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German nation-building after Napoleon**

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Abstract

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JEL Classification: Z13, N43

Keywords: National identity, Prussia, Germany, First Names, Nation-Building

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June 30, 2021

Abstract

What are the origins of national identity? In this paper, we investigate the success of the first nation-building policies conducted in Germany, around 1815. To elicit changes in identity at the level of individuals we use data on first names given in over 40.000 families across German cities. Using changes in the Prussian territory as well as variation within the same families over time, we find that parents in cities treated by nation building policies responded by choosing national (rather than Prussian) first names for their children.

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1 Introduction

Why are people willing to fight and die for their country? Why would parents send their children to battle or sign war bonds even when the situation is hopeless? Social scientists at least since the writings of Durkheim, Veblen, and Weber have been fascinated with these questions. Modern approaches are based on the concept of “social identity”, namely the idea that people value their membership in social groups, and that such valuations are interdependent and changing over time. Historians have long argued that the formation of national identities in the 19th century was about the creation of an altogether *new* type of social identity, the collective imagination of a national community (Anderson, 1983). Recent approaches in economics emphasize the role of strategic elites in this process (Alesina et al., 2020, 2021). However, we lack evidence whether this early nation-building of strategic elites actually worked.

Exploiting unanticipated border changes after the Peace of Vienna, relying on within-family changes for causal identification and using different connotations of first names as indicator for social identities, we find that nation-building policies mattered strongly for the first notable rise of national identities around 1815 in the German lands. Thus, we provide first causal evidence at the individual-level that nation-building policies of strategically operating elites work in their favor.

Analyzing the effect of nation-building, we face three main empirical challenges: measurement of identity changes, plausible control groups, and lack of individual-level control variables. We elicit changes in social identity through the type of first names that parents gave their children following historical sociology and recent work in economics.¹ We classify names based on the philological five-volume compendium on German first names by Seibicke (1996, 1998, 2000, 2002, 2007) into Germanic national, religious, European, ancient and ruler first names. Moreover, we validate this approach by showing that soldiers with national first names had a higher likelihood to be awarded for bravery during the German-French War in 1870/71, conditional on hierarchy levels and distinguishing between army corps.

To construct a treatment and control group, we leverage the unanticipated territorial change in the German Lands after the Peace of Vienna in 1815. As a result, Westphalia and the Rhineland became part of Prussia. To establish the legitimacy of their rule, the Prussian state alluded to German identity, using early forms of state propaganda. Using data on ca. 40.000 families, this setting allows us to compare name choices of families in treated cities with those in cities that did not become part of Prussia. Hence, Germany provides exogenous variation in territories over which nation-building policies mattered within an area of similar cultural and historical heritage, which is quite difficult to find for other countries.

¹Notably Gleitze (1962), Lieberson and Bell (1992), Gerhards (1997), and Wolffsohn and Brechenmacher (1999) in historical sociology, and Abramitzky et al. (2020), Fouka (2020), and Knudsen (2019) in economics.

Still, using first names for the empirical analysis, it is hard to rule out various confounding factors that also might account for the name choices of parents, such as differences in literacy and education, mobility or individual traditions of parents. To deal with this, we exploit variation in the type of name choice made by the same parents over time by relying on family fixed effects. Hence, we only need to assume that unobserved parent-level factors remain constant as long as the mother was in child-bearing age.

Using these territorial changes as well as variation within the same families over time, we find that parents in cities treated by nation-building policies responded by choosing more national first names for their children. The same parents that neither had a national family tradition themselves nor had previously given their children Germanic names, were much more likely to do so after becoming a Prussian subject. By excluding families with national first names, we rule out that “national” parents drive our results.

We use different connotations of first names (Prussian ruler names vs Germanic first names) to provide evidence that it was indeed the strengthening of a new German national identity (in contrast to strategic behavior). Excluding Prussian ruler names, parents exposed to Prussian nation-building policies are 9 percentage points more likely to choose a national first name after treatment compared to parents in control cities. This is a substantial effect given that national names were still rare around 1815. On average about 12 percent of parents choose a national first name for their children before treatment. Our result suggests that the families identified more strongly with the idea of a nation and their decision to use more national first names was not opportunistic or driven by fear to please the new rulers. In this case, we would expect parents choosing specific Prussian names.

We provide several robustness checks, including an exercise, where we restrict the control group to those cities which had been exposed to very similar territorial change. This leaves our results unaffected. Moreover, we consider the expansion of Prussia in 1866. Given that Prussia did not attempt to appeal to national sentiment in 1866, this provides us with a placebo test. Indeed, we do not find positive treatment effects employing the same methodology.

Our study is related to the growing empirical literature on nation-building. Studies have highlighted the positive impact of, for instance, schooling (Bandiera et al., 2019), intergroup contact (Bazzi et al., 2019), shared experiences (Depetris-Chauvin et al., 2020), propaganda (Blouin and Mukand, 2019), welfare-provision (Caprettini and Voth, 2020) or external enemies (Dell and Querubin, 2018) for nation-building along various dimensions. These policies can also backfire: Fouka (2020) investigates forced assimilation policies in several US states that targeted the German minority and led to less integration of this group. Exploiting the quasi-exogenous division of the French regions Alsace and Lorraine in 1870/71, Dehdari and Gehring (2021) show that repressive policies of the nation state can strengthen regional identities. Related to our study, Jurajda and Kovac (2021) show that first names from war heroes signal national behavior in Croatia and

provide correlational evidence for the role of the intergenerational transmission of national identity.

More broadly, our paper is related to studies on the determinants of identity formation and change, for instance, Battu and Zenou (2010), Manning and Roy (2010) and Algan et al. (2021). However, causal evidence on the determinants of changes of identity formation is scarce. Notable exceptions are the aforementioned study by Fouka (2020) for 20th century US, Clots-Figueras and Masella (2013), who shows that allowing bilingual education strengthens Catalan identity, and Cantoni et al. (2017), who analyze the effect of school curricula on students' attitudes in China. We add to these two empirical strands of literature evidence on the origin of a “national identity” for the early 19th century, when arguably for the first time in history national identity became a mass phenomenon. Importantly, many other tools of nation-building such as welfare-policies or public schooling were still in their infancy. We also add to existing identification strategies by capturing changes within families. Thereby, we provide evidence on identity changes at the individual level driven by state propaganda that alluded to the idea of a German nation.

Moreover, our paper is related to theoretical approaches in economics that aim to explain the formation of social identities. A common starting point is that individuals value their perceived distance from specific group prototypes, as suggested by Akerlof and Kranton (2000). Building on this, several authors have suggested mechanisms to account for changes in social identities.² Sambanis et al. (2015), Alesina et al. (2020), Alesina et al. (2021), and Almagro and Andrés-Cerezo (2020) proposed to distinguish between an “elite” – a small group of agents with exogenous preferences – and a larger group of agents with endogenous preferences. The elite can use war, institutions and policies such as pamphlets, state celebrations or schools to homogenize the preferences of the population. Building on this, we focus on the Prussian state as a strategic agent with very clear motives and add empirical evidence that this strategy actually worked.

The rest of our paper is organized as follows: we introduce the historical background and our data in section 2. Section 3 contains our empirical strategy. In section 4, we present our results for variation between and within families, including various robustness checks. Section 5 concludes.

2 Historical Background, Data and Validation

2.1 National identity in early 19th century Germany

The political situation around 1815 The Congress of Vienna of 1814/15 had established a new political order in Europe, seemingly a victory of the Ancien Regime over

²Other approaches consider technological and economic change as a driver of identity change (Gellner, 1983). Related, Shayo (2009) develops a model, where group status depends among other things on relative income and perceived distances from group prototypes. Also related is the large literature on the transmission of culture (Bisin and Verdier, 2001).

revolutionary France. However, Europe and particularly the German states had fundamentally changed. The dramatic events in America 1776 and France 1789 had intensified an older loyalty crisis that started to undermine the old political order (Schulze, 1985, p. 240). With the French Revolution a new modern idea of a nation was spreading that placed loyalty to the nation above all alternatives (such as loyalty to a dynasty or religion) (Langewiesche, 2000, p. 17).

Prussia's struggle for control In their struggle to regain control during and after the Napoleonic Wars, the king of Prussia and his advisors started to see the strategic potential of the national idea in the spirit of Alesina et al. (2020, 2021). In his proclamation “to my people” of March 1813 King Frederick William III had appealed a first time to national sentiment to mobilize for a *levee en masse* against the French – after his advisors had urged him to do so.³ For this reason, nationalists like Ernst Moritz Arndt or Friedrich Jahn considered the Prussian king as the new “Hermann” (referring to a mythical Germanic hero who had fought the Romans), especially after the victory of Leipzig in October 1813.

While the king like other European monarchs feared the revolutionary gist of nationalism, the gain of new territories in the West provided a new motive to exploit national sentiment. Importantly, we can consider this territorial change as exogenous and unanticipated (Huning and Wolf, 2019). Prussia had originally aimed for an annexation of the adjacent (and protestant) Kingdom of Saxony. This failed due to a British intervention. Instead, Prussia gained the Rhineland and Westphalia. These territories were disconnected from the Prussian mainland and in addition mostly catholic. In the words of Christopher Clark: “Berlin failed to get what it wanted and got what it did not want [...] The creation of a large Western wedge along the river Rhine was a British, not a Prussian, idea” (Clark, 2007, p.389).

Nation-building policies Hence, after the new territories had been formally incorporated into the Prussian state in 1815, the authorities faced the challenge to establish the legitimacy of their rule and win the support of their new population. An established instrument for this were royal proclamations and official homage ceremonies. Proclamations and homages were traditional tools of government since the middle ages. But crucially for our study, in 1815 they had an entirely new feature: the attempt to create a new narrative with the king of Prussia leading the German nation (Schwengelbeck, 2007; Kotulla, 2010; Tschacher, 2010).

In this spirit, the Prussian authorities organized homage ceremonies in the designated capital cities of the two new provinces. The ceremony for the Rhineland took place in Aachen on 15 May 1815, the ceremony for Westphalia in Muenster on 18 October 1815.

³Scharnhorst, one of the king's key advisors at the time, observed already in 1797 that the French army had an advantage due to the messianic fighting spirit of the French soldiers (Dörner, 1995, p.112). After 1807 he was promoted to major-general and led a fundamental reform of the Prussian army, strengthening the ties between army and population.

The decision for Aachen was also a reference to the former residence of Charlemagne.⁴ The date in turn coincided with Pentecost, which had been abolished under French rule but was now being reintroduced as a religious holiday. The choice of date for the second ceremony in Muenster was a very explicit reference to national identity: it coincided with the second anniversary of the battle of Leipzig, which already then played a pivotal role for the collective memory, mainly due to the publications by Arndt and Jahn, the spearheads of early German nationalism (Hagemann, 2002, p.481f).

The orchestration for both ceremonies was similar: they were extended over several days and included the celebration of a mass in the cathedral, processions, fireworks, official banquets, feeding of the poor and theatre performances. Importantly, in both cases the authorities had invited representatives of all parts of society, including the nobility, clergy, burghers and peasants. Theater plays were performed that alluded to an imagined common past and in the case of Muenster in fact depicted Friedrich Wilhelm III himself as the new Hermann, savior of the German nation (Schwengelbeck, 2007, p.142ff). Afterwards, the celebrations were popularized in a series of books (e.g. Bodden, 1816), pamphlets and newspaper articles, most prominently a serial written by Ernst Moritz Arndt (Tschacher, 2010, p.267).

The Prussian authorities clearly attempted to create a new narrative to show the king of Prussia as the leader of the *German* nation, particularly in the new provinces. Their intention was purely strategic, with the aim to use the broader idea of a German nation to turn the new population into loyal subjects of the king. Once the new territorial order was established, the Prussian authorities quickly tried to silence the national movement again (Echternkamp, 1998, p. 232). But to what extent did these policies affect individual identities?

2.2 Measuring national identity in early 19th century Germany

We want to elicit national identity and its changes over time by the type of first names that parents gave their children. To this end, we collected data from birth registers for eight German cities based on city and church archives and several genealogy websites, which we typed in.⁵ Thereby, we construct a sample with data on more than 40.000 children and their parents. For these births, we have the following information: first and last name for children and their parents, as well as place and year of birth of the children.

Our main hypothesis is that exposure to identity policies as described above would inculcate parents with a new sense of national identity and motivate them to pass this on to their children. To capture variation in exposure, we include cities from three different

⁴According to the official announcement, the city was chosen because “only the city of Aachen unites age, grandeur and suitable local with the dignity of a coronation city for the most elevated German rulers, where after Charlemagne no less than 35 German Emperors were crowned” (cited after Tschacher, 2010, p.259)

⁵Our sources are Bauernfeind (2009) for the city of Nuremberg, Bistumsarchiv Münster (2020) for the city of Muenster, and The Church of Jesus Christ of Latter-Day Saints (2003) for all other cities.

groups in our sample. First, the capital cities of the two new Prussian provinces (Aachen and Muenster), i.e., treated cities. Second, cities that stayed outside Prussia until 1866 (Frankfurt and Hanover) and thereafter (Heidelberg, Mannheim, and Nuremberg), i.e., control cities. Third, we include Berlin as the capital city of Prussia. We focus on larger cities because our approach requires a sufficient number of families with variation in name choices over time.⁶

Consider the two treated cities, Aachen and Muenster. We focus on these two, because in 1815 they took centre stage in Prussian “nation-building” activities. Both had been selected as provincial capitals (Aachen for the Rhineland, Muenster for Westphalia), hence they were chosen as location of the main homage ceremonies. Both were predominantly catholic cities, in difference to the protestant mainlands of Prussia. The city of Aachen had played an outstanding role in the history of the old Holy Roman Empire, as the place where the Emperor was crowned German king until 1531. The city was an Imperial free city until the French occupation in 1794, and became Prussian in 1815. In contrast to Muenster, Aachen was under direct French control between 1794 and 1814. The city of Muenster was capital of the prince-bishopric Muenster, the largest clerical territory in the HRE, until 1802 when it briefly became part of Prussia for four years. In 1806, Napoleon and his troops occupied Muenster. Prussian and Russian troops drove the French troops out of Muenster in 1813, and the city became officially part of Prussia after the Congress of Vienna in 1815. Note that our control group cities experienced similar territorial change during our period. Hence, the experience of territorial change as such will not explain our findings.

To capture changes in national identity in our sample, we need to classify the first names. Here, we rely on a five volume encyclopedia on German first names from Seibicke (1996, 1998, 2000, 2002, 2007). With this, we capture around 95% of all entries in our sample. We differentiate between national, religious, European and ancient first names. Furthermore, we account for family tradition by comparing the first names of the parents with those of the children. We count those first names as Germanic whose origin lies in old high German (*althochdeutsch*) or germanic (*germanisch*) language, according to Seibicke.⁷ We cross check our list of national first names with a book from Khull (1909) that aimed to increase the consciousness for Germanic first names in order to make sure that the names on our list had a nationalist connotation before 1914.

In Figure C.1, we apply the classification to our data and summarize the share of national first names by our two groups to give an overview of the trends in our sample for the early 19th century.⁸ We see that the share of national first names remain relatively

⁶See Appendix Figure C.2 for a map showing the location of the cities and the western part of the German lands that became part of Prussia in 1815.

⁷Among the most popular national first names in our period are Carl, Friedrich, Heinrich, Wilhelm, Ludwig, and Ernst for boys and Caroline, Wilhelmine, Friederike, Ida, Albertine, and Bertha for girls. We list the most popular first names in our sample, including the classification, in Appendix Table C.2.

⁸The political changes in the case of Aachen led to changes in the way first names were recorded, which might introduce a bias to our estimation. We use two radically different versions of the data for Aachen

stable over the whole period in our control group (with a small increase in 1813), while we observe an increase for our treatment group after 1815 from around 13% to around 18%.⁹ If we drop the conservative adjustment for Aachen, the increase is much greater (from 10% to 18%). We also show how the share of Friedrich and Wilhelm (and their female variations) developed over time in treatment and control cities. Interestingly, we do not see much of an increase in their share after Prussia took over the Rhineland and Westphalia.

2.3 Validation

We argue that parent's name choices reflect their own identity, which are at least partly transmitted to their children. To validate this approach in our context, we collect data from loss lists and lists with honored soldiers for the German-French War in 1870/71. The loss lists include information about the first and last name, the location, the regiment, the year the soldier was listed on the loss list, and contain around 125.000 entries for the German-French War in 1870/71. The loss lists indicate not only participation in the war, but active participation, as they refer to soldiers that were either killed, wounded, captured or went missing. However, none of these events necessarily reflects voluntary behavior of soldiers.

In order to capture voluntary engagement during wars, we use lists with honored soldiers. We digitalize the names of all 900 soldiers honored with the *Eiserne Kreuz* during the German-French War from 1870/71 (Königliche General-Ordens-Kommission, 1878) and categorize them based on four hierarchy levels. The basic idea here is that the distinction of soldiers for bravery should be a much better indicator for voluntary behavior than active war participation as reflected on the loss list. We might expect that soldiers with a strong national(ist) identity would be more willing to fight and hence more likely to receive the Iron Cross than others. If Germanic first names would capture national identity of parents and if this is at least partly transmitted to their children, we expect to find a positive correlation between national names and honors.

While we lack other control variables for the soldiers we can test for differences within a hierarchy level. Given that the military was a reflection of social classes, we expect relatively similar social characteristics within one hierarchy level. Moreover, we restrict our sample to all 12 Prussian army corps to rule out the possibility that the army leadership favored Prussian soldiers.

Comparing the loss lists and the honored soldiers in Table 1 shows overall substantial and statistically significant differences. More specifically, we find differences between the share of national first names for the soldiers on the loss lists and those who were awarded

to address this: an adjusted version, which is likely to bias our treatment effects downwards, and an unadjusted version that might introduce an upward bias. Our main specification uses the *adjusted* version. Appendix A provides more detail.

⁹Table C.1 provides descriptive statistics by city. Overall, it confirms the evidence from Figure C.1.

during the German-French War in 1870/71, also if we condition the analysis on hierarchy levels. Note that the differences are sizeable, e.g. the difference in terms of the share of national first names between officers on loss and award lists is more than 30 percentage points. Analyzing more specific national first names, we also find differences. Interestingly, the relative difference is more pronounced for Ernst and Hermann – names with strong national connotations – than for Friedrich and Wilhelm – the most prominent ruler first names of that time. If honours would have been given based on names instead of behaviour, we would expect Friedrich and Wilhelm to rank most prominently – as names of Germanic origin and associated with Prussian rulers. However, this was not the case.

It could be that leaders of army units, who themselves had a national first name and preferred such first names, drive our result. In panels 2 and 3 of Table 1, we therefore exclude all corps and divisions with "national" leadership. The differences remain similar. In addition, it would be possible that certain parts of the Army that have stronger ties to Army leadership would be favored. Therefore, in panels 4 and 5, we show the results separately for different parts of the army. The differences are similar for old and new Prussians. Overall, the evidence on loss lists and war decorations from the war of 1870/71 supports the idea that first names contain information on the identity of those who carry them.

3 Empirical Strategy

In order to determine the causal effect of nation-building policies in 1815 on the formation of national identities, we use evidence on first names and exploit variation between and within cities and families. Therefore, we compare decisions by parents in our *treated* families in Aachen (in the Rhine province) and Muenster (in Westphalia) and our *control* families in Frankfurt, Hanover, Heidelberg, Mannheim, and Nuremberg, i.e., cities that were not part of Prussia. However, just comparing the frequency of name choices in treated versus non-treated cities could be misleading. There is a host of confounding factors that might also account for the name choices of parents, such as differences in education, status, religion or family traditions. In a setting where we compare parents in treated cities to parents in a control group of untreated cities, we need to take this heterogeneity within cities into account. We address these problems in two steps. First, we systematically exclude all parents that had national names themselves, because their decision in favor of a national first name could also reflect existing family traditions and such parents might have been more susceptible to national propaganda. Second, and more importantly, we use family-fixed effects: in some specifications we use for the remaining parents only *variation* in the type of name choice made by the same parents over time. However, this is only possible for families who get at least one child before and after the treatment.

Using within-family variation has several main advantages. It allows us to control for all time-invariant family characteristics. Moreover, we only compare families in similar

age groups as we are only interested in those families that get children in the years before and after the specific year. And we can rule out that migration into Prussian cities drive our results because we only consider families who already live in the respective city before the treatment year and stay there after the treatment. This controls for example for the families of Prussian officers moving into Aachen or Muenster after 1815.

We use the following differences-in-differences estimation employing an OLS model as our main specification:

$$NationalName_{fct} = \alpha_f + \beta(TreatedCity_c \cdot Post1815) + \gamma Post1815 + \epsilon_{fct}, \quad (1)$$

where α_f are family fixed effects and $Post1815$ equals to 1 for the post-treatment period and 0 otherwise. $NationalName_{fct}$ is a dummy variable that equals one if at least one child in family f has a national first name in city c in one period. Note that we collapse our sample in a pre- and post-treatment period in our main specification. Thereby, we control not only for serial auto-correlation following Bertrand and Mullainathan (2004) but also take into account that a specification based on yearly within family variation dramatically restricts our sample size. The coefficient of interest is β that indicates the treatment effects on parents' name choices by comparing the average change in national first names before and after for our treatment group, compared to the average change before and after for our control group.

As second specification, we use a flexible difference-in-differences model, also to control for potential pre-trends:

$$NationalName_{fct} = \alpha_c + \theta_t + \sum_{t=1810}^{1821} \beta_t(TreatedCity_c \cdot Year_t) + \epsilon_{fct} \quad (2)$$

The coefficients of interest is β_t that indicates the effect of living in a treated city in a given year. With this specification, we control for time invariant city characteristics as well as more general time trends. θ_t are year fixed effects.

The identifying assumption in this setting is that the decisions by parents regarding first names in cities that become part of Prussia and in cities that do not become part of Prussia would follow the same trend in absence of the treatment. We will show that this is indeed the case for our treatment analysis. Given the course of events after the defeat of Napoleon in 1813/14, and Prussia's negotiations at the congress of Vienna (Clark, 2007), the territorial change that occurred in 1815 was difficult to anticipate.

For our empirical analysis with family fixed effects, we need to construct a common family ID to trace children with the same parents over time. To improve matching, we follow a recent approach by Abramitzky et al. (2020) and use the Jaro-Winkler distance. Appendix B provides details on our procedure.

A potential concern for our analysis could be that conditioning on families who have a child before and after treatment (identified by our common family ID) may introduce some selection bias. For example, it would be worrying if in treatment cities the share of

national first names was lower for observations with a common family ID than for those without common family ID before treatment and higher after treatment. To account for this issue, Table 2 presents the share of national first names before and after treatment (like in Table C.1) and whether or not we found a match for parents before and after treatment. While there is some variation between cities, the overall pattern in Table 2 is reassuring and no clear selection visible. For the case of Muenster, the share of national first names is somewhat lower for “matched” families before treatment and higher after. However, the opposite applies to Aachen (smaller in magnitude). There are also cases in the control group where selection might work against our treatment (e.g. Frankfurt, Nuremberg) as well as cases that could work slightly in favour of our treatment analysis (e.g. Hanover).

4 The Effect of Nation-Building

Figure 1 presents evidence on the common trend assumption and the effects of the Prussia nation-building policies. The coefficients based on equation 2 for the pre-treatment period, with 1814 as reference year, are statistically insignificant. Between 1811 and 1814, we see some variation in the point estimates, however, the estimates are not significant, and no upward trend is visible. The coefficients after 1815 are substantially higher and in most cases significant using city fixed effects. Overall, this suggests that the common trend assumption holds for our estimation.¹⁰

The results in Table 3 provide evidence for overall strong positive treatment effects of national identity policies. We exclude all children named Wilhelm, Wilhelmine, Friedrich, and Friederike after 1815, to rule out effects from strategic pro-Prussian naming. We see a significant overall effect using city fixed effects (column 1). The effect size increases in column 3, once we rely on our preferred specification with family fixed effects. This higher point estimate suggests that unobserved variation at the family level biases the results downwards. A possible explanation could be that social status affects the willingness of parents to choose new, innovative names. Once we control for this, families in a treated city are on average 9 percentage points more likely to give children a national first name after the treatment and comparing to the control group, however. In a next step, we allow for heterogeneous effects for our treated cities, Aachen and Muenster. Using the conservative adjustment for Aachen (see Appendix A) we do not find a significant effect, while we find a strong positive effect for Muenster, see column 2 and 4 in Panel 1 of Table 3. Again, in both cases the treatment effect based on family fixed effects (column 4) is much larger than the effect based on city fixed effects (column 2).¹¹

¹⁰Using family fixed effects and estimates per year we also observe insignificant point estimates without an upward trend, and increasing point estimates after 1814. However, with family effects the yearly estimates are not significant, likely due to the very small sample size per year. Note that such a specification requires families to have children every single year, which, of course, is not often the case. The small sample size per year is the main reason why we prefer to collapse the sample in pre- and post-treatment.

¹¹In Panel 3 of Table 4 we use a Logit estimation to account for the fact that our dependent variable is

In Panel 2 of Table 3 we drop the assumption that all first names in Aachen were “francicised” before 1815, such that we need to adjust first names for this. As expected, without any such adjustment, the effect for Aachen becomes much stronger and even surpasses the effect for Muenster. Again, the effect with family effects is stronger than the effect using city effects. Comparing the results from panel 1 and 2, there is strong empirical support for a positive treatment effect of early nation-building policies on identity formation. Even with an assumption regarding Aachen biased against such effects, using only city- or the much stronger family effects we find that parents in treated cities after 1814 were much more likely to give their children national Germanic names.

After presenting our main result, we discuss several other dimensions of our setting (always using the adjusted data for Aachen).

Berlin as control city. The nation-building policies in 1815 in the new provinces were location-specific as discussed in Section 2 above, and should have affected the center less than the treated cities. Therefore, in Panel 1 of Table 4 we use families in Berlin as control group. With this, we find a strong treatment effect for families in both, Aachen and Muenster using city effects and still a strong effect using family effects for the case of Muenster.

Cities with exposure to French Occupation. In Panel 2 of Table 4, we restrict the control group to include only Mannheim and Heidelberg, two cities located in the west of Germany, which had been similarly exposed to French occupation policies as Aachen and Münster, i.e., experienced similar territorial change. Our findings confirm our previous results. Thus, we can rule out that territorial change itself drives our results.

Including ruler first names. In Table C.4, we include Friedrich and Wilhelm (and their female counterparts). With this, our findings based on city effects remain unchanged, while our results based on family effects even get weaker. This strongly suggests that name choices in Aachen and Münster after 1814 were not driven by strategic behaviour.

Falsification: 1866. Finally, we consider the territorial expansion of Prussia in 1866, when Frankfurt and Hanover became part of the Prussian state. In difference to 1815, this enlargement of Prussia in 1866 did not have the connotation of German unification, but rather of Prussian power politics geared against the idea of a German national identity, due to the German-Austrian War, or “Fraternal War” (Schulze, 1985, p.235f). Here, the incorporation of the new population was not accompanied by a similar national propaganda as in 1815, so we would not expect to find an effect for the treated cities in 1866. Indeed, as shown in Table C.5, we do not find similar positive treatment effects for 1866 when

binary. The results remain qualitatively similar.

Frankfurt and Hanover became part of Prussia. We even see significant negative treatment effects for Hanover.

5 Conclusion

In this paper we investigated the effect of early nation-building policies on social identities. To elicit individual-level changes in identity we use data on the name choices of ca. 40000 families in German cities. We find an overall positive and significant treatment effect as documented in Table 3. Notably, for a sub-sample of our data we are able to exploit variation *within* families over time, after controlling for family fixed effects. We interpret this as evidence that national building policies can indeed change individual identities. Furthermore, we distinguish between specific Prussian names and national names and found that parents in treated cities responded by choosing national, not Prussian first names for their children. We also show that our finding is not explained by territorial change as such.

We do not want to argue that this “explains” the rise of a national identity in Germany around 1815. Rather, we see this as evidence that strategic nation-building policies had a measurable causal effect at the level of individuals, which likely interacted with many other factors. We think that our empirical approach can be easily applied to many other contexts. Using name choices as indicators for identity change, and exploiting variation within families to control for unobservable characteristics rests on data, which is available in many contemporary and historical settings. Our findings based on the nation-building policies of the Prussian elites around 1815 suggest that such policies can shape identities and likely contributed to the emergence of a national identity in Germany and the rise of nationalism.

Table 1: National First Names, War Participation, and War Decoration

	Loss Lists		Honored Soldiers		t-statistic
	N	National (in%)	N	National (in%)	
Panel 1:					
All	124.819	42.17	900	54.44	7.39***
Special First Names					
... Friedrich & Wilhelm	124.819	14.48	900	14.33	-0.13
... Ernst & Hermann	124.819	4.22	900	6.44	2.72***
By Rank					
... Officer (<i>Offiziere</i>)	4.692	25.34	757	53.63	15.56***
... Sergeant (<i>Unteroffiziere</i>)	12.717	45.63	128	58.59	3.00***
... Other soldiers (<i>Mannschaft</i>)	107.410	42.49	15	60.00	1.33
Panel 2:					
<i>Korps</i> with “non-national” leader	101.328	41.71	744	55.38	7.49***
Special First Names					
... Friedrich & Wilhelm	101.328	14.71	744	14.11	-0.47
... Ernst & Hermann	101.328	4.07	744	6.59	2.77***
Panel 3:					
<i>Divisionen</i> with “non-national” leader	86.110	44.45	688	54.22	5.14***
Special First Names					
... Friedrich & Wilhelm	86.110	16.26	688	14.83	-1.06
... Ernst & Hermann	86.110	4.15	688	7.00	2.91***
Panel 4:					
<i>Korps</i> from “old” Prussian provinces	55.080	42.70	483	57.14	6.41***
Special First Names					
... Friedrich & Wilhelm	55.080	15.09	483	14.70	-0.24
... Ernst & Hermann	55.080	4.75	483	8.28	2.81***
Panel 5:					
<i>Korps</i> from the other provinces	69.739	41.74	417	51.32	3.91***
Special First Names					
... Friedrich & Wilhelm	69.739	14.00	417	13.91	-0.05
... Ernst & Hermann	69.739	3.80	417	4.32	0.52

Notes: Panel 1: includes all soldiers of the 14 Prussian army corps. Panel 2: includes all corps with leaders without national first name. Panel 3: includes all divisions with leaders without national first name. Panel 4: results by *Korps*. * p<0.1, ** p<0.05, *** p<0.01.

Panel 4: includes the army corps from the old part of Prussia (I., II., III., V., VI. and the Garde-Korps). Panel 5: includes all corps from the provinces that became part of Prussia over the 19th century.

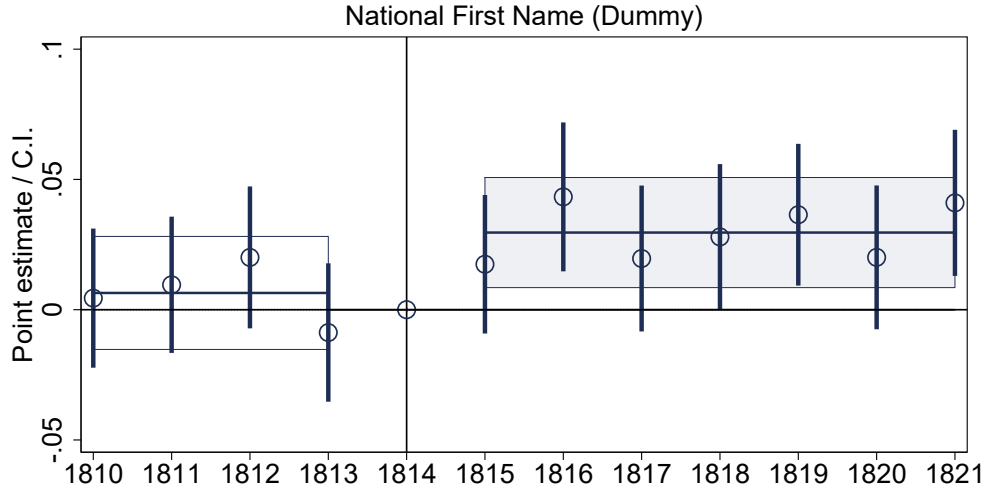
Sources: Verein für Computergenealogie (2014) and Königliche General-Ordens-Kommission (1878).

Table 2: National First Names by Selection into Family

	Family with child before and after (Match)			Family with child before or after (No Match)		
	N	Before	After	N	Before	After
Aachen	5385	13.80	15.25	4784	13.55	15.96
Muenster	2450	12.09	18.80	2981	13.37	16.96
Frankfurt	6076	13.50	14.37	6232	13.11	13.32
Hanover	2633	19.19	22.42	4212	21.57	24.07
Heidelberg	10331	6.27	7.22	6559	7.45	8.99
Mannheim	2915	6.60	6.83	2226	6.10	6.90
Nuremberg	3511	9.19	9.00	4248	7.56	9.64
Berlin	13741	31.46	32.37	15572	30.52	30.61

Notes: Share of national first names in % for observations with one child either before or after treatment and observations with at least one child before and after treatment.

Figure 1: Event Study, 1810-1821, City FE



Note: The results present the differential probability that families from eventually-Prussian cities choose a national first name for their child, relative to families from cities that do not become part of Prussia. Regressions are estimated using OLS, and include city and year fixed effects. Yearly regression coefficients of interest are interactions between an “eventually Prussian city ” dummy variable and year fixed effects and are estimated relative to the omitted interaction with 1814. In the aggregate specification, coefficients of interest are interactions between an “eventually Prussian city” dummy variable and a 1810-1813 dummy ($\beta = 0.006; p = 0.626$) and between an “eventually Prussian city” dummy variable and a 1815-1821 dummy ($\beta = 0.030; p = 0.021$). Coefficient estimates on the decade interactions are plotted as dots with their 90% confidence intervals indicated with vertical lines. Coefficient estimates on the aggregate interactions are shown with horizontal lines, and their 90% confidence intervals are indicated as boxes. The results of the yearly regressions are also shown in Appendix Table C.3. Standard errors are clustered at the family level.

Table 3: Treatment Analysis 1815

Dep. var.: National First Name (Dummy)	City FE		Family FE	
	(1)	(2)	(3)	(4)
Panel 1: “Conservative” Adjustment Aachen				
Treated × Post1815	0.028*** (0.008)		0.091** (0.045)	
Post1815	-0.013*** (0.004)	-0.013*** (0.004)	0.031 (0.025)	0.031 (0.025)
Aachen × Post1815		0.012 (0.010)		0.034 (0.052)
Muenster × Post1815		0.058*** (0.013)		0.211*** (0.069)
City FE	✓	✓		
Family FE			✓	✓
Observations	46007	46007	4530	4530
Families	38249	38249	2265	2265
Panel 2: No Adjustment Aachen				
Treated × Post1815	0.093*** (0.008)		0.265*** (0.041)	
Post1815	-0.013*** (0.004)	-0.013*** (0.004)	0.031 (0.025)	0.031 (0.025)
Aachen × Post1815		0.112*** (0.009)		0.291*** (0.045)
Muenster × Post1815		0.058*** (0.013)		0.211*** (0.069)
City FE	✓	✓		
Family FE			✓	✓
Observations	46007	46007	4530	4530
Families	38249	38249	2265	2265

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. We only include parents without national first given name. Clustered standard errors at the family level. Treated cities: Aachen and Muenster. Control cities: Frankfurt (Main), Hanover, Heidelberg, Nuremberg, and Mannheim. Results based on equation 1. Data is collapsed in pre-and post period.

Table 4: Treatment Analysis 1815, Robustness

Dep. var.: National First Name (Dummy)	City FE		Family FE	
	(1)	(2)	(3)	(4)
Panel 1: Control group Berlin				
Treated × Post1815	0.108*** (0.010)		0.229*** (0.047)	
Post1815	-0.093*** (0.007)	-0.093*** (0.007)	-0.106*** (0.028)	-0.106*** (0.028)
Aachen × Post1815		0.092*** (0.012)		0.172*** (0.054)
Muenster × Post1815		0.139*** (0.014)		0.349*** (0.070)
Observations	30327	30327	3906	3906
Families	25637	25637	1953	1953
Panel 2: Cities with Exposure to French Occupation				
Treated × Post1815	0.020** (0.009)		0.100* (0.056)	
Post1815	-0.005 (0.005)	-0.005 (0.005)	0.022 (0.042)	0.022 (0.042)
Aachen × Post1815		0.003 (0.010)		0.043 (0.062)
Muenster × Post1815		0.050*** (0.013)		0.220*** (0.077)
Observations	26137	26137	2566	2566
Families	21181	21181	1283	1283
Panel 3: Logit				
Treated × Post1815	1.248*** (0.078)		1.201** (0.110)	
Post1815	0.902*** (0.030)	0.902*** (0.030)	1.065 (0.054)	1.065 (0.054)
Aachen × Post1815		1.107 (0.081)		1.070 (0.112)
Muenster × Post1815		1.559*** (0.149)		1.540*** (0.225)
Observations	46007	46007	4530	4530
Families	38249	38249	2265	2265
City FE	✓	✓		
Family FE			✓	✓

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. We only include parents without national first given name. Clustered standard errors at the family level. Treated cities: Aachen and Muenster. Control city in Panel 1: Berlin. Control cities in Panel 2: Heidelberg, and Mannheim, in Panel 3: Frankfurt (Main), Hanover, Heidelberg, Nuremberg, and Mannheim. Results based on equation 1. Data is collapsed in pre-and post period.

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Appendix

A Adjustment for Aachen

In the case of Aachen, the political changes themselves led to changes in the way first names were recorded. It is possible that the French bureaucracy “francicised” many German names, although we have no direct evidence on this (Kramer, 1993, p.225). For parents’ first names, this is not problematic as it is unlikely that the parents were given French names in late 18th century Aachen before the French occupation. For the children, however, this becomes more complicated because we do not know whether parents adjusted to the new rulers by choosing French first names or whether instead the French administration “francicised” German given names.

To deal with this issue, we use two radically different versions of the data for Aachen: an unadjusted version, where we assume that all French versions of German names in the data reflect indeed the choice of parents. With this we might underestimate the share of Germanic first names for the pre-treatment period and thus potentially overestimate our treatment effect. As an alternative, we adopt a most “conservative” interpretation of the data for Aachen, assuming that the French administration systematically “francicised” all German first names, against the wish of the parents. Hence, we adjust the data and classify all French versions of Germanic names as national names. We lack direct evidence on this, but if anything this introduces a strong bias against us finding a treatment effect. In fact, we do not observe a break in our data once the French administration left Aachen in January 1814, which might suggest that the unadjusted version is not too far off. Unless stated otherwise, all our results are based on this adjusted version of the data for Aachen.

B Matching Description

For our statistical analysis to be feasible, we first have to determine which children in our records belong to the same family. Our goal is to create a common family ID for all children that have the same mother and father. As is often the case with historical records, these are difficult to match as they frequently contain spelling mistakes. Therefore, we cannot use exact name matches but instead measure similarity between strings with the so called Jaro-Winkler (JW) distance (Winkler, 1990).

Abramitzky et al. (2020) suggest some best practices for linking historical data. They are primarily concerned with how to match census data. They suggest a more conservative threshold of a JW distance less than 0.1 for two names to be considered a match. Additionally, they restrict their potential matches to people with the same place of birth and also apply a maximum age difference. Fouka (2020) uses only JW distances to match census records.

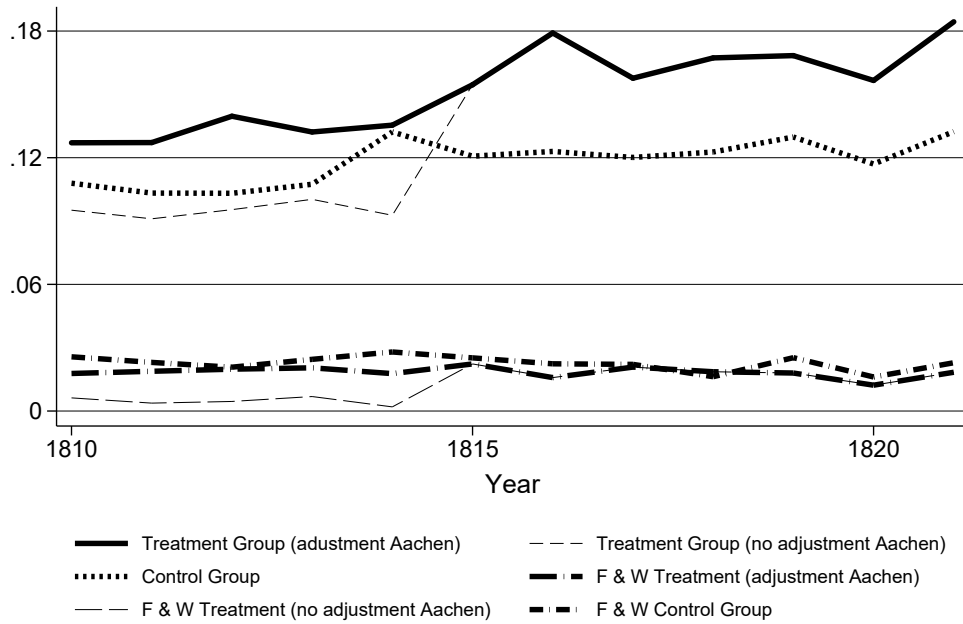
There are several properties of our dataset that make it less probable from the beginning to get false positive matches which means that we can be a bit less conservative than suggested by Abramitzky et al. (2020). First of all, we only consider potential matches in the same city. Second, our dataset comprises only a relatively short time window, from 1810 to 1821. Third, we use the mother’s and father’s last name for our matching approach. First names are more unreliable as their number and order is often different for the same person across different entries in our historical data. As Feigenbaum (2016) notes, last names of matched entries in the IPUMS database usually have less of a JW distance than first names. He finds that over 99% of all linked entries have a JW distance of less than 0.2. Last names also have a higher variation than first names which means that there is a relatively small probability of a married couple having exactly the same two last names as another couple. Additionally, we have the advantage that we can use two last names instead of just one in the case of census linking.

Considering the approaches cited above, we choose a JW distance threshold of 0.2. Our matching approach then goes as follows:

- Restrict the dataset to one city at a time. This means that we only consider potential matches in the same city.
- Split the data according to last name initials of mothers and fathers, similar to the blocking approach used by Abramitzky et al. (2019).
- In these subsets, we calculate the string distances between mothers’ and fathers’ last names separately, using last names before 1815 as the rows of our distance matrix and last names starting in 1815 as the columns. We find all instances where both the mother’s last name and the father’s last name from one couple match with the last names of another couple.
- We group these instances together as a family. For example, if couple a before 1815 matches couples x, y and z after 1815 and couple b before 1815 also matches x, y and z, we group all five together as the same family.

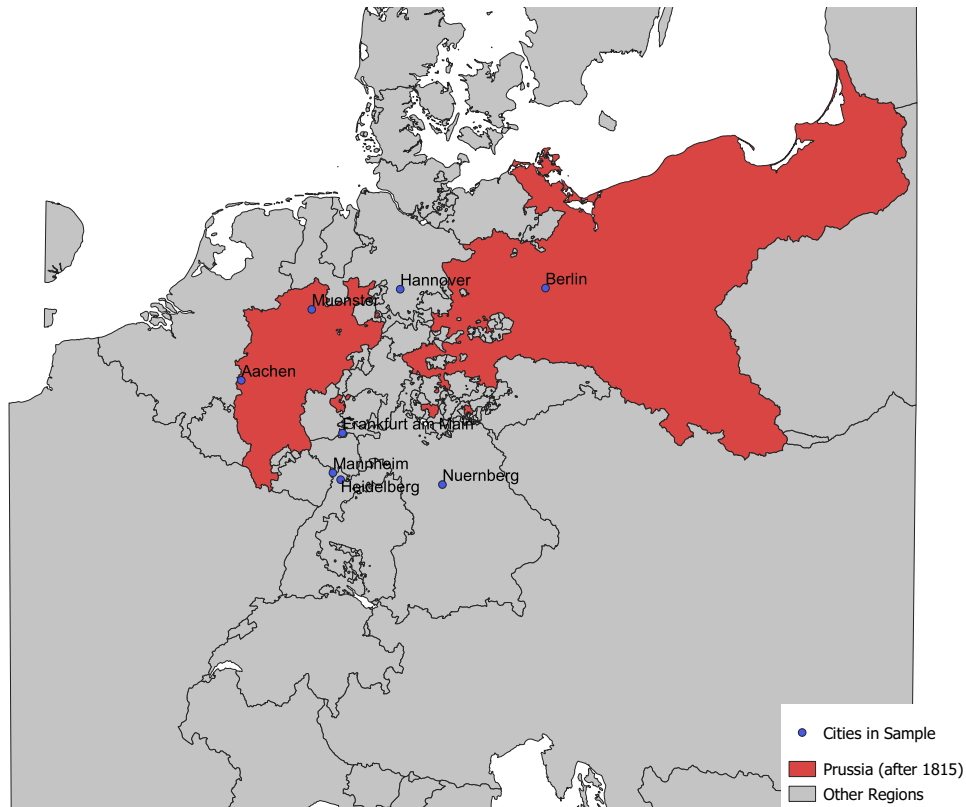
C Tables and Figures

Figure C.1: Development National First Names, 1810-1821



Note: Balanced panel for 1810-1821. Includes: Frankfurt (Main), Hanover, Nuremberg, Aachen, Muenster, Mannheim and Heidelberg.

Figure C.2: Cities in Sample



Note: The map shows the location of the cities in our sample. Prussia is marked in red. The western part of Prussia became part of Prussia in 1815.

Table C.1: Descriptive Statistics

City	Before 1815	After 1814	N per year
Aachen (adjusted)	13.69	15.63	854.56
Aachen (unadjusted)	6.24	15.63	854.56
Muenster	12.73	17.72	459.89
Frankfurt	13.30	13.81	1059.70
Hanover	19.90	23.34	595.72
Heidelberg	6.62	7.83	1442.68
Mannheim	5.95	6.62	461.58
Nuernberg	6.10	7.22	913.47
Berlin	30.44	30.81	2564.64

Notes: Share national first names (in %) by city and before/after treatment.

Table C.2: Popular First Names

Name	Male		Name	Female	
	Share	Category		Share	Category
Johann	21.14	Religious	Maria	11.94	Religious
Carl	9.82	National	Anna	9.65	Religious
Friedrich	5.34	National	Caroline	3.67	National
Georg	4.79	European	Marie	3.52	Religious
Heinrich	4.11	National	Catharina	3.08	Religious
Wilhelm	2.28	National	Johanna	2.66	Religious
Franz	2.10	Religious	Sophie	2.28	Ancient
August	2.07	Religious	Wilhelmine	2.25	National
Johannes	1.85	Religious	Louise	2.16	Ancient
Peter	1.79	Religious	Margaretha	2.12	Religious
Christian	1.70	Religious	Eva	2.08	Religious
Joseph	1.45	Religious	Elisabetha	2.08	Religious
Joannes	1.44	Religious	Auguste	2.07	Ancient
Johan	1.25	Religious	Henriette	1.94	European
Friederich	1.21	National	Charlotte	1.90	European
Jacob	1.17	Religious	Katharina	1.71	Religious
Ludwig	1.13	National	Susanna	1.60	Ancient
Philipp	1.08	Ancient	Johanne	1.54	Religious
Caspar	1.06	Other	Friederike	1.49	National
Jean	1.06	Religious	Dorothea	1.42	Ancient
Ernst	0.97	National	Carolina	1.39	National
Julius	0.91	Ancient	Dorothee	1.36	Ancient
Gustav	0.91	European	Sophia	1.05	Ancient
Karl	0.83	National	Anne	1.05	Religious
Andreas	0.67	Religious	Emilie	1.04	Ancient
Michael	0.66	Religious	Christina	1.02	Religious
Ferdinand	0.65	European	Barbara	1.02	Religious
Anton	0.65	Religious	Elisabeth	0.93	Religious
Adolph	0.62	National	Luise	0.92	Ancient
Christoph	0.59	Religious	Wilhelmina	0.85	National

Notes:

Table C.3: Treatment Analysis 1815, Event Study

Dep. var.: National First Name (Dummy)	City FE (1)
Treated × 1810	0.004 (0.016)
Treated × 1811	0.009 (0.016)
Treated × 1812	0.019 (0.017)
Treated × 1813	-0.008 (0.016)
Treated × 1815	0.015 (0.016)
Treated × 1816	0.043** (0.017)
Treated × 1817	0.017 (0.017)
Treated × 1818	0.026 (0.017)
Treated × 1819	0.036** (0.017)
Treated × 1820	0.019 (0.017)
Treated × 1821	0.040** (0.017)
Year FE	✓
City FE	✓
Observations	60168
Families	38274

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. We only include parents without national first given name. Clustered standard errors at the family level. Treated cities: Aachen and Muenster. Control cities: Frankfurt (Main), Hanover, Heidelberg, Nuremberg, and Mannheim. Results based on equation 2. Reference year: 1814.

Table C.4: Treatment Analysis 1815, with Friedrich and Wilhelm

Dep. var.: National First Name (Dummy)	City FE		Family FE	
	(1)	(2)	(3)	(4)
Panel 1: “Conservative” Adjustment Aachen				
Treated × Post1815	0.028*** (0.008)		0.070 (0.044)	
Post1815	0.009** (0.004)	0.009** (0.004)	0.128*** (0.024)	0.128*** (0.024)
Aachen × Post1815		0.015 (0.010)		0.027 (0.050)
Muenster × Post1815		0.052*** (0.013)		0.160** (0.067)
Observations	46577	46577	4822	4822
Families	38741	38741	2411	2411
Panel 2: No Adjustment Aachen				
Treated × Post1815	0.093*** (0.008)		0.226*** (0.040)	
Post1815	0.009** (0.004)	0.009** (0.004)	0.128*** (0.024)	0.128*** (0.024)
Aachen × Post1815		0.115*** (0.009)		0.257*** (0.043)
Muenster × Post1815		0.052*** (0.013)		0.160** (0.067)
Observations	46577	46577	4822	4822
Families	38741	38741	2411	2411
City FE	✓	✓		
Family FE			✓	✓

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. We only include parents without national first given name. We include Friedrich and Wilhelm (and their female counterparts) as national first names in this regression. Clustered standard errors at the family level. Treated cities: Aachen and Muenster. Control cities: Frankfurt (Main), Hanover, Heidelberg, Nuremberg, and Mannheim. Results based on equation 1. Data is collapsed in pre-and post period.

Table C.5: Treatment Analysis 1866, OLS

Dep. var.: National First Name (Dummy)	City FE		Family FE	
	(1)	(2)	(3)	(4)
Treated \times Post1866	-0.025*** (0.008)		-0.079*** (0.030)	
Post1866	-0.036*** (0.004)	-0.036*** (0.004)	-0.076*** (0.019)	-0.076*** (0.019)
Hannover \times Post1866		-0.046*** (0.011)		-0.159*** (0.038)
Frankfurt \times Post1866		-0.008 (0.009)		0.002 (0.039)
City FE	✓	✓		
Family FE			✓	✓
Observations	59992	59992	9000	9000
Families	48987	48987	4500	4500

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. We only include parents without national first given name. Clustered standard errors at the family level. Treated cities: Hanover and Frankfurt. Control cities: Heidelberg, Luebeck, Nuremberg, and Mannheim. Results based on equation 1.