Identity and Institutional Change: Evidence from First Names in Germany, 1700–1850

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Abstract

How does culture change in response to major institutional shifts? What is the role of culture in selecting and stabilizing new institutional equilibria in critical junctures? We study the collapse of the Holy Roman Empire (1789–1815), when half of the Central European population changed rulers. Our annual data on 44 million geolocated birth records between 1700 and 1850 provide a real-time measure of identity choices. In cities that changed rulers, the name distribution changed, becoming more dispersed, unique, and polarized. Using detailed records on diplomatic negotiations, we construct comparable control groups to isolate these effects, which emerged immediately and persisted over time. Examining mechanisms, we provide evidence suggesting that the transition increased uncertainty and eroded the supply of loyalist identity, creating an identity vacuum that competing stakeholders — religious and nationalist groups — actively filled. These cultural shifts became institutionalized, fostering tensions with the new regimes. Our findings underscore the dual challenge of cultural and administrative integration in state-building after regime transitions.

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1 Introduction

Institutions impact culture. A rich literature examines both the long-run persistence of cultural traits shaped by institutional shifts (Voigtländer and Voth, 2012; Guiso et al., 2016; Becker et al., 2016) and the coevolution of institutions with complementary cultural features (Lowes et al., 2017; Giuliano and Nunn, 2021; Bisin and Verdier, 2024). These effects are often measured in the long-run, after uncertainty about institutional trajectories has been resolved, or when a reinforcing feedback loop between institutions and culture has occurred. In contrast, critical junctures — such as major institutional transitions (Acemoglu and Robinson, 2012) — are characterized by openness to multiple possible trajectories. How does culture respond and adapt in the immediate aftermath of such institutional shocks? How does identity accompany and potentially guide the selection a new institutional equilibrium? And how do cultural traits interact with and sustain subsequent institution-building efforts?

As institutions undergo dramatic shifts, the study of critical junctures offers the potential to understand cultural response and adaptation following shocks, and in turn to shed light on the role of culture in resolving institutional uncertainty. However, the lack of highly frequent, spatially disaggregated markers of cultural traits that allow for consistent comparisons over time is often a limiting factor (Callen et al., 2024). In this paper, we study the collapse of the Holy Roman Empire following the French Revolution and the Napoleonic Wars (1789–1815). As a marker of cultural traits, we observe first name choices for millions of individuals born in hundreds of German towns and villages in the period between 1700 and 1850. Our findings shed light on different dimensions of cultural response to major shocks, and on how these cultural shifts shift shaped new institutions that reinforced and sustained these changes over time, impacting state building.

Specifically, we show that individuals in cities exposed to institutional change were more likely to adopt new identities as expressed in first names, and that this shift towards new identities persisted over time. Areas that changed rulers due to the dissolution of the Holy Roman Empire were more likely to adopt nationalist and religious identity and less likely to maintain an identity aligned with the previous social and political order. We argue that this shift can be explained by a state vacuum in the immediate aftermath of the transition. The absence of established political authority allowed alternative cultural identities to take root, facilitated the emergence of new institutions, and enabled the persistent diffusion of these identities across the population.

Our analysis proceeds in three steps. We first document how, in the immediate aftermath of the end of the *Ancien Regime* and the collapse of centuries-old dynasties, the distribution of names shifted immediately and persistently: name choices became more dispersed, more unique, and increasingly polarized across identity groups. These changes are particularly strong in locations that changed their rulers between 1789 and 1815. We interpret these findings as the consequence of a state vacuum (Marchais et al., 2024) that generated ideological uncertainty.

We next study how this vacuum opened the door for alternative suppliers of identity. We find that treated cities see an increase in nationalist and religious names, and a decrease in loyalist names, i.e. names linked to traditional territorial rulers of the Holy Roman Empire. This can be seen as the outcome of the entry of alternative identity providers — primarily religious and nationalist movements.

Finally, we investigate the persistence of cultural shifts in the long-run, beyond 1815. Treated cities were more likely to found national associations and to celebrate national festivals, promoting a pan-German identity. In addition, they were more likely to be the birth place of national revolutionaries during the German Revolution of 1848 as well as of delegates of the first German parliament that resulted from this. We argue that this institutionalization explains why the transitory dynamics in the period after the dissolution of the Holy Roman Empire result in a persistent cultural shock.

Our setting presents a series of features that make it particularly suitable to study cultural evolution in the context of critical junctures. The collapse of the Holy Roman Empire between 1789 and 1815 marked a drastic and regionally varied political reordering. At its peak, the Empire was the largest political entity in Central and Western Europe. By 1815, more than half of the thirty million inhabitants of its constituent states had come under new rulers, creating large variation in how different cities experienced the transition — some changed rulers, while others did not.

This regime change was sudden, unexpected, and top-down, dictated by external powers rather than local populations. The end of the Empire must be sought "in the sphere of high politics" (Wilson, 2006, p. 712). Contemporaries already noted the profound psychological and social effects of these disruptions; they described the "tripled and quadrupled speed of life" (Schopenhauer, 2000 [1839], p. 30) in letters and diaries.[1]

[1] In neighboring France, Émile Durkheim reflected on the consequences of this instability, arguing that "so grave and rapid an alteration as this must be morbid; for a society cannot change its structure so suddenly" (Durkheim, 1952 [1897], p. 369).

We combine information about the extent of institutional changes for 2,390 cities of the Holy Roman Empire with a novel dataset of 44 million geolocated birth records spanning from 1700 to 1850, allowing us to track changes in naming practices over time. Employing a difference-in-differences approach, we compare cities that experienced ruler changes with carefully constructed control groups. To strengthen identification, we leverage exogenous variation in the diplomatic negotiations of the Congress of Vienna, specifically the role of family ties to decision-makers in determining which territories survived and which were absorbed into new states.

Our paper contributes to several strands of research. First, we add to the growing literature that uses first names as a tool to measure cultural traits, including nationalism (Jurajda and Kovač, 2021; Assouad, 2021), religiosity (Andersen and Bentzen, 2022), individualism (Bazzi et al., 2020; Beck Knudsen, 2021), ethnicity (Fryer and Levitt, 2004), and immigrant assimilation (Abramitzky et al., 2020; Fouka, 2020; Algan et al., 2022). This literature is part of a broader effort in the social sciences to understand how cultural imprints are reflected in naming practices (Lieberson and Bell, 1992; Bloothooft and Onland, 2011; Gerhards, 2010).

Second, we contribute to the literature on the origins and persistence of cultural traits (Alesina and Giuliano, 2015; Giuliano and Nunn, 2021; Nunn, 2022; Voigtländer and Voth, 2012), with a specific focus on the interplay between institutions and culture (Grosjean, 2011; Lowes et al., 2017; Grosfeld et al., 2013). While much of this literature documents the long-run persistence of cultural traits, our study highlights how institutional change can induce an immediate and rapid cultural shift in a panel setting.

Finally, our paper speaks to the literature on the formation and intergenerational transmission of identity (Bisin and Verdier, 2001; 2011), particularly in the context of 19th-century Central Europe (Kersting and Wolf, 2021; Dehdari and Gehring, 2022; Falck et al., 2012). Unlike previous studies, which focus on specific dimensions of identity, we provide a comprehensive view of different identity spheres, tracing their evolution through naming practices, political movements, and institutional development.

These findings underscore that state-building is not only an administrative process but also a cultural one. Newly integrated populations do not automatically adopt the identity promoted by their new rulers. In our case, the weakening of old territorial affiliations created the space for a nascent German nationalism, which ultimately contributed to the German Revolution of 1848, a political movement that sought to unify the German states under a single national framework.

The remainder of this paper is structured as follows. Section 2 provides a historical background on the Holy Roman Empire and its collapse. Section 3 describes the data and construction of treatment and control groups. Section 4 outlines our empirical strategy and main results. Section 5 explores the mechanisms behind cultural shifts, focusing on state vacuum and institutionalization. Section 6 concludes and discusses broader implications for state-building and nationalism.

2 Historical Background

2.1 The Holy Roman Empire and Identity Spheres

The Holy Roman Empire, a loose confederation of hundreds of quasi-sovereign states in Central Europe, existed from the 9th century for nearly 1,000 years. This stability was mirrored at the level of its constituent states: in 1789, a city had on average remained under the same ruling family for 280 years.

In this institutional context, three primary sources of identity emerged. First, loyalty to rulers was a cornerstone of political legitimacy. Territorial rulers actively fostered this identity through administration, military service, and public rituals that reinforced allegiance. Second, religion played a central role in shaping identity. Third, the a pan-German identity began to take shape, structured primarily around a shared language and cultural traditions (Wehler, 2016; Echternkamp, 2021). Unlike loyalist identity, which was tied to specific territories, this broader German identity transcended regional boundaries

By the late 18th century, these sources of identity had settled into a relatively stable arrangement. The Church and territorial rulers maintained a mutually reinforcing relationship, in which religious institutions supported political authority, and rulers safeguarded religious unity within their domains.[2] Similarly, national sentiment largely coexisted with territorial loyalism rather than opposing it. Early national consciousness was often framed as complementary to existing political structures, with individuals seeing themselves as both subjects of their rulers and members of a broader German cultural sphere.[3]

[2]Church services, for example, routinely included intercessory prayers for ruling authorities, legitimizing authority (Planert, 2007).

[3]Hardtwig (1994) speaks of a 'pre-political' nationalism. This coexistence is captured in a pamphlet of 1795, stating that "the German has two fatherlands to love: the whole large body of the state, composed of so many individual members; and then also the smaller German country which he inhabits" (cited in Kluckhohn

2.2 The Collapse: Political Sphere

Then, the Holy Roman Empire collapsed. In just twenty-five years, a thousand-year-old political arrangement unraveled: the Emperor abdicated, 476 territories were dissolved and consolidated into 41, and six million people found themselves under new rulers. The catalyst for these developments was the European wars following the French Revolution. In 1794, French troops occupied regions west of the Rhine, and by 1804, they had extended their control east of the river. This occupation set off a series of territorial reorganizations. In 1806, the last Emperor formally abdicated, and the dissolution of the Holy Roman Empire was confirmed by the Congress of Vienna in 1814–15.

The new territorial arrangements were shaped by diplomatic decisions. The fate of the constituent states of the Holy Roman Empire was determined by the great powers—Austria, Britain, France, Prussia, and Russia—who prioritized geopolitical stability and broader strategic interests over historical and cultural continuity. France's interests largely receded from the negotiations after its defeat in 1813. Smaller territories sought to influence the consolidation outcome, often through ruling families leveraging dynastic ties to the major powers. Those with stronger connections to influential ruling families had better chances of preserving their territories, yet the vast majority were absorbed into larger political entities (Peterson, 1945).

Even cities within surviving states were not immune to territorial restructuring. Many areas were reassigned to different rulers, with a key objective being the reduction of the fragmented feudal rule. The goal was to create more geographically cohesive states—a process known as 'rounding off'—to ensure administrative efficiency. To facilitate these territorial exchanges, a special statistical commission was established to provide population and geographical data on different regions, forming the basis for negotiations.

After years of war and political instability, the Congress of Vienna in 1815 established a new European order. Figure 1 illustrates this transformation, comparing the territorial configuration of 1789 (Panel A) to that of 1815 (Panel B).

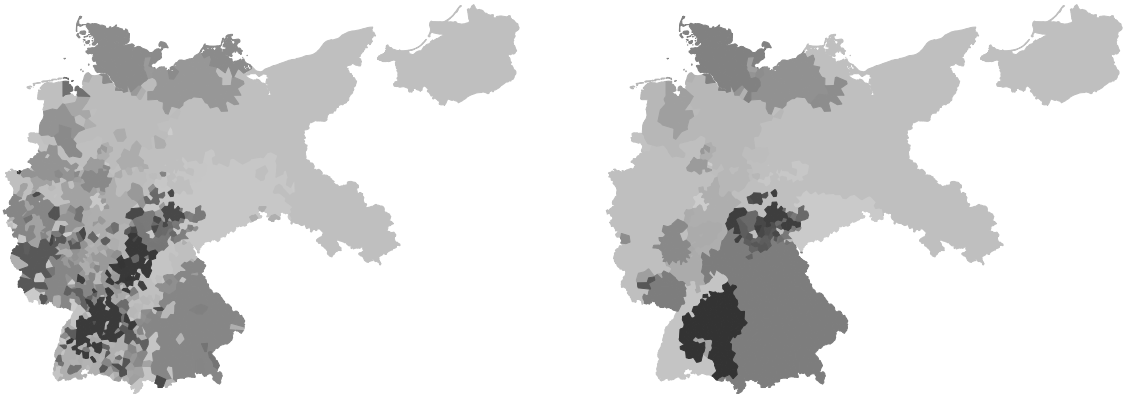
2.3 After the Collapse

This period of state vacuum — local populations had experienced a sharp withdrawal of the previously established rule — was followed by a period of restoration. The newly

et al., 1934, p. 9).

Figure 1: Territories and Ruler Change

A: Territories 1789 B: Territories 1815



Note The maps show the territories extant in our region of analysis in 1789 (Panel A) and 1815 (Panel B). Panel C cities that had a different ruler in 1789 than in 1815. Details on the data underlying the maps are given in Section 3.

established states primarily focused on administrative integration of new areas within territories.

In the intermittent period, however, religious stakeholders benefited from the uncertainty surrounding the role of the new rulers. Many Christians intensified their personal religious devotion, and religious adherence experienced a boom in many regions as "an expression of collective disturbance" (Carl, 2004, p. 217). In some areas where the religious affiliation of the new ruler and population did not align, open conflicts emerged between Church and State, which strengthened the identity building role of the Church. A notable example is Catholic Cologne, which had previously been a an ecclesiastical territory in the Holy Roman Empire, but was now under Protestant Prussian rule. This led to tensions, culminating in the arrest of the acting bishop, Clemens August Droste zu Vischering. His imprisonment sparked widespread outrage and is regarded by historians to have played a crucial role in solidifying religious identity in the Cologne region, where it gained significant influence (Behr, 1983, p. 52f).

Nationalist actors had also taken advantage of this state-vacuum and used it to establish institutions that allowed to further disseminate their ideas. As early as 1814, celebrations of the victory over Napoleon stressed a national, pan-German identity. Gymnastics associations (*Turnvereine*) emerged across the territories, originally founded with

the goal of preparing German youth for resistance against the French occupation. After the Congress of Vienna, they remained a central pillar of the nationalist movement. While participants often held strong nationalist views, the associations also worked as platforms to signal and promote national identity to others, thereby acting as social multipliers.

When states responded to these competing ideologies, they primarily turned to repressive measures such as censorship, imprisonment, and even executions of individuals deemed revolutionaries. However, these efforts largely failed to suppress the growth of these alternative identities. At the same time, territorial rulers were unable to offer a compelling new version of the loyalist identity.

These tensions culminated in the German Revolution of 1848/9, where a first, freely elected parliament for all German States — the Frankfurt National Assembly — was convened, aiming to create a unified German nation from the fragmented, individual German territories.

3 Data

Our unit of analysis are the cities of the Holy Roman Empire, as depicted in the *Deutsches Städtebuch* (Keyser et al., 1939-2003).[4] We observe detailed information on territorial change, cultural change measured in naming patterns, and institutional outcomes for these cities. Where relevant, we precisely geolocate smaller settlements and match them to the closest city in our data. Our main sample comprises the 730 cities for which we observe all outcomes, yearly between 1700 and 1850.[5]

3.1 Treatment: Changing Ruler

We use local territory data to construct an indicator whether a city found itself under a different ruler in 1815 compared to 1789.[6] This constitutes our main treatment variable. Our data also records the precise year in which the pre-1789 rule over the city was dissolved. We supplement this information with a detailed depiction of the diplomatic process that reconfigured the Central European map. Our aim is to identify comparable control groups, that is, cities with a similar ex ante propensity to change ruler.

[4]This source covers all settlements in the 1937 German borders that ever obtained city status.

[5]Where possible, we use information on all 2,390 cities. Results based on this full sample are qualitatively unaffected when subsetting to the main sample.

[6]This data and the associated documentation has been published in Cantoni et al. (2019).

Extensive margin. A first group of data sources depicts the extensive margin of rule transition: the vanishing of territorial units.[7] For each territory, we record its rule type in 1789, distinguishing city states, ecclesiastical territories, smaller secular states, and Great Powers. Each group faced different likelihoods of vanishing. Among smaller secular states, we additionally measure marriage ties as a factor influencing diplomatic success: We match a complete dynastic network of noble families to our territories, allowing us to calculate the dynastic proximity of territories.

Intensive margin. A second group of data examines the intensive margin propensity of rule transition: within a pre-1789 territory, which cities were more likely to change rulers? We measure a vast array of city characteristics that would have made a city more interesting to negotiators.[8] Given the emphasis on 'rounding off' territorial borders in negotiations, we additionally construct simulated territorial borders that achieve a maximally compact extension of each post-1815 territory, holding fixed the resulting size distribution of territories. We then construct an ex ante propensity of ruler change, calculating for each city the fraction of times it ends up in a new territory across 1,000 simulations.[9] Measuring these considerations more directly, we record the exact places listed as negotiation mass by the *Statistical Commission* of the Congress, not all of which ultimately changed rulers. This data is available for a regional subset of our study area, identifying cities that were part of the negotiation mass. Finally, we construct 'border samples': considering all territories that were partitioned as a result of the Congress, we identity cities on either side of the resulting border, across border segments.

Finally, we measure a key characteristic of the nature of the treatment. For each treated city, we construct an indicator whether French troops or administrators were present during the transition period 1789–1815.[10]

[7] Given the within-territory variation in ruler change, our main analysis is at the city level. In our robustness analyses, we nevertheless account for potential treatment clusters.

[8] We measure agricultural suitability (Fischer et al., 2002), terrain ruggedness, and distances to the coast as well as the nearest navigable river. We construct an indicator whether a town was on a trade route. We also record the number of markets (Cantoni et al., 2020).

[9] This approach is similar in spirit to Borusyak and Hull (2023) and randomization inference more broadly. We center each territory around its pre-period centroid. For each simulation, we randomize the order in which territories are 'queued' in the compactness algorithm: the first territory does not face any constraints in its simulated extent, whereas the second territory is maximally compact given the extent of the first territory and so forth.

[10] This data is constructed from Keyser et al. (1939-2003).

3.2 Naming Measures

We relate this treatment data to cultural outcomes as measured through naming practices. Our base are 44 million first names from birth and baptism records in 13,000 German settlements between 1700 and 1850, digitized by FamilySearch. Appendix Section A describes the origin, processing, and geolocation of the data. We map settlements to the closest city.

For our analysis, we measure key aspects of the naming distribution. In addition, we assign names to identity groups to derive proxies for the strength of the three predominant identity groups of the time: nationalism, religiosity, and loyalism.

Distribution. We derive four measures that address fundamental questions about the underlying local culture. We operationalize each question by relying on a well-known functional form, and demonstrate the robustness to alternative choices of functional form in Appendix Section B.2.

1) Change. Do naming practices change within cities over time? Our first objective is to compare the distribution of first names in a city i between time periods t_1 and t_2. We rely on the information theory-based Theil (1967) index.[11] Intuitively, the name distribution is stable if we cannot infer which time period a randomly drawn name originates from. Call the total number of unique names that were assigned to children in either period N, and $G = |\{t_1, t_2\}| = 2$ the number of time periods. Define the count of each name in each time period as c_{nt}, where n indexes names, and t indexes time points. The total amount of births across both periods is $c = \sum_{n=1}^{N} \sum_{g=1}^{G} c_{ng}$. Define the probability of a birth with name n in period t as $p_{ng} = c_{ng}/c$, the marginal probabilities of names as $p_{n\bullet} = \sum_{g=1}^{G} c_{ng}/c$, and the marginal probabilities of a period as $p_{\bullet g} = \sum_{n=1}^{N} c_{ng}/c$. The mutual information index is:

$$M = \sum_{n=1}^{N} \sum_{g=1}^{G} p_{ng} \log \frac{p_{ng}}{p_{n\bullet} p_{\bullet g}}. \tag{1}$$

Normalizing this index so that it lies between 0 and 1 constitues the Theil index, T:

$$T = \frac{M}{-\sum_{g=1}^{G} p_{\bullet g} \log p_{\bullet g}} \tag{2}$$

[11] See also Shorrocks (1980), Mora and Ruiz-Castillo (2011), and Elbers (2023).

T equals zero in the case where the naming distribution is exactly the same in t_1 and t_2. The information contained in the marginal probabilities $p_{n\bullet}$ and $p_{\bullet g}$ is fully sufficient to characterize the distribution in each group, $p_{ng} = p_{n\bullet}p_{\bullet g}$. In contrast, if the naming distribution is maximally different across the two groups — for example, because the set of names used in t_1 is fully disjoint from the set of names used in t_2 — marginal probabilities are not informative to learn about the distributions in each group, and $T = 1$. We construct the period-by-period name change T_{it} for each time period t and city i.

2) Dispersion. Do naming practices become more or less dispersed? Our second objective is to measure changes in the concentration of names. To capture this, we define the dispersion of names within city i and period t as $D_{it} = \frac{1}{\gamma_{it}}$, with the Gini coefficient γ as a canonical concentration measure.

3) Uniqueness. Do naming practices reply on more unique names? Changes in dispersion could occur either entirely among the set of existing names, or through the introduction of new names. To reflect this, we measure the unique name count as a fraction of all names in a given city and period, $U_{it} = \frac{N_{it}}{\sum_{n=1}^{N} c_{nt}}$. This measure is equal to 1 if all children are given a different name, and decreases when fewer names are used.

4) Polarization. Do naming practices becoming more polarized across identity groups? We follow Esteban and Ray (1994) and Bazzi and Gudgeon (2021) and measure

$$P_{it} = \sum_{g=1}^{\mathcal{N}} \sum_{g'=1}^{\mathcal{N}} s_g s_{g'}$$

where s_g is the share of births in a city i and period t that have a nationalist, religious, or loyalist name, respectively (our measurement of which we introduce below), so $\mathcal{N} = 3$.[12]

Identity. Secondly, we measure the identities underlying these distributional changes. Our approach relies on Fryer and Levitt (2004), and Appendix Section B.2 demonstrates the robustness of our results to dictionary-based meaures. We measure the distinctiveness of a name for an identity group as:

$$(1) \quad I_{\text{name, g}} = \frac{\Pr(\text{name} \mid \text{g})}{\sum_{j=1}^{\mathcal{N}} \Pr(\text{name} \mid \text{j})},$$

where *name* is a particular first name and $j \in$ nationalist, religious, loyalist. The index ranges from 0 to 1. If $g =$ nationalist, and a name is exclusively given to children of

[12] We assume the distance between groups g and g' to be 1.

nationalists, then $I_{\text{name, g}} = 1$. In contrast, if a name is only given to children of religious figures or loyalists, $I_{\text{name, g}} = 0$.

Constructing this measure requires a set of reference births for each identity group to construct the conditional probabilities. We access the most comprehensive lists of available biographies of individuals that were part of one of the three groups.[13] For each city and time period, we can then construct the average distinctiveness of names in each group, $I_{git} = \frac{1}{N} \sum_{n=1}^{N} I_{\text{name, g}}$.

We standardize all distribution and identity measures for ease of interpretation.

3.3 Institutional outcomes

We measure how this transition period shifted the institutional landscape of the emerging post-1815 order. First, We observe granular information on the professions of notable individuals from the *Deutsche Biographie* (Hockerts and Lanzinner, 2022). This source contains records of 730,000 persons from German-speaking areas, including birth and death dates, professions, and places of residence throughout their lives. We subset our analysis to all individuals who were born in our analysis period. We link individuals to the city nearest to their birthplace. We manually identify (liberal) nationalists, religious figures, and loyalists based on profession titles and biographical entries.This results in a database of 11,290 individuals. We then construct an panel that counts the number of notables from a city that were alive in a given year, separately for each group.

Second, measure the ascent of liberal nationalism in three cross-sections.[14] First, we measure the incidence of nationalist festivals in 1814-1815. Hoffmann (1815) includes a short description of each of the 572 festivals. For each city, we construct an indicator if such a festival took place closeby. From regional histories, we construct a list of 69 nationalist gymnastics associations formed between 1811 and 1848. We also record the place of birth for each of the 809 members of the Frankfurt National Assembly of 1848.

[13] For loyalism, we construct a dataset of all children born to the 43 German rulers that ruled one of the territories that would form the *German Union* between 1780 – 1815. For religiosity, we rely on a list of 458 German theologians in the 19th century from Wikipedia, and for nationalism, we consider all 1,746 individuals who either were part of the first nationalist fraternity (*Urburschenschaft*) or the national assembly of 1848.

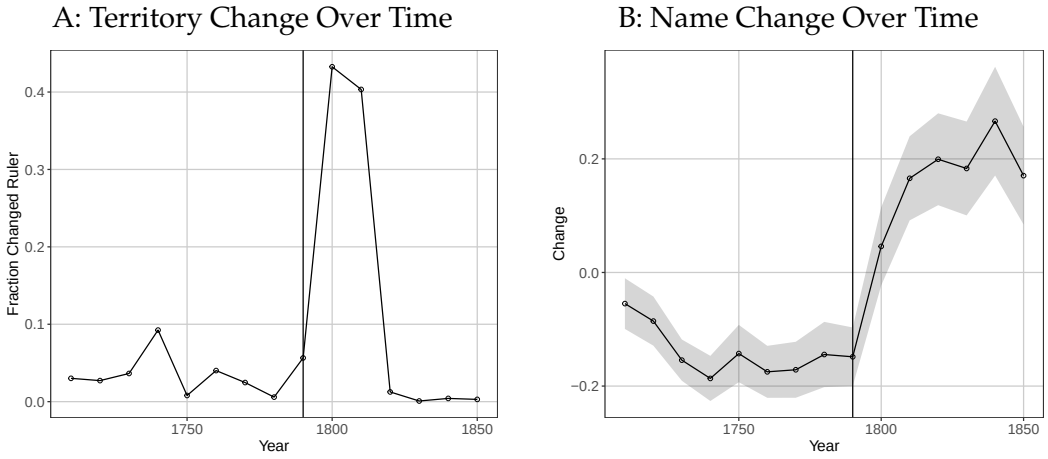
[14] The rapid evolvement of organizational forms of nationalism during the time period requires constructing repeated cross-section data rather than a panel.

4 Main Results

4.1 Empirical Strategy

Did the institutional transition between 1789 and 1815 effect cultural change? Figure 2 motivates this analysis with two time series. Panel A shows the fraction of cities in our sample that changed ruler in a given decade. While from 1700 until 1790 less than 5 percent of cities would change ruler in a given decade, from 1790 until 1810 40 percent of cities changed ruler in a decade. Panel B shows the name change measure T_{it} averaged across cities for each decade. Before the 1790s, the naming distribution changed at a constant, low rate each decade. Starting in the 1790s, this measure of change rose dramatically by nearly 40% of a standard deviation, remaining high over the next decades.

Figure 2: Ruler and Name Change



Note Panel A shows the fraction of cities in our sample that change ruler in a given decade. Panel B shows the name change measure T_{it} averaged across cities for each decade. The vertical line is at $t = 1789$.

In the following, we explore the relationship between rule change and this sharp and persistent increase in naming change in a panel at the city-year level. A potential concern is selection into treatment: localities on a different cultural trajectory might have also been more likely to be treated, for example because they toppled their ruler. The historical evidence from Section 2 suggests that the scope for these concerns is limited: the collapse of the Holy Roman Empire was sudden, top-down, and externally driven; territorial change was driven by considerations outside of the scope of culture. Our empirical strategy takes a number of steps to account for concerns about selection. Our baseline specification is of

the type

$$NamingMeasure_{it} = \beta Treated_i \times Post1789_t + \alpha_i + \alpha_t + \varepsilon_{it}, \quad (3)$$

where $NamingMeasure_{it}$ represents one of the four naming distribution metrics T_{it} (*Change*), D_{it} (*Dispersion*), U_{it} (*Uniqueness*), and P_{it} (*Polarization*) introduced in Section 3.2, measured for city i and year t. $Treated_i$ indicates whether a city changed rulers between 1789 and 1815, while $Post1789_t$ is a dummy for the time period after 1789. α_i and α_t are town and year fixed effects, respectively.[15] This accounts for all time-invariant aspects of culture at the level of cities and general changes in naming patterns that occur across all cities.

To test for parallel trends, we estimate event study analogues of equation (3):

$$NamingMeasure_{it} = \sum_{\tau=-5}^{5} \beta_\tau Treated_i \times RelativeDecade_{\tau(t)} + \alpha_i + \alpha_t + \varepsilon_{it} \quad (4)$$

with all variables as defined above, and $RelativeDecade_t$ denoting decades until/since 1789. We furthermore conduct an extensive set of robustness checks to account for alternative outcome and treatment measures, and to address potential alternative, mechanical explanations like spatial correlation, differential record-keeping, or finite sample bias. Finally, we use our detailed data on the diplomatic process of ruler change to construct comparable control groups.

4.2 Baseline Results

Table 1 shows results of estimating equation 3. Column 1 shows a relative increase in the year-to-year Theil index in treated cities at around 0.17 standard deviations, compared to untreated cities. Column 2 shows that dispersion of names increased by eight percent of a standard deviation in treated cities after 1789. In column 3, the regression results demonstrate an increase of 0.11 standard deviations in the share of unique names in treated city-years. Finally, column 4 shows that identity polarization increased by 0.14 standard deviations in treated city-years relative to the control group.

[15] For ease of exposition, we opt to anchor all change events in the year 1789. Our results are qualitatively unchanged if we instead consider the staggered timing of the first territory change event for each town in Appendix Section B.1.

Figure 3 shows the event study counterparts of these results, estimating equation 4. The increases in all four outcomes are immediate after 1790 and not led by pre-trends over the preceding periods (Panels A-D). The patterns change gradually at first and more rapidly starting in the 1800s. This is in line with the pattern of territorial change, which saw the majority of ruler turnover during that later time period. Across all four outcomes, estimated coefficients remain large and statistically significant beyond 1815. We devote Section 5 to explore this persistence.

Table 1: Territory Change and Naming Practices

	Change (1)	Dispersion (2)	Uniqueness (3)	Identity Polarization (4)
Treated	0.1670***	0.0877**	0.1160***	0.1479***
	(0.0252)	(0.0357)	(0.0251)	(0.0430)
Observations	63,892	63,892	63,892	63,892
R^2	0.72	0.70	0.78	0.46
Number of Units	740	740	740	740
City FEs	✓	✓	✓	✓
Time FEs	✓	✓	✓	✓
Cluster	City	City	City	City

Note Table presents results of estimating equation (3). Observations are at the city-year level. *, **, and *** denote significance on the 10 percent, 5 percent, and 1 percent level, respectively.

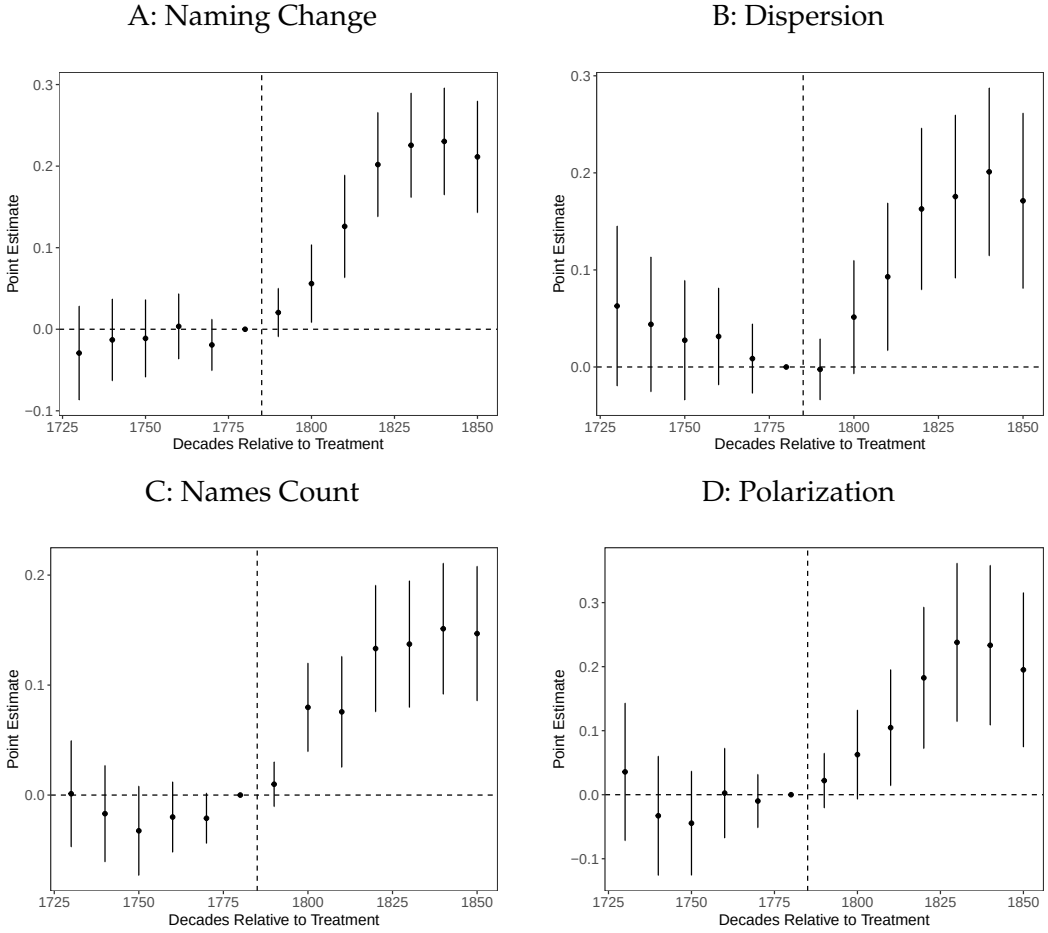
4.3 Robustness and Identification

We conduct an extensive set of robustness checks to corroborate these findings. In Appendix Section B.1, we consider robustness to the choice of outcome measures. Appendix Section B.2, in turn, considers alternative treatment definitions. Finally, Appendix Section B.3 considers three potential mechanical confounders in detail: spatial correlation, differential record-keeping, and finite sample bias.

To account for potential selection into treatment, we construct an instrumental variable that influenced which territories ceased to exist after 1815 and thus which cities in our dataset are treated. Territories with closer kinship ties to one of the great powers (Austria, Britain, Prussia and Russia) at the Congress of Vienna had a higher probability of surviving, because they had a more direct diplomatic access to the decision makers.[16]

[16]For example, Katharina Pavlovna, the widowed Duchess of Oldenburg, and Maria Pavlova, the wife of

Figure 3: Territory Change and Naming Practices (Event Studies)



Note The plot shows results of estimating the event study regression in equation (4), with 95 percent confidence intervals. Observations are at the city-year level. Standard errors are clustered at the city level.

In our analysis, we measure the marriage network in 1789.[17] This dynastic closeness, of course, also reflects the underlying financial and administrative ability of territories. We thus rely on a plausibly exogenous shift in the diplomatic success of a territory: the elimination of the French ruling dynasty in 1793 and the conversion to a Republic. From the perspective of 1789, this was not forseeable. Our identifying assumption hence is that rulers of secular territories in the Holy Roman Empire would have been indifferent between being dynastically closer to France as compared to another great power. We hence calculate the average dynastic proximity of a territory to the Great Powers *including* and *excluding* France. When controlling for the former, the difference between these measures describes the shift in diplomatic connectedness owing to the French Revolution. Our thought experiment thus compares two territories with the same diplomatic connectedness in 1789. The territory with a more French-biased marriage portfolio found itself in a more difficult position in negotiations.In Table 2, we show our main results when drawing on this instrumental variable. Our results are qualitatively unchanged compared to Table 1. In Appendix Section C, we complement this analysis with wide array of alternative approaches to constructing comparable control groups.

Table 2: Territory Change and Naming Practices (IV)

	Change	Dispersion	Uniqueness	Identity Polarization
	(1)	(2)	(3)	(4)
Treated	0.2945***	0.7119***	0.3352***	0.3539**
	(0.0710)	(0.1362)	(0.0917)	(0.1394)
Observations	42,990	42,990	42,990	42,990
R^2	0.74	0.68	0.77	0.46
IV	✓	✓	✓	✓
Number of Units	504	504	504	504
City FEs	✓	✓	✓	✓
Time FEs	✓	✓	✓	✓
Cluster	City	City	City	City

Note Table presents results of estimating equation (3). Observations are at the city-year level. *, **, and *** denote significance on the 10 percent, 5 percent, and 1 percent level, respectively.

the Hereditary Prince of Saxe-Weimar-Eisenach who were both related to the Habsburg dynasty were invited to live at the Hofburg (the principal imperial revidence of the Austrian dynasty) during the Congress of Vienna. Both territories survived the Congress, Saxe-Weimar-Eisenach even with territorial gains.

[17] This analysis is naturally limited to secular territories, since city states and ecclesiastical territories did not form dynastic ties.

5 Mechanisms

We now examine how territorial change led to immediate and persistent cultural shifts. Specifically, we consider three potential channels that may have jointly shaped equilibrium outcomes: preferences (identity demand), local institutions (identity supply from within the community), and external identity supply (through trade and information flows). Since a change in political rulers represents a bundled treatment, isolating the precise contribution of each channel is challenging. In the following, we carefully examine the historical and empirical evidence to suggestively compare the relative importance of each of these channels.

5.1 Framework: 1789–1815 as a State Vacuum

The sudden disappearance of rulers in treated cities created a *state vacuum*, characterized by an abrupt withdrawal of state authority. Local officials lost their superiors, tax collection ceased, and territorial laws were no longer enforced. This political void also extended into identity space: prayers for the ruler in church services—a practice maintained for centuries—were abruptly discontinued, and state symbols such as banners were removed from public squares.

This identity vacuum opened the door for alternative suppliers of identity. In the face of uncertainty, churches saw increased attendance, and citizens engaged more freely in associative life. At the same time, the nature of the change mattered: French occupation heightened the salience of German identity while simultaneously constraining the ability of the Church to assert influence.

These historical patterns align with broader economic theories of state collapse, which predict both heightened uncertainty and the entry of new social stakeholders (Marchais et al., 2024). If the treatment indeed influenced individual preferences and the local supply of identity, we should observe three empirical patterns:

1. *Treated places should exhibit a relative decline in loyalist identity and a rise in religious and nationalist identities.*

2. *Among treated places, direct French presence should suppress religious identity formation and instead favor nationalism.*

3. *Changes in external identity supply should not be the primary driver of observed identity shifts.*

5.2 Empirical Evidence

To test Hypothesis 1, we modify regression equation (3) to use our three identity measures — $I_{it}^{\text{nationalist}}$, $I_{it}^{\text{nationalist}}$, and $I_{it}^{\text{nationalist}}$ as outcome variables. Table 3 presents the results. Treated cities experienced an increase in nationalist and religious naming practices and a decline in loyalist names relative to untreated cities.

Table 3: Territory Change and Identities

	Nationalist (1)	Religious (2)	Loyalist (3)
Treated	0.3667***	0.1079**	-0.3550***
	(0.0491)	(0.0438)	(0.0556)
Observations	63,892	63,892	63,892
R^2	0.72	0.71	0.76
Number of Units	740	740	740
City FEs	✓	✓	✓
Time FEs	✓	✓	✓
Cluster	City	City	City

Note Table presents results of estimating equation (3). Observations are at the city-year level. Standard errors are clustered at the city level. *, **, and *** denote significance on the 10 percent, 5 percent, and 1 percent level, respectively.

Next, we assess Hypothesis 2, which posits that the experience of French occupation shaped identity outcomes. Table 4 decomposes the treatment indicator into cities that directly interacted with French rule (via occupation or administration) and those that did not. We find that nationalism increased more in cities with French presence, while the shift toward religious identity was stronger elsewhere. Notably, in both subgroups, the rejection of loyalist identity occurred at similar rates.

5.3 Institutionalization

Finally, we investigate the persistence of identity shifts beyond 1815. Historical evidence suggests that local institutions played a crucial role in reinforcing the move away from loyalism. Emerging nationalist associations, initially informal in the 1810s, stabilized

Table 4: Territory Change and Identities: Heterogeneous Effects

	Nationalist (1)	Religious (2)	Loyalist (3)
Treated × French Occupation × Post-1789	0.5147***	0.0590	-0.4292***
	(0.0578)	(0.0476)	(0.0633)
Treated × Religious Tension × Post-1789	0.2579***	0.1093**	-0.2747***
	(0.0542)	(0.0539)	(0.0631)
Treated × Neither × Post-1789	0.2004***	0.2286***	-0.3209***
	(0.0557)	(0.0639)	(0.0639)
Observations	63,892	63,892	63,892
R^2	0.72	0.71	0.76
Number of Units	740	740	740
City FEs	✓	✓	✓
Time FEs	✓	✓	✓
Cluster	City	City	City

Note Table presents results of estimating equation (3). Observations are at the city-year level. Standard errors are clustered at the city level. *, **, and *** denote significance on the 10 percent, 5 percent, and 1 percent level, respectively.

and professionalized over time. Similarly, local clerics consolidated their influence over churchgoers, often in opposition to post-1815 rulers. By the 1830s, these alternative stakeholders had become entrenched, fueling long-term tensions with the re-established state.

This dynamic aligns with economic models of identity formation, where strategic complementarities ("multiplier effects") reinforce identity choices over time (Benabou and Tirole, 2011). If initial shifts in identity persisted through institutionalization, we should observe changing patterns in elite composition and institution formation.

To test this, we modify regression equation (3) to analyze the prevalence of nationalists, religious figures, and loyalists using our biography-based measure. Table 5 shows that cities exposed to treatment produced significantly more nationalist and religious figures (columns 1 and 2) but not loyalist figures (column 3, where the coefficient is negative and insignificant).

Furthermore, we examine the relationship between treatment and three cross-section outcomes:

$$Institution_i = \beta Treated_i + X_i\gamma + \alpha_{1789} + \alpha_{1815} + \varepsilon_i \tag{5}$$

Table 5: Territory Change and Professions: Deutsche Biographie

	Nationalist (1)	Religious (2)	Loyalist (3)
Treated	0.0110**	0.0228***	-0.0012
	(0.0050)	(0.0062)	(0.0010)
Observations	50,190	50,190	50,190
R^2	0.34	0.32	0.16
Number of Units	2,390	2,390	2,390
Outcome Mean	0.0582	0.1097	0.0021
City FEs	✓	✓	✓
Time FEs	✓	✓	✓
Cluster	City	City	City

Note Table presents results of estimating equation (3). Observations are at the city-year level. Standard errors are clustered at the city level. *, **, and *** denote significance on the 10 percent, 5 percent, and 1 percent level, respectively.

where $Institution_i$ denotes whether a city i (1) hosted a nationalist festival in 1814-1815, (2) formed a nationalist gymnastics associations before 1848 or (3) was the birthplace of member of the Frankfurt National Assembly of 1848. X_i is a set of geographical control variables, and α_{1789} and α_{1815} are fixed effects for the territory a city belonged to in 1789 and 1815, respectively.

Table 6 presents the results. Treated cities were significantly more likely to host nationalist festivals, associations, and assembly members. This suggests that the initial cultural shifts persisted due to institutional shifts.

Table 6: Territory Change and Nationalist Institutions

	Festivals (1)	Associations (2)	Delegates (3)
Treated	0.0931***	0.0204***	0.0443***
	(0.0251)	(0.0077)	(0.0136)
Observations	2,390	2,390	2,390
R^2	0.30	0.17	0.14
Outcome Mean	0.1314	0.0238	0.1075
Territory 1789 FEs	✓	✓	✓
Territory 1815 FEs	✓	✓	✓
Cluster	City	City	City

Note Table presents results of estimating equation (3). Observations are at the city-year level. Standard errors are clustered at the city level. *, **, and *** denote significance on the 10 percent, 5 percent, and 1 percent level, respectively.

6 Conclusion

This paper provides novel evidence on the long-run cultural consequences of institutional change. Drawing on the collapse of the Holy Roman Empire as a large-scale historical shock, we document persistent shifts in naming practices across German cities that experienced a change in rule. Using a dataset of 44 million birth records, we show that in these cities, naming practices changed, became more dispersed, unique names became more prevalent, and naming patterns polarized across three major identity groups: loyalist, national, and religious identities. These shifts reflect a broader transformation in cultural identity, as the decline of traditional loyalist affiliations created space for religious and nationalist movements to reshape culture.

These identity shifts did not remain confined to cultural expressions but translated into institutional developments. Nationalist identity, in particular, became embedded in new organizations, such as gymnastic associations, which served as platforms for nationalist mobilization. We show that treated areas were more likely to produce revolutionaries during the German Revolution of 1848, reflecting the long-run consequences of these identity transformations.

The uprisings marked a turning point: they reshaped the way rulers approached policies aimed at creating a common identity among their subjects. After 1848, rulers sought to bolster the supply of loyalist identity. They promoted a new form of national identity — "a willed merged of nation and dynastic empires" — developed in reaction and opposition to the earlier liberal-nationalist movements (Anderson, 1983, p. 85). This shifted the idea of nationalism away from opposing dynastic principles of individual states to a merger of nation and dynastic Empires (Winkler, 2000, p. 217).

In response to the revolutionary upheaval, for example, Bavarian King Maximilian II sought to "raise a national sentiment in every possible way." To achieve this, he implemented a series of policies, including promoting traditional dress, founding the Bavarian National Museum in 1855, and enacting educational reforms. The unification of Germany in 1871 further institutionalized the state's appropriation of nationalist and religious identity, fostering an ideology of a "Protestant German Empire" while suppressing liberal nationalists and religious dissenters. This fusion of nationalism and state power would, in the decades to come, contribute to the ideological currents that ultimately culminated in the catastrophes of the early 20th century.

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A Name Data

A.1 Data Origin

The data is based on baptism records from Catholic and Protestant churches. In these records, local priests noted the date of birth or baptism (which, due to religious reasons, very closely coincided) as well as the full name of the child and the parents. The Church of Jesus Christ of Latter-Day Saints collected and digitized these individual baptism records for genealogical research purposes, and made them available on Familysearch.org. We access to the anonymized data (without information on last names and parents) through an agreement with Familysearch.

For a subset of names, we observe last names.

A.2 Name Processing

We clean and standardize names in our data to ensure comparability of naming practices across time and space in our panel. Specifically, we proceed as follows: we harmonize first name spellings, for example by changing Josef to Joseph. Next we exclude names that occur only 10 or fewer times over the entire sample period. We then aggregate names by decade at the city level. We exclude all city-years with limited coverage of less than 100 births.

A.3 Place Geolocation

The spatial coverage of data is driven by the availability of records, as they were found and collected by geneaologists. Coverage is consistent throughout time and space only for regions in the West of Germany, roughly corresponding to the present-day states of North Rhine-Westphalia, Hesse, Rhineland-Palatinate, and Baden-Württemberg. We therefore limit the analysis only to these states. We first geolocate all locations mentioned in the data; to better handle the large variety of villages, town, and hamlets, and to match places to their territorial history, we assign each location to its closest "city" (as defined by the set of cities covered in the *Deutsches Städtebuch*).[1] Our data thus cover 746 cities in West Germany.

[1] We rely on the border polygons in Bogucka et al. (2019).

B Robustness Checks

B.1 Treatment Definition Robustness

Staggered Adoption

Table 1: Territory Change and Naming Practices

	Change (1)	Dispersion (2)	Uniqueness (3)	Identity Polarization (4)
Treated	0.1838***	0.1216***	0.1197***	0.1645***
	(0.0254)	(0.0346)	(0.0249)	(0.0429)
Observations	63,892	63,892	63,892	63,892
R^2	0.72	0.70	0.78	0.46
Number of Units	740	740	740	740
City FEs	✓	✓	✓	✓
Time FEs	✓	✓	✓	✓
Cluster	City	City	City	City

Note Table presents results of estimating equation (3). Observations are at the city-year level. *, **, and *** denote significance on the 10 percent, 5 percent, and 1 percent level, respectively.

TBD: count occupation already as territory change

B.2 Outcome Definition Robustness

TBD: alternative change/dispersion/uniqueness/polarization measures

B.3 General Robustness

TBD: Leave-out plots
Standard errors
sample choice:

- aggregate to decade
- last first name
- no size threshold
- first and second name

Table 2: Territory Change and Name Change (Standard Errors)

	Change					
	(1)	(2)	(3)	(4)	(5)	(6)
Treated	0.1670***	0.1670***	0.1670***	0.1670***	0.1670***	0.1670***
	(0.0252)	(0.0401)	(0.0456)	(0.0378)	(0.0382)	(0.0397)
Standard-Errors	City	Territory (1789)	region_id	50km	100km	200km
Observations	63,892	63,892	63,892	63,892	63,892	63,892
R^2	0.72	0.72	0.72	0.72	0.72	0.72
City FEs	✓	✓	✓	✓	✓	✓
Time FEs	✓	✓	✓	✓	✓	✓

Note Table presents results of estimating equation (3). Observations are at the city-year level. *, **, and *** denote significance on the 10 percent, 5 percent, and 1 percent level, respectively.

Table 3: Territory Change and Name Dispersion (Standard Errors)

	Dispersion					
	(1)	(2)	(3)	(4)	(5)	(6)
Treated	0.0877**	0.0877	0.0877	0.0877**	0.0877**	0.0877***
	(0.0357)	(0.0908)	(0.0555)	(0.0442)	(0.0380)	(0.0277)
Standard-Errors	City	Territory (1789)	region_id	50km	100km	200km
Observations	63,892	63,892	63,892	63,892	63,892	63,892
R^2	0.70	0.70	0.70	0.70	0.70	0.70
City FEs	✓	✓	✓	✓	✓	✓
Time FEs	✓	✓	✓	✓	✓	✓

Note Table presents results of estimating equation (3). Observations are at the city-year level. *, **, and *** denote significance on the 10 percent, 5 percent, and 1 percent level, respectively.

Table 4: Territory Change and Name Count (Standard Errors)

	Uniqueness					
	(1)	(2)	(3)	(4)	(5)	(6)
Treated	0.1160***	0.1160***	0.1160***	0.1160***	0.1160***	0.1160***
	(0.0251)	(0.0374)	(0.0276)	(0.0291)	(0.0243)	(0.0199)
Standard-Errors	City	Territory (1789)	region_id	50km	100km	200km
Observations	63,892	63,892	63,892	63,892	63,892	63,892
R^2	0.78	0.78	0.78	0.78	0.78	0.78
City FEs	✓	✓	✓	✓	✓	✓
Time FEs	✓	✓	✓	✓	✓	✓

Note Table presents results of estimating equation (3). Observations are at the city-year level. *, **, and *** denote significance on the 10 percent, 5 percent, and 1 percent level, respectively.

Table 5: Territory Change and Identity Polarization (Standard Errors)

	Identity Polarization					
	(1)	(2)	(3)	(4)	(5)	(6)
Treated	0.1479***	0.1479*	0.1479	0.1479**	0.1479***	0.1479**
	(0.0430)	(0.0848)	(0.0886)	(0.0743)	(0.0291)	(0.0699)
Standard-Errors	City	Territory (1789)	region_id	50km	100km	200km
Observations	63,892	63,892	63,892	63,892	63,892	63,892
R^2	0.46	0.46	0.46	0.46	0.46	0.46
City FEs	✓	✓	✓	✓	✓	✓
Time FEs	✓	✓	✓	✓	✓	✓

Note Table presents results of estimating equation (3). Observations are at the city-year level. *, **, and *** denote significance on the 10 percent, 5 percent, and 1 percent level, respectively.

Table 6: Territory Change and Naming Practices

	Change	Dispersion	Uniqueness	Identity Polarization
	(1)	(2)	(3)	(4)
Treated	0.1490***	0.1813***	0.1716***	0.1417***
	(0.0394)	(0.0431)	(0.0436)	(0.0445)
Observations	12,264	12,264	12,264	12,262
R^2	0.76	0.77	0.74	0.58
Number of Units	1,111	1,111	1,111	1,111
City FEs	✓	✓	✓	✓
Time FEs	✓	✓	✓	✓
Cluster	City	City	City	City

Note Table presents results of estimating equation (3). Observations are at the city-year level. *, **, and *** denote significance on the 10 percent, 5 percent, and 1 percent level, respectively.

Table 7: Territory Change and Naming Practices

	Change (1)	Dispersion (2)	Uniqueness (3)	Identity Polarization (4)
Treated	0.1391***	0.1101***	0.0802***	0.3737***
	(0.0264)	(0.0318)	(0.0258)	(0.0566)
Observations	64,086	64,086	64,086	64,086
R^2	0.73	0.69	0.78	0.55
Number of Units	740	740	740	740
City FEs	✓	✓	✓	✓
Time FEs	✓	✓	✓	✓
Cluster	City	City	City	City

Note Table presents results of estimating equation (3). Observations are at the city-year level. *, **, and *** denote significance on the 10 percent, 5 percent, and 1 percent level, respectively.

Table 8: Territory Change and Naming Practices

	Change (1)	Dispersion (2)	Uniqueness (3)	Identity Polarization (4)
Treated	0.2729***	0.1593***	0.2014***	0.0861**
	(0.0384)	(0.0410)	(0.0418)	(0.0378)
Observations	118,246	118,246	118,246	118,231
R^2	0.66	0.71	0.74	0.32
Number of Units	1,057	1,057	1,057	1,056
City FEs	✓	✓	✓	✓
Time FEs	✓	✓	✓	✓
Cluster	City	City	City	City

Note Table presents results of estimating equation (3). Observations are at the city-year level. *, **, and *** denote significance on the 10 percent, 5 percent, and 1 percent level, respectively.

Table 9: Territory Change and Naming Practices

	Change (1)	Dispersion (2)	Uniqueness (3)	Identity Polarization (4)
Treated	0.1360***	0.1087**	0.0755*	0.1006**
	(0.0409)	(0.0424)	(0.0440)	(0.0430)
Observations	118,395	118,395	118,395	109,324
R^2	0.68	0.72	0.76	0.41
Number of Units	1,057	1,057	1,057	1,043
City FEs	✓	✓	✓	✓
Time FEs	✓	✓	✓	✓
Cluster	City	City	City	City

Note Table presents results of estimating equation (3). Observations are at the city-year level. *, **, and *** denote significance on the 10 percent, 5 percent, and 1 percent level, respectively.

C Comparable Control Groups

Table 1: Territory Change and Naming Practices (Matching)

	Change (1)	Dispersion (2)	Uniqueness (3)	Identity Polarization (4)
Treated	0.1700***	0.1089***	0.1171***	0.1543***
	(0.0286)	(0.0406)	(0.0272)	(0.0457)
Observations	46,199	46,199	46,199	46,199
R^2	0.74	0.73	0.80	0.46
Matched Sample	✓	✓	✓	✓
Number of Units	522	522	522	522
City FEs	✓	✓	✓	✓
Time FEs	✓	✓	✓	✓
Cluster	City	City	City	City

Note Table presents results of estimating equation (3). Observations are at the city-year level. *, **, and *** denote significance on the 10 percent, 5 percent, and 1 percent level, respectively.

Table 2: Territory Change and Naming Practices (Controls)

	Change (1)	Dispersion (2)	Uniqueness (3)	Identity Polarization (4)
Treated	0.1398***	0.0875*	0.1074***	0.1261**
	(0.0340)	(0.0508)	(0.0310)	(0.0545)
Observations	63,892	63,892	63,892	63,892
R^2	0.72	0.71	0.79	0.47
Number of Units	740	740	740	740
City FEs	✓	✓	✓	✓
Time FEs	✓	✓	✓	✓
Cluster	City	City	City	City
Controls	✓	✓	✓	✓

Note Table presents results of estimating equation (3). Observations are at the city-year level. *, **, and *** denote significance on the 10 percent, 5 percent, and 1 percent level, respectively.

References

Bogucka, Edyta P., Davide Cantoni, and Matthias Weigand. 2019. *Princes and Townspeople: A Collection of Historical Statistics on German Territories and Cities. 1: City Locations and Border Maps.* Version V3. `https://doi.org/10.7910/DVN/ZGSJED`.

Table 3: Territory Change and Naming Practices (Expected Controls)

	Change (1)	Dispersion (2)	Uniqueness (3)	Identity Polarization (4)
Treated	0.1923***	0.1763***	0.1730***	0.1278**
	(0.0334)	(0.0476)	(0.0373)	(0.0556)
Observations	63,892	63,892	63,892	63,892
R^2	0.72	0.70	0.78	0.46
Number of Units	740	740	740	740
City FEs	✓	✓	✓	✓
Time FEs	✓	✓	✓	✓
Cluster	City	City	City	City
Controls	✓	✓	✓	✓

Note Table presents results of estimating equation (3). Observations are at the city-year level. *, **, and *** denote significance on the 10 percent, 5 percent, and 1 percent level, respectively.

Table 4: Territory Change and Naming Practices (Border Sample)

	Change (1)	Dispersion (2)	Uniqueness (3)	Identity Polarization (4)
Treated	0.3034***	0.3391***	0.2413***	0.1127
	(0.0957)	(0.1190)	(0.0854)	(0.1183)
Observations	2,994	2,994	2,994	2,994
R^2	0.71	0.78	0.85	0.50
Number of Units	27	27	27	27
City FEs	✓	✓	✓	✓
Time FEs	✓	✓	✓	✓
Cluster	City	City	City	City

Note Table presents results of estimating equation (3). Observations are at the city-year level. *, **, and *** denote significance on the 10 percent, 5 percent, and 1 percent level, respectively.

Table 5: Territory Change and Naming Practices (Consideration Set)

	Change (1)	Dispersion (2)	Uniqueness (3)	Identity Polarization (4)
Treated	0.1504**	0.2090	0.2558**	0.3504
	(0.0572)	(0.1500)	(0.1008)	(0.5168)
Observations	3,551	3,551	3,551	3,551
R^2	0.65	0.68	0.82	0.46
Number of Units	47	47	47	47
City FEs	✓	✓	✓	✓
Time FEs	✓	✓	✓	✓
Cluster	City	City	City	City

Note Table presents results of estimating equation (3). Observations are at the city-year level. *, **, and *** denote significance on the 10 percent, 5 percent, and 1 percent level, respectively.

Table 6: Territory Change and Naming Practices (Consideration Territories)

	Change (1)	Dispersion (2)	Uniqueness (3)	Identity Polarization (4)
Treated	0.1411***	0.0438	0.0899***	0.1728***
	(0.0316)	(0.0430)	(0.0252)	(0.0534)
Observations	37,136	37,136	37,136	37,136
R^2	0.72	0.72	0.81	0.47
Number of Units	413	413	413	413
City FEs	✓	✓	✓	✓
Time FEs	✓	✓	✓	✓
Cluster	City	City	City	City

Note Table presents results of estimating equation (3). Observations are at the city-year level. *, **, and *** denote significance on the 10 percent, 5 percent, and 1 percent level, respectively.