equation I estimates is a regression-discontinuity (RD) design across the boundary of what used to be Prussia, within unified Germany:

$$Y_{mp} = \alpha + \beta Prussian_m + f(location_m) + \sum_{i=1}^{n} segment_m^i + \gamma distberlin_m + \epsilon_{mp} \tag{2}$$

Where Y_{mp} is an outcome of interest for municipality m in period p, $p \in \{Weimar, Nazi, postwar\}$. α is a constant, and $Prussia_m$ is an indicator variable equal to one if municipality m was part of Prussia before German unification in 1871. β is the coefficient of interest, the measured effect of being historically Prussian on outcome Y in period p. $f(location_m)$ is RD polynomial, controlling smoothly for the position of municipality m relative to the RD boundary. In all baseline specifications, I include a linear polynomial in latitude and longitude. The appendix presents results for different polynomials. $\sum_{i=1}^{n} segment_m^i$ is a vector of boundary segment fixed effects. In all specifications, I include three fixed effects here, one for each boundary indicated in figure 1. These fixed effects ensure that I am comparing Prussian municipalities to their nearest neighbors across the relevant Prussia boundary. $distberlin_m$ is the distance to Berlin measured in kilometers, accounting for the proximity of a municipality to the capital. ϵ_{mp} is a heteroskedasticity robust error term. I estimate equation 2 using OLS.

This model estimates the effect of being Prussian across the two-dimensional discontinuity created by the external border of the historical Prussian state. In order for me to interpret the estimates of β in equation 2 as causal several assumptions need to be met. The most important is that all relevant variables besides Prussian status vary smoothly at the boundary. One way in which this assumption could be violated if the decision to expand, through conquest, strategic marriage or otherwise, is correlated with deep determinants of the outcomes of interest in this study.

Table 2 studies this idea. Since Brandenburg was founded around 1500, I start by looking at potential confounders for the late medieval period. To assess balance on development, I rely on city size. I run an OLS regression that uses city size information from McEvedy and Jones (1978). I focus on city size in 1000CE, 1300CE, 1500CE, as well as the growth in city size between 1300CE and 1500CE. For these variables, I estimate a version of equation 2 at the city level, restricting to cities that existed in the relevant time point. The variable of interest is the Prussian indicator. The idea of this analysis is that if bigger cities are concentrated in areas that will become Prussian in the future, measured by the RD specification, then it may be that (a correlate of) development varies non-smoothly at the RD boundary. In column (1) of table 2, I use total population in the year 1000 as dependent variable (in 1000s). Note that the number of observations here is low, since at this time, Germany did not have many cities. For 1300CE, there are 114 cities and for 1500CE there are 166. For 1300CE and 1500CE, the point estimates are essentially zero, and insignificant.[13] This suggests urbanization was not concentrated in future Prussian areas. Column (4) instead uses the growth rate of cities that existed both in 1300CE and 1500CE to understand whether future Prussian places were perhaps on a different trend. I find no evidence for this idea.

In columns (5), (6) and (7) I follow Voigtländer and Voth (2012) and study medieval pogroms. The authors show that medieval pogroms are correlated with early twentieth century anti-semitism and outright persecution. It may be the case that future Prussian areas are more heavily impacted by medieval anti-semitism. Column (5) uses as outcome variable an indicator equal to one if a city had a Jewish community in 1349. Column (6) uses the number of pogroms a city experienced before the Black Death of 1349, and column (7) uses an indicator variable equal to one if a city had a Jewish community but this community was destroyed as a result of a pogrom in 1349. Across all outcomes, I do not find an effect of future Prussian status. These results provide confidence that places that would become Prussian do not look differently from places that would not, before the establishment of Prussia as a state.[14]

---

[13] The point estimate for 1000CE is small and insignificant too.

[14] Appendix table A4 provides these balance tests for the restricted non-conquest sample.

A second challenge to identification in RD designs is differential sorting across the study boundary. If, say, more civic minded public servants sought jobs in former Prussian areas, there may still be an effect of the Prussian bureaucracy, but the interpretation of the Prussian treatment effect as a treatment of differential bureaucratic organization would be tenuous. A first thing to note is that overall migration is low. Less than 10% of the people in the Weimar population data I use have been a migrant at any point.

In table A5 1 in the appendix I directly test for differential migration by estimating versions of equation 2 using data on migration from the Weimar and Nazi periods as dependent variables. Columns (3) and (6) use net migration (immigration - emigration) as the dependent variable and columns (1) and (2) and (4) and (5) use total immigration and total emigration as dependent variables. Columns (1) to (3) use nominal numbers and (4) to (6) normalize by population. Across all regressions, there is no effect of being Prussian. While there may perhaps be compositional effects, there is no obvious difference in the intensity of migration between Prussian and non-Prussian regions.

In the next section, I use equation 2 to estimate the impact of Prussian status on violence in the Weimar and Nazi periods as well as on rebuilding in the postwar period, before moving on to showing results for state capacity, expenditure and the organization of the German bureaucracy to understand what drives my main results.

5 Results

In this section I present the main results of this paper. First, Prussian municipalities experience less anti-Semitic violence during the Weimar period, but more deportations during the Nazi period. Second, state capacity is higher in Prussian municipalities in both the Weimar and Nazi periods, as is public expenditure. After the war, the Allies centralized public finance, and I find no differences between Prussian and non-Prussian municipalities. Finally, Prussian municipalities have more specialized bureaucracies. The results in this section are in line with the hypothesis of this paper: being Prussian leaves a legacy in the capacity of the local government. Since this capacity is a tool for politicians, I observe time varying effects of having a more effective local bureaucracy.

5.1 Anti-Semitic violence

In this section, I study violence and rebuilding between 1920 and 1955. Table 3 contains the main results of this paper, the estimated effects of being Prussian on anti-Semitic violence when such violence was banned (the Weimar period) and when it was official policy (Nazi period). Columns (1) and (2) use the number of violent acts against Jews before 1933 in the Weimar period as the dependent variable, and columns (3) and (4) use the number of deportations of Jews between 1933 and 1944, normalized by pre-Nazi period Jewish population, as the dependent variable.[15]

Table 3 has two panels. In the top panel, I include the full sample, whereas in the bottom panel I restrict the former Prussian lands within Germany to those that were not added to Prussia by conquest or by other intentional means, such as strategic marriage (the non-conquest sample).

Rows 1 and 2 present the main result of this paper, the estimated effect of having been Prussian on anti-semitic violence and deportations. Odd columns add the vote share for the Nazi party in 1928 as a control, as a summary measure of the sympathy of the local population towards the Nazi party.

In columns (1) and (2) I find a negative significant effect of being Prussian on violence against Jews. Consider the point estimate in column (1), row 1, -0.135 (s.e. 0.05). This point estimate shows that being formerly Prussian is, at a local level, associated with a 0.135 drop in the number of violent acts against Jews, which is about equal to its mean of 0.146. This effect is unchanged when including vote share for the Nazi party in 1928 and is slightly larger when subsetting to non-conquest Prussia in panel II.

Robustness. I in the online appendix I introduce a number of robustness checks, which I will only discuss briefly here. First, I vary $f(location_m)$ in equation 2. The result is robust to most specifications, but the most demanding nonparametric regression polynomials, as is to be expected. I also verify that restricting the sample to 100 kilometers, 50 kilometers and 25 kilometers from the study boundary does not affect the results. Second, Nazi party vote share was correlated with religion, with Protestants being more likely to vote for the Nazi party (Spenkuch and Tillmann, 2018). Some historians have argued that the overt Protestant Prussian government and Bismarck's *Kulturkampf* aimed at making Prussia a homogeneously protestant state were important in the rise of the Nazi party (for a discussion, see e.g. (Clark,

---

[15]Because the number of violent acts against Jews before 1933 is a count variable ranging between zero and two, I control for Jewish population rather than normalize. Results become less precisely estimated, but do not substantially change when I do normalize.

2006)). Table A6 in the appendix controls for share of the population that is protestant and share that is catholic, and the main result is strong and the estimated effects of being Prussia are stable. Finally, I assess robustness to a series of hypotheses for the rise of the Nazi party or anti-Semitism that have recently been tested in the literature. Specifically, I verify the robustness of my main results to the density of social clubs (Satyanath et al., 2017), the share of hate radio listeners (Adena et al., 2015) and the number of anti-Semitic letters sent in to the Nazi newspaper *der Sturmer* (Voigtländer and Voth, 2012).

This section has established the main results of this paper: being Prussian is associated with more deportations during the Nazi period. In contrast, in the Weimar period, being Prussian is associated with less violence against Jews. The hypothesis of this paper explains these patterns through higher Prussian state capacity. Simply put, more effective bureaucracies empower politicians to implement policy, whether this is a pro-development policy or not. The rest of this paper studies this claim.

5.2   Mechanisms

This section studies a more effective local government as the primary mechanism through which the effect of being Prussian is transmitted. I first show that Prussian places have higher state capacity. I then study what lies behind these observed differences in state capacity. The literature has broadly focused on differences in bureaucratic culture (Mommsen, 1966), with Prussian culture supposedly being more obedient and rule-bound. An alternative mechanism, which I will explore in the next section, centers on the internal bureaucratic organization of the state. In this case, I will provide evidence for greater specialization in the bureaucracy in Prussian areas. Greater specialization leads to greater efficiency, but may also lead to diffusion of responsibility. I elaborate on this idea below. Before focusing on specialization, I implement a placebo exercise. I focus on the immediate postwar period, when Germany was occupied and administered by the Allies. The Allies centralized public finance and the municipalities were no longer responsible for raising most taxes. If the effect of being Prussian works through the internal organization of the bureaucracy, I would not expect to see an effect of being Prussian on state capacity in the immediate postwar period. If, instead, the effect of being Prussian works through cultural differences, carried over time by the bureaucrats, rather than the organization of the bureaucracy, I would expect to see a lingering effect of being Prussian. Naturally, the war may have affected Prussian municipalities differently, and I control for the impact of the war throughout these exercises.

5.2.1 State Capacity

A common measure of state capacity is 'fiscal capacity', the ability of a government to raise taxes. In this section, I study fiscal capacity and I find that before the war, Prussian places were more effective at raising taxes. I conclude that the Prussian state had more capacity in these periods. After the war, the Allies centralized public finance and I find precisely estimated zero results for state capacity.

An alternative way to measure state capacity is government expenditure. Prussian places expend more per capita, and on specific categories of interest, such as education. These results are again confined to the Weimar and Nazi periods. In the postwar period, the local budget was centrally funded, and I find no differences between Prussian and non-Prussian places.

In table 4, I study the effect of being Prussia on state capacity, as measured by tax collection. Pairs of columns study different periods. Odd columns use total local taxes raised per capita as the outcome, and even columns use total local tax raised normalized by total local expenditure on tax collection. I labeled this variable tax efficiency because it measured the amount of tax per unit of currency expended on tax collection. The relevant currency units are the *Reichsmark* before the war or the *Deutschmark* after the war. These data are available for a subset of municipalities, and I therefore report results that use the reduced non-conquest sample in the appendix. These results are qualitatively the same as for the full sample.

Columns (1) and (2) of table 4 report results for the Weimar period. I find that Prussian places raise more taxes per capita. They also raise more taxes per mark spent on raising taxes. These results are consistent with the hypothesis that Prussian government had higher capacity. I find a similar result for the Nazi period, for both tax raised per capita, as well as per mark spent on raising taxes.

After the war, the Allies centralized public finance, and I use this period as a placebo. If the effect of being Prussian works through the effectiveness of bureaucracy, taking away tax collection responsibilities from the bureaucracy should remove the effect of being Prussian. If instead the effect of being Prussian works through, for example, differences in local culture, there may be a lingering effect of being Prussian after the war. To account for the differential impact of the war across municipalities, I control for the total housing stock destroyed, and the percentage change in male population at a local level. I find precise zero effects of being Prussian for this period.

For the Weimar and Nazi periods, the estimated effect sizes are economically meaningful. Take the estimated effect in column (2), 0.7 (s.e. 0.3). Relative to a mean of 2, this estimate implies that Prussian places are 35% more effective at raising taxes. The corresponding estimate for the Nazi period is 25%.

Robustness. In the appendix I report several additional analyses. First, I repeat the analyses in table 4 for non-conquest Prussia. Due to the reduced sample size, some coefficients lose precision, but the overall conclusion of this analysis is the same as for table 4. Second, I report results for difference in tax raised in levels. The estimated effects are positive, but imprecise and not statistically significant. This result implies that normalization to account for level differences in population or expenditure is warranted. I then break up total tax into its constituent parts, such as property taxes and taxes on business. I estimate the effect of being Prussian on both the total amount raised, as well as the total amount raised per capita. For the Weimar and Nazi periods, I find no effects for the total amount raised and positive and significant effects for each category when I normalize by population. For the postwar period, I find zero effects throughout.

5.2.2 Expenditure

In this section I study local government expenditure. In table 5 I focus on total local expenditure and expenditure on education, as an example of a widely provided public good. This table follows the same structure as table 7 for the different study periods. Odd columns use total expenditure for education per capita as the outcome variable and even columns use total local expenditure normalized by population as the outcome variable.

The first row of the table reports the estimated effect of being Prussian. Across the Weimar and Nazi periods, I find a positive and significant effect. The effect of being Prussian falls to zero and becomes insignificant for the postwar period, as before. For expenditure, the estimated effects are smaller than for taxation. For example, the estimated effect in column (2), 27.2 (s.e. 11.6) is equal to about one fifth of the sample mean of total local expenditure per capita.

Robustness. In the appendix I implement a series of robustness checks, which I will only briefly discuss here. First, I rerun all results for the non-conquest sample. As before, results are qualitatively similar as the results in this section, but less precisely estimated due to the lower sample size. I then consider expenditure in levels. Across all expenditure categories I study, there are no significant expenditure differences when I do not normalize by population. Finally, I break up the results in table 5 for total expenditure into its constituent spending categories. I find that education is primarily driving the positive result for overall expenditure.

In this section, I established five main results. Prussian places (1) experience less violence against Jews when violence was not government policy in the Weimar period (2) experience more deportations of Jews when the Nazis made deportations government policy (3) have higher state capacity in the Weimar and Nazi periods (4) have higher public spending per capita in the Weimar and Nazi period and 5) do not have higher state capacity or public expenditure after the war. The next section investigates what it is about the German bureaucracy that is different in former Prussian areas.

5.3 The 'Cog in the Wheel' organization of the Prussian bureaucracy

This section investigates the specific aspects of the German bureaucracy that drive the results in the previous section. I focus on a 'cog in the wheel' mechanism. This mechanism builds on insights from psychology and organizational economics. In organizational economics specialization in organizations is thought to lead to efficiency improvements through, for example, decreased information processing and communication costs (Bolton and Dewatripont, 1994), and an increased ability to respond to market changes (Thesmar and Thoenig, 2007). At the same time, psychologists have contended that functional specialization leads to diffusion of responsibility. In the extreme this may lead to the defense against accusation of wrongdoing that responsibility for the ultimate implication of a bureaucrat's actions lies elsewhere (Bandura, 1999). Prinicpals in organization understand this mechanism. In the Nazi concentration camps, assignments were often split up into small tasks so as the reduce the moral burden on camp employees Waller (2007).

After the war, functional specialization was often brought up as a defense by former Nazis against the accusation of war crimes. For example, Adolf Eichmann, the highest ranking official in charge of the Holocaust to survive the war, used the defense that he was merely a bureaucrat and had no part in the decisions to execute the Holocaust (Arendt, 2006). Camerer and Malmendier (2007) provide a rationale for this argument. They argue that diffusion of responsibility makes it difficult to separate (lack of) hard work from (bad) luck in a standard principal agent model. Agents will claim a disproportionate share of any successes as their responsibility and will downplay their responsibility for failures.

For example, when asked about the organization of the Wannsee conference of 1942, where the Nazis decided to organize the Holocaust, Eichmann defended himself as follows:

> "What it says here - I am not trying to deny that, but I must protest, Mr. Attorney General,

at the implication that I was the competent official-in-charge for the entire Final Solution; that is not true. I was simply assigned the task of writing the invitations, in other words, to carry out the administrative work of inviting these people to the conference in March of the same year, 1942, and this is shown plainly by the organization chart and the documents."

And the prosecutor responds:

"Leave the documents for a moment. We have already agreed that the extermination of the Jews was not a part of your sacrosanct organization chart..."

Eichmann wrote a letter to the Israeli president two days before his hanging on May 29th, 1962, asking for clemency.[16] He wrote:

"There is a need to draw a line between the leaders responsible and the people like me forced to serve as mere instruments in the hands of the leaders..."

I refer to the idea that specialization can lead to increased efficiency but also to diffusion of responsibility as the 'cog in the wheel' mechanism, and test its validity using data on functional specialization in German municipalities before the war. I find that Prussian places in the Weimar period are more specialized, and that managers are more specialized than workers.

I have introduced the ways I measure concentration in more detail in the data section, but will briefly repeat them here. First, I count the number of occupational categories in my administrative data that are occupied. In total, there are twenty categories of bureaucrats ranging from blue collar workers, such as gardeners, to managers in charge of, for example, tax collection. I count the number of categories in which a municipality employs bureaucrats. I compute this sum for all categories, and for managers and workers separately. I expect Prussian municipalities to have more distinct job categories, conditional on the total number of employees. I then compute a Herfindahl index of concentration of bureaucrats, again separate for all categories, management and workers. I expect Prussian municipalities to be more specialized, i.e. be less concentrated. Since managers were responsible for tasks that are more intuitively related to differences in state capacity, such as tax collection and organization, I expect the concentration results to be stronger for managers.

Table 6 presents results for this mechanism by re-estimating equation 2. Columns (1), (2) and (3) use the Herfindahl indices for all employees, managers and workers as outcome variables, and columns (4)

---

[16]The letter is publicly available, see for instance here: https://www.documentcloud.org/documents/2698866-Handwritten.html (accessed November 2019).

through (6) use the number of employment categories as outcomes. All results are for the Weimar period.

Focusing on column (1), the Herfindahl index is two percentage points lower, relative to a mean of 0.11. This implies that bureaucrats in Prussian regions are more dispersed across employment categories. This effect is significant at the 5% level, controlling for the total number of employees a municipality has. Columns (2) and (3) focus on concentration for managers and workers. They reveal that the overall effect is primarily driven by managers only.[17] Column (4) shows that, on average, Prussian municipalities have half a job category more occupied, again conditioning on overall employment. Columns (5) and (6) reveal that this effect is driven by managers. A chow test rejects the hypothesis that the small and insignificant effect for workers is equal to the positive and significant effect for managers. Taken together, these result suggest that Prussian bureaucrats are more specialized. Although specialization may be associated with higher efficiency, it may also lead to diffusion of responsibility. The 'cog in the wheel' defense of Adolf Eichmann follows exactly this logic.

This section has provided evidence that the effect of being Prussian on violence during the Weimar and Nazi periods is driven by differences in state capacity. I then provided evidence in favor of organizational differences in the local bureaucracy as the causal channel behind observed differences in state capacity.

6   Conclusion

This paper studies the time varying effect of having a well functioning government, across period with radical policy change. In the Weimar period, Germany was relatively tolerant towards Jews, and persecuting of Jews was illegal, and not pursued as a policy objective by the government. The Nazis deported Jews from all over Germany to concentration camps. I use the fact that the core of the German government was the former Prussian government, and compare areas of unified Germany that used to be Prussian to areas that were not. I find that violence against Jews is lower during the Weimar Period, but deportations are more efficient during the Nazi period.

I then show that before the war, local government in Prussian areas was more effective at collecting taxes and spent more per citizen, in particular on education.

---

[17]The effect for workers is essentially zero, but noisy. Therefore, a Chow test can not reject the hypothesis that the two coefficients for managers and workers are equal.

I finally provide evidence for a 'cog in the wheel' interpretation of the German bureaucracy. Prussian bureaucracy is more specialized than non-Prussian bureaucracy.

Taken together, the results in this paper suggest that state capacity is a tool in the hands of politicians. The reduced form effect of having a more effective state bureaucracy on social outcomes is conditional on the policy objectives pursued. Efforts in the developing world that aim at capacity building may backfire in the future as policy objectives change.

References

Acemoglu, D., C. García-Jimeno, and J. A. Robinson (2015). State capacity and economic development: A network approach. *The American Economic Review 105*(8), 2364–2409.

Acemoglu, D., T. Reed, and J. A. Robinson (2014). Chiefs: Economic Development and Elite Control of Civil Society in Sierra Leone. *Journal of Political Economy 122*(2), 319–368.

Adena, M., R. Enikolopov, M. Petrova, V. Santarosa, and E. Zhuravskaya (2015). Radio and the rise of the nazis in prewar germany. *The Quarterly Journal of Economics 130*(4), 1885–1939.

Arendt, H. (2006). *Eichmann in Jerusalem*. Penguin.

Bandura, A. (1999). Moral disengagement in the perpetration of inhumanities. *Personality and social psychology review 3*(3), 193–209.

Barkan, E. (1992). *The Retreat of Scientific Racism: Changing concepts of race in Britain and the United States between the world wars*. Cambridge: Cambridge University Press.

Besley, T. and T. Persson (2010). State Capacity, Conflict, and Development. *Econometrica 78*(1), 1–34.

Besley, T. and T. Persson (2011). *Pillars of Prosperity: The Political Economics of Development Clusters*. Princeton: Princeton University Press.

Bolton, P. and M. Dewatripont (1994). The firm as a communication network. *The Quarterly Journal of Economics 109*(4), 809–839.

Brenner, M. (1998). *The renaissance of Jewish culture in Weimar Germany*. Yale University Press.

Breton, A. and R. Wintrobe (1986). The bureaucracy of murder revisited. *Journal of Political Economy 94*(5), 905–926.

Camerer, C. F. and U. Malmendier (2007). Behavioral organizational economics. In *In Peter Diamond and Hannu Vartiainen, eds., Behavioral Economics and Its Applications. Princeton and*. Citeseer.

Clark, C. M. (2006). *Iron kingdom: the rise and downfall of Prussia, 1600-1947*. Harvard University Press.

Dell, M., N. Lane, and P. Querubin (2015). State Capacity, Local Governance, and Economic Development in Vietnam. *Econometrica, forthcoming*.

Diefendorf, J. M. (1993). *In the wake of war: the reconstruction of German cities after World War II*. Oxford University Press.

Easterly, W., R. Gatti, and S. Kurlat (2006). Development, Democracy, and Mass Killings. *Journal of Economic Growth 11*(2), 129–156.

Gewirtz, D. S. (1994). Toward a Quality Population: China's eugenic sterilization of the mentally retarded. *New York Law School Journal of International and Comparative Law 15*, 139.

Heldring, L. (2018). The Origins of Violence in Rwanda. *Working paper, briq Institute*.

McEvedy, C. and R. Jones (1978). *Atlas of world population history*. London: Penguin.

Mommsen, H. (1966). *Beamtentum im Dritten Reich*. Stuttgart: Deutsche Verlagsanstalt.

Moser, P., A. Voena, and F. Waldinger (2014). German jewish émigrés and us invention. *American Economic Review 104*(10), 3222–55.

MPIDR (2011). MPIDR Population History GIS Collection. MPIDR [Max Planck Institute for Demographic Research]; CGG [Chair for Geodesy and Geoinformatics, University of Rostock].

Niewyk, D. L. (2018). *Jews in Weimar Germany*. Routledge.

Nolte, P. (1990). *Staatsbildung als Gesellschaftsreform*. Campus Verlag.

Rummel, R. J. (1998). *Statistics of Democide: Genocide and Mass Murder since 1900*, Volume 2. Münster: LIT Verlag.

Satyanath, S., N. Voigtländer, and H.-J. Voth (2017). Bowling for fascism: Social capital and the rise of the nazi party. *Journal of Political Economy 125*(2), 478–526.

Spenkuch, J. L. and P. Tillmann (2018). Elite influence? religion and the electoral success of the nazis. *American Journal of Political Science 62*(1), 19–36.

Thesmar, D. and M. Thoenig (2007). From flexibility to insecurity: how vertical separation amplifies firm-level uncertainty. *Journal of the European Economic Association 5*(6), 1161–1202.

Voigtländer, N. and H.-J. Voth (2012). Persecution perpetuated: the medieval origins of anti-semitic violence in nazi germany. *The Quarterly Journal of Economics 127*(3), 1339–1392.

Waller, J. E. (2007). *Becoming evil: How ordinary people commit genocide and mass killing*. Oxford: Oxford University Press.

Figure 1: MAP SHOWING MODERN GERMANY, PRUSSIA AND THE STUDY BOUNDARIES
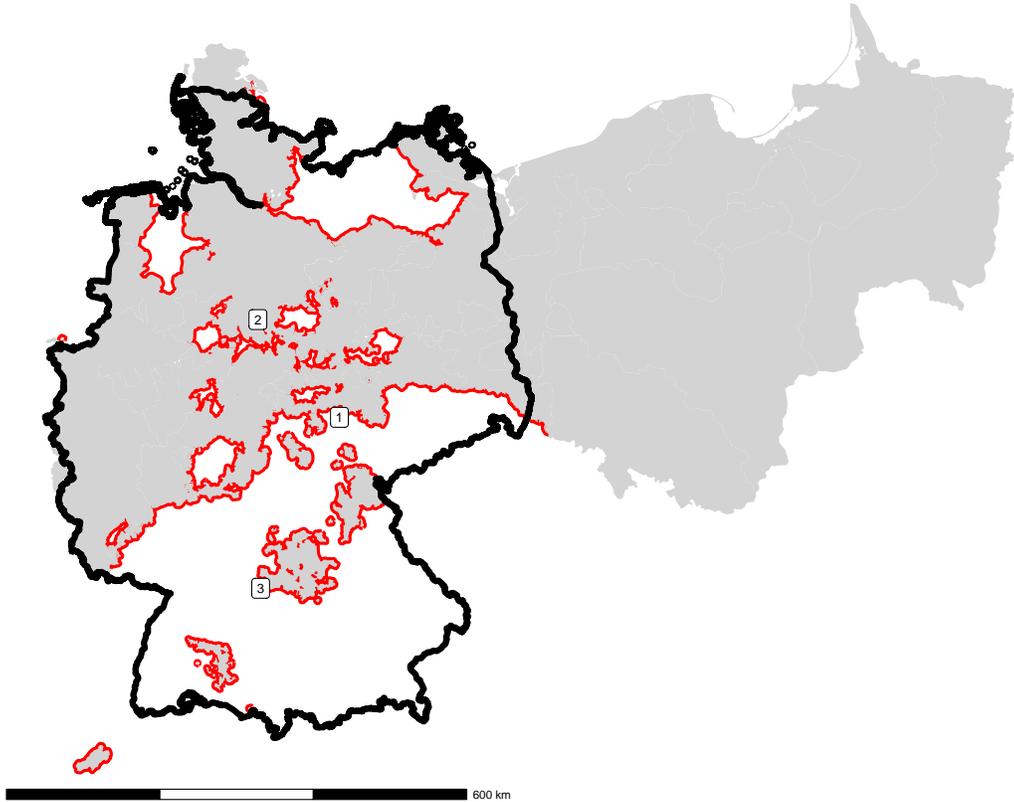
Notes: This map the extent of Prussia (in grey), modern Germany (in black), and the study boundaries (in red). Numbers indicate boundary segments. Segment (1) is the long continuous border that separates Prussia from Southern Germany. Segment (2) is the collection of boundaries between Prussia end the various areas in Northern Germany that were not Prussian. Segment (3) is the collection of boundaries between Prussian territories and non Prussian areas in Southern Germany.

Table 1: DESCRIPTIVE STATISTICS

		Non-Prussian Regions				Prussian Regions				Prussian - Non-Prussian	
	N	mean	sd	min	max	mean	sd	min	max	b	t
Weimar Republic											
Violent Acts against Jews before 1933	556	0.20	0.42	0	2	0.10	0.32	0	2	-0.10	-3.01**
Tax Efficiency	75	1.6	0.5	0.8	3.0	2.1	0.9	0.2	4.8	0.53	3.13**
Herfindahl Index for Employment Concentration	118	0.1	0.0	0.1	0.2	0.1	0.0	0.1	0.4	-0.01	-2.39*
Nazi Period											
Deportations per Jewish Inhabitants 1933-1945	525	0.3	0.2	0.0	1.5	0.3	0.2	0.0	2.1	0.06	3.07**
Tax Efficiency	88	4.9	1.2	3.4	8.3	6.1	1.9	3.1	15.4	1.17	3.44***
Postwar Period											
Tax Efficiency	183	29.7	16.5	12.3	132.2	34.5	21.0	10.6	169.1	4.77	1.72

Notes: This table summarizes the main variables for the Weimar period. The unit of observation is a German city. Violent Acts against Jews before 1933 is the count of violent acts against Jews before 1933. Tax Efficiency is total local taxes divided the expenditure on tax administration. Herfindahl Index for Employment Concentration is a Herfindahl index of the number of employees across employment categories within the local government. Deportations per Jewish inhabitant 1933-1945 is the number of Jewish citizens deported between 1933 and 1945 divided by total Jewish population in 1933. b is the difference in means between Prussian and Non-Prussian regions. t is the t-statistic for the difference in means. * indicates significance at the 10 percent level, ** at the 5 percent level, *** at the 1 percent level.

Table 2: MEDIEVAL - BALANCE CHECKS

Dependent Variable:	Population in 1000 (1)	Population in 1300 (2)	Population in 1500 (3)	Population Growth Rate 1300-1500 (4)	Jewish Community Indicator 1349 (5)	Number of Pogroms pre-Black Death (6)	Community destroyed from Pogrom 1349 (7)
Prussian	0.323	0.015	0.016	0.021	0.058	-0.023	0.001
	(0.421)	(0.186)	(0.189)	(0.014)	(0.047)	(0.056)	(0.036)
Mean dep. var.	9.124	8.645	8.500	0.024	0.374	0.151	0.152
Observations	25	114	166	93	556	555	556
R^2	0.378	0.308	0.028	0.155	0.042	0.030	0.047

Notes: All regressions are estimated using Ordinary Least Squares. The unit of observation is a German city. Prussian is equal to one for each city/municipality that was part of the state of Prussia during the establishment of the German realm in 1871 and zero otherwise. Population 1000/1300/1500 is the total population of a city in 1000/1300/1500 in 1000s. Growth rate 1300-1500 is the population growth rate in a city between 1300 and 1500. Jewish Community Indicator 1349 is an indicator for if a Jewish community existed in 1349. Number of pogroms pre Black-Death is the number of pogroms that occurred before 1349. Community destroyed from Pogrom 1349 is an indicator equal to one if a pogrom in 1349 led to the disappearance of a Jewish community. All regressions include Latitude and Longitude at the centroid of a unit. Distance to Berlin is the straight line distance between the city/municipality and Berlin in kilometers. Heteroskedasticity robust standard error are in parentheses. * indicates significance at the 10 percent level, ** at the 5 percent level, *** at the 1 percent level.

Table 3: Nazi - Main Results

Dependent Variable:	Violent Acts against Jews before 1933		Deportations per Jewish inhabitant 1933-1945	
	(1)	(2)	(3)	(4)

Full Sample

	(1)	(2)	(3)	(4)
Prussian	-0.135***	-0.130***	0.063***	0.060***
	(0.050)	(0.050)	(0.022)	(0.023)
Nazi Share 1928	No	Yes	No	Yes
Jewish Population	Yes	Yes	No	No
Distance to Berlin	Yes	Yes	Yes	Yes
Mean dep. var.	0.146	0.146	0.296	0.296
Observations	555	555	524	524
R^2	0.041	0.043	0.154	0.157

Non-Conquest Prussia

	(1)	(2)	(3)	(4)
Prussian	-0.181***	-0.177***	0.068**	0.064**
	(0.056)	(0.056)	(0.027)	(0.027)
Nazi Share 1928	No	Yes	No	Yes
Jewish Population	Yes	Yes	No	No
Distance to Berlin	Yes	Yes	Yes	Yes
Mean dep. var.	0.151	0.151	0.300	0.300
Observations	378	378	367	367
R^2	0.066	0.068	0.168	0.174

Notes: All regressions are estimated using Ordinary Least Squares. Violent Acts against Jews before 1933 is the count of violent acts against jews before 1933. Deportations per Jewish inhabitant 1933-1945 is the number of Jewish citizens deported between 1933 and 1945 divided by total Jewish population in 1933. Prussian is equal to one for each city/municipality that was part of the state of Prussia during the establishment of the German realm in 1871 and zero otherwise. Non-conquest Prussia refers to the sample that was added to Prussia for reasons that were unrelated to the territorial ambitions of the Prussian rulers. The appendix discusses each expansion. All regressions include Latitude and Longitude at the centroid of a unit. Distance to Berlin is the straight line distance between the city/municipality and Berlin in kilometers. Nazi Share 1928 is the fraction of people who voted for the NSDAP in the 1928 elections. Jewish Population is the number of Jewish people in 1925. All regressions include fixed effects for the closest Prussian boundary segment. Details on these segments are in the appendix. Heteroskedasticity robust standard error are in parentheses. * indicates significance at the 10 percent level, ** at the 5 percent level, *** at the 1 percent level.

Table 4: LOCAL TAX RESULTS

Dependent Variable:	Weimar		Nazi		Postwar	
	Per Capita	Tax Efficiency	Per Capita	Tax Efficiency	Per Capita	Tax Efficiency
	(1)	(2)	(3)	(4)	(5)	(6)
Prussian	17.7***	0.7**	13.0***	1.2***	2.121	-1.838
	(3.7)	(0.3)	(3.2)	(0.4)	(11.238)	(4.079)
War Destruction					Yes	Yes
Change in the Male Population 1939-1946					Yes	Yes
Distance to Berlin	Yes	Yes	Yes	Yes	Yes	Yes
Mean dep. var.	37.1	2.0	47.4	5.6	127.483	32.438
Observations	85	75	92	88	108	103
R^2	0.218	0.143	0.178	0.174	0.269	0.102

Notes: All regressions are estimated using Ordinary Least Squares. The unit of observation is a German municipality, *Gemeinde*. Total Local Taxes PC is the amount of total taxes collected per capita. Tax Efficiency is total local taxes divided the expenditure on tax administration. War Destruction is the number of destroyed apartments in 1949. Change in Male Population 1939-1946 is the change in composition of males in the population between 1939 and 1946. Prussian is equal to one for each city/municipality that was part of the state of Prussia during the establishment of the German realm in 1871 and zero otherwise. All regressions include Latitude and Longitude at the centroid of a unit. Distance to Berlin is the straight line distance between the city/municipality and Berlin in kilometers. All regressions include fixed effects for the closest Prussian boundary segment. Details on these segments are in the appendix. Heteroskedasticity robust standard error are in parentheses. * indicates significance at the 10 percent level, ** at the 5 percent level, *** at the 1 percent level.

Table 5: LOCAL EXPENDITURE RESULTS

Dependent Variable:	Weimar		Nazi		Postwar	
	Education Expenditure PC	Total Local Exp. PC	Education Expenditure PC	Total Local Exp. PC	Education Expenditure PC	Total Local Exp. PC
	(1)	(2)	(3)	(4)	(5)	(6)
Prussian	19.1***	27.2**	4.8***	6.5***	0.1	-3.7
	(2.8)	(11.6)	(1.6)	(2.1)	(1.5)	(6.6)
Distance to Berlin	Yes	Yes	Yes	Yes	Yes	Yes
Mean dep. var.	37.2	143.5	12.8	32.6	23.2	118.8
Observations	76	76	86	84	105	105
R^2	0.511	0.149	0.211	0.134	0.417	0.111

Notes: All regressions are estimated using Ordinary Least Squares. The unit of observation is a German municipality, *Gemeinde*. Education Exp. PC is expenditure on total education, including primary and secondary schooling. Total Local Exp. PC is the sum of local expenditures divided by total population. Prussian is equal to one for each city/municipality that was part of the state of Prussia during the establishment of the German realm in 1871 and zero otherwise. All regressions include Latitude and Longitude at the centroid of a unit. Distance to Berlin is the straight line distance between the city/municipality and Berlin in kilometers. All regressions include fixed effects for the closest Prussian boundary segment. Details on these segments are in the appendix. Heteroskedasticity robust standard error are in parentheses. * indicates significance at the 10 percent level, ** at the 5 percent level, *** at the 1 percent level.

Table 6: EMPLOYMENT

	Herfindahl Index (HI) for Employment Concentration (1)	HI for management (2)	HI for workers (3)	Employment Dispersion (4)	Management Dispersion (5)	Worker Dispersion (6)
Prussian	-0.018**	-0.014**	0.007	0.527**	0.546***	0.060
	(0.007)	(0.006)	(0.038)	(0.262)	(0.193)	(0.177)
Distance to Berlin	Yes	Yes	Yes	Yes	Yes	Yes
Overall Employment	Yes	No	No	Yes	No	No
Total Management	No	Yes	No	No	Yes	No
Total Workers	No	No	Yes	No	No	Yes
Chow test of coeffecient equality (p-value)		0.5663	0.5663		0.0813*	0.0813*
Chow Test Comparison by Columns		(2)-(3)	(2)-(3)		(5)-(6)	(5)-(6)
Mean dep. var.	0.111	0.184	0.236	8.056	4.171	2.796
Observations	118	135	112	160	164	167
R^2	0.115	0.101	0.018	0.079	0.125	0.065

Notes: All regressions are estimated using Ordinary Least Squares. The unit of observation is a German municipality, *Gemeinde*. Herfindahl Index for Employment Concentration is a Herfindahl index of the number of employees across employment categories within the local government. Herfindahl Index for Management Concentration is a Herfindahl index of the number of employees across employment categories that qualify as management within the local government. Herfindahl Index for Employee Concentration is a Herfindahl index of the number of employees across employment categories that qualify as arbeiter within the local government. Overall Dispersion is the number of categories in management and lower-level employment that employ at least six percent of total employment. Management Dispersion is the number of management categories that employ at least eleven percent of all management positions. Worker Dispersion is the number of lower-level employment categories that employ at least eleven percent of all lower-level employment. Overall Employment is the sum of total management and total workers. Total Management is the total number of people in management positions. Total Workers is the total number of workers not in management positions. Prussian is equal to one for each city/municipality that was part of the state of Prussia during the establishment of the German realm in 1871 and zero otherwise. All regressions include Latitude and Longitude at the centroid of a unit. Distance to Berlin is the straight line distance between the city/municipality and Berlin in kilometers. All regressions include fixed effects for the closest Prussian boundary segment. Details on these segments are in the appendix. Heteroskedasticity robust standard error are in parentheses. * indicates significance at the 10 percent level, ** at the 5 percent level, *** at the 1 percent level.