

## The Origins of Common Identity: Evidence from Alsace-Lorraine<sup>†</sup>

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*We study how more negative historical exposure to the actions of nation-states—like war, occupation, and repression—affects the formation of regional identity. The quasi-exogenous division of the French regions Alsace and Lorraine allows us to implement a geographical regression discontinuity design at the municipal level. Using measures of stated and revealed preferences, we find that more negative experiences with nation-states are associated with a stronger regional identity in the short, medium, and long run. This is linked to preferences for more regional decision-making. Establishing regional organizations seems to be a key mechanism to maintaining and strengthening regional identity. (JEL H77, N43, N44, N93, N94, Z13)*

The formation of common group identities at the regional, ethnic, or country level is an important, yet poorly understood aspect of human behavior. Even though recent evidence suggests that heterogeneity within groups is greater, on average, than heterogeneity between groups (Desmet, Ortuño-Ortín, and Wacziarg 2017), we still observe strong existing group identities with important economic and political implications (Kranton 2016). Arbitrarily determined national borders led to strong ethnic identities and weak national identities in Africa,

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often associated with conflict, violent struggles for autonomy, and inferior development (e.g., Michalopoulos and Papaioannou 2014; Michalopoulos and Papaioannou 2016; Rohner, Thoenig, and Zilibotti 2013). In Europe, strong regional identities contribute to separatist movements in regions like Catalonia, the Basque country, Corsica, Flanders, and Scotland. We argue that differences in the historical negative exposure to the actions of nation-states, among other repressive nation-building policies, can help to explain differences in the strengths of regional identities.

When countries moved toward the model of a more centralized nation-state, Napoleon was perhaps the first to realize that nation-building policies were required to align the preferences and norms of heterogeneous regions. Those nation-building policies can be implemented in more or less repressive ways (Alesina, Giuliano, and Reich 2019; Alesina, Reich, and Riboni 2017; Dell and Querubin 2017). Studying the causal impact of those attempts, however, is challenging. Laboratory experiments can only study groups of limited sizes for short periods of time, while real identity formation is a long-term process. Moreover, more violent types of negative exposure associated with the integration of regions are hard to emulate in an experiment. Observational studies, by contrast, can compare historically different approaches across regions, but face the difficulty that those regions usually differ in many other dimensions. Hence, existing causal studies focus either on individual events and relatively short-term results (Depetris-Chauvin, Durante, and Campante 2020) or study immigrant groups living in different parts of a host country that were exposed to more or less repressive policies (Fouka 2019, Fouka 2020), with mixed results.

We exploit a unique historical natural experiment to estimate the causal effect of being more exposed to negative actions by higher-level nation-states—like war, occupation, changing national affiliation, and repressive nation-building policies—on regional identity in the short, medium, and long run. The historically homogeneous French regions of Alsace and Lorraine were divided between France and Germany after the Franco-Prussian war, in 1871. For more than half a century, the eastern part, which became German and then returned to France after World War I, was more negatively exposed to repressive policies by the German and French nation-states and to the wars between them. Using a variety of outcomes in both stated and revealed preferences, we find that this part, henceforth referred to as the treated part, developed a stronger regional identity that persists until today. In contrast to the evidence on immigrants in a foreign host country (Fouka 2019), we provide evidence that citizens were already investing in and developing a stronger group identity during the treatment period, when they were still actively exposed to repression.

More specifically, the differences between the two parts of the region are the following. The treated part became a protectorate of the German central state between 1871 and the end of WWI in 1918. Afterward, it became French again and remains so today. During German rule and, initially, under French rule—roughly until the 1950s—both nation-states enacted policies that suppressed regional identity. This historical episode reflects two sets of circumstances in history when nation-building was a crucial policy measure: first, when countries moved toward the model of a more centralized nation-state; and second, when countries acquired, by force or by

negotiation, new territories that needed to be integrated into the existing nation-state. Nation-building can be either benevolent or repressive. Benevolent policies include improving connectedness and the provision of public goods, as well as the market integration of regions. By contrast, repressive policies include language restrictions, restrictions of personal or political freedoms, and forceful re-education of problematic citizens. In this example, the treated part clearly suffered more from the actions of nation-states and their nation-building policies in comparison to the part that remained French.

For causal identification, we exploit the fact that disagreements in the German leadership led to a quasi-exogenous division of the region in 1871. The division was decided upon at Versailles and ignored local circumstances and prior historical borders. We focus on the region of Lorraine, where the border does not overlap with the historical linguistic divide between French- and German-speaking populations. This enables us to implement a geographical regression discontinuity design at the municipal level. We show that there are no discontinuities in geographic pretreatment measures or in a wide range of socioeconomic pretreatment measures at the border. We use the Cahiers de Doléances from 1789, a survey-like investigation by the French king Louis XVI, as a pretreatment measure of identity that suggests no differences prior to the division. This setting thus allows us to compare regional identities in a treated area and a control area that belong to the same historically homogeneous region, were split in an exogenous way, clearly differ in exposure to nation-state actions, belong to the same French region today, and allow us to gather outcome variables at the fine-grained municipal level.

We find a stronger regional identity in the treated part. Our main outcome is the agreement in a 1969 referendum about higher regional autonomy, about 15 years after the treatment period ended. We then show that this difference persists in the long run. There is higher agreement in two additional referenda in 1992 and 2005, in higher subscription rates to a regional newspaper, and in the increased success of regionalist parties. Each of these measures might be related to aspects other than regional identity, but the consistent results across all of these revealed preference measures indicate that the treated area exhibits a stronger regional identity. In addition, results using a stated preference measure from several waves of a large-scale survey at the *département* level (comparable to US states or German *Bundesländer*) also find a stronger stated regional identity.

To understand the mechanisms of identity formation, we hypothesize that investments in regional organizations during a repressive period can be a technology that leads to a consistently stronger regional identity. Based on a variety of historical sources, we provide evidence that citizens in the treated part set up regional organizations like parties, associations, or newspapers during the periods when nation-states suppressed regional identity. Suggestive evidence that such organizations are still established often complements the previous results of persistently higher regional newspaper subscriptions and regional party success.

We explore qualitatively and quantitatively whether the strengthening of regional identity was more likely related to German policies or to the subsequent repressive French policies. It is possible that repression by a foreign nation-state after an annexation triggers a different reaction than exposure to repressive policies by the state

to which a region belonged to for most of its history. While we cannot attribute the overall net effect to any particular policy, anecdotal evidence by historical scholars (e.g., Anderson 1972, Carrol and Zanoun 2011, Goodfellow 1993, Höpel 2012) confirms that regional identity was strengthened during the German occupation and as a reaction to the repressive nature of French nation-building policies until the 1950s. We augment this with evidence about the establishment of both German- and French-speaking regional organizations. Moreover, the success of regionalist parties, a proxy for the strength of regional identity, increased during the periods of German and French repressive policies.

Furthermore, we conduct placebo tests and use randomization inference to show that our treatment effect is considerably larger than comparisons at random département borders. Thus, it is unlikely that our estimated treatment effect is simply due to a comparison across an arbitrary département border. We explore alternative mechanisms that could explain the persistent differences and find no significant discontinuities in the socioeconomic composition of the population, in the impact of religion and the number of churches, or in public good provision. All this suggests that unobservable differences do not seem to have a decisive influence as a mechanism for identity formation.

Our research contributes to different strands of literature. First, it adds to the literature about the optimal size-of-nations (Alesina and Spolaore 1997; Bolton, Roland, and Spolaore 1996), fiscal federalism (e.g., Dreher et al. 2017), and the related scholarship on secessionism (Collier and Hoeffler 2006, Esteban et al. 2018) and international integration (Gehring 2020). Identities and nationalism can influence decision-making in areas ranging from financial markets (Fuchs and Gehring 2017) to political unions (Gehring and Schneider 2018). Preferences about membership in a larger union are usually modeled as driven by economic factors (e.g., Gehring and Schneider 2020) and cultural differences—labeled preference heterogeneity in the seminal work by Alesina and Spolaore (1997). Our survey results highlight the economic and political relevance of thinking about identity as the perceived heterogeneity in preferences within a group. People in the treated area with a relatively stronger regional identity also want to transfer decision-making in a wide range of areas from the national to the regional level.

Second, our study adds to the literature on identity economics (e.g., Akerlof and Kranton 2000, Lowes et al. 2017) and on the persistence and transmission of culture, identities, and values (e.g., Bisin and Verdier 2010, Gehring 2021, Tabellini 2008, Vlachos 2019, Voigtländer and Voth 2012). There are also related strands of literature ranging from sociology to social psychology and political science (e.g., Anderson and O’Dowd 1999, Anderson 2006, Gellner 2008, Rozenas and Zhukov 2019, Tajfel 2010). We also contribute to an emerging literature on policies that affect identities (e.g., Alesina, Giuliano, and Reich 2019; Dell and Querubin 2017; Fryer Jr. and Torelli 2010).

Some studies specifically analyze schooling as a key mechanism through which the state influences identity formation (e.g., Bandiera et al. 2018, Cantoni and Yuchtman 2013). Carvalho and Koyama (2016) model how an education system that marginalizes a certain identity can cause cultural resistance. We hypothesize that this resistance can lead to investments in maintaining regional identity,

which, in turn, can cause long-term differences. The persistence in aspects like preferences or norms is not unusual in relation to other papers covering persistence over periods stretching more than a century (Alesina, Giuliano and Nunn 2013; Becker et al. 2016; Guiso, Sapienza, and Zingales 2016; Nunn 2008, Voigtländer and Voth 2012). Compared to many other papers, this paper documents the change in identity during the treatment period, in the midrange, as well as in the long run, about half a century later.

Unlike German immigrants in the United States (Fouka 2019, Fouka 2020), Lorrainian citizens in their home region seemed to react to repression by investing in regional identity during the treatment period. They also expressed a stronger regional identity both during and after the repressive policies. Our results about the impact of repressive policies differ from prior evidence and highlight the need to study complex phenomena like identity formation in different contexts. Moreover, we find that investments in regional organizations represent an important mechanism for identity formation.

## I. Historical Background and Treatment Definition

### A. *History of Alsace-Lorraine: Division, Borders, and Homogenization Policies*

Alsace and Lorraine have been autonomous political entities since as long ago as the seventh century. Under Charles the Bald, all of modern Lorraine was first united as a part of the Duchy of Lotharingia. Over the centuries, both regions developed strong regional identities with specific traditions and norms. After the Thirty Years' War (1618–1648), the Treaty of Westphalia ceded the Lorrainian cities of Metz, Verdun, and Toul and all of Alsace to France. The rest of Lorraine effectively became French in 1767. Thus, at the time of the Franco-Prussian War, in 1870, the regions of Alsace and Lorraine had been French for more than a century and had been exposed to the nation-building policies of Napoleon and other French leaders.

The peace treaty ending the Franco-Prussian War—which had lasted from July 19, 1870 to May 10, 1871—stipulated that large parts of Alsace and the eastern part of Lorraine were ceded to the newly created German nation-state. The German side in the negotiation was divided into two camps with opposing goals regarding territorial expansion: a political faction, led by Chancellor Otto von Bismarck, and a military faction composed of the charismatic military leader General Helmuth von Moltke and the aged emperor Wilhelm I. The French side was represented by the leader of the antiwar conservative party, Adolphe Thiers. The aim of the French side was to avoid any loss of territory. On the German side, the cautious statesman Bismarck wanted to restrain territorial expansion to the German-speaking parts of Alsace and Lorraine in order to avoid humiliating the French (Lipgens 1964). By contrast, historians suggest that the military faction had always planned to conquer as much territory as possible (Förster 1990).

The negotiation process went back and forth and led to a final border demarcation that was exogenous to socioeconomic considerations (Förster 1990, Lipgens 1964, Messerschmidt 1975). The historical accounts document that pride, rather than

precise strategic considerations, dominated the negotiation.<sup>1</sup> For instance, Bismarck, who considered retaining French-speaking parts of Lorraine as a “folly of the first order,” intended to “save Metz for France” (Wawro 2005, 206). Von Moltke, however, considered having conquered Metz one of the military’s great achievements, and convinced Wilhelm I that a return would be a “national humiliation.” Hence, the border was moved far enough to the west that the German part contained Metz and its surroundings. France was able to keep larger parts in the south in exchange for offering the German military the opportunity to conduct a victory parade along the Champs Élysées in Paris, which Germany proudly accepted.

The result was a compromise in which, at least partly, “Bismarck [...] quite uncharacteristically wilted under the pressure” (Wawro 2005, 305). The treatment border was decided upon in the central negotiation process without considering specific local circumstances. It does not follow the existing département borders (Figures 1, panels A and B) or any older historical border (online Appendix Figures I1 to I3).<sup>2</sup> Moreover, it only follows the historical language border between French- and German-speakers in the southern part of Alsace (Figure 1 panel C). Our main specification focuses on the division within Lorraine in the north, where it never overlaps with the language border (Figure 1 panel D).

The treated part was then incorporated into the German Empire as the Reichsland Elsass-Lothringen. In Alsace, the large parts obtained by Germany were converted into the German districts of Oberelsass and Unterelsass, corresponding to the former (and current) départements Haut-Rhin and Bas-Rhin, respectively. In Lorraine, the district Lothringen, corresponding to today’s département Moselle, was created out of parts from the former départements Moselle and Meurthe. On the French side, the control départements Meurte-et-Moselle and Meuse were formed out of the remaining parts. France regained control after WWI and has kept this administrative delineation of départements until today. Thus, the treated part corresponds to the current département Moselle, and the control part to Meurte-et-Moselle and Meuse.

### *B. The Treatment Period: Negative Experiences with Nation-States*

By design, our natural experiment does not allow us to disentangle the individual contribution of a specific policy from the outcomes. Hence, we do not stress the magnitude of specific coefficients, but we can interpret the sign of the effect consistently. Figure 2 illustrates that the whole region shared a common history until negative exposure to nation-state actions starts to diverge, from 1871 to about 1953—the treatment period. First, the treated part changed national affiliation from French to German and then back to French again. Second, it was exposed to more repressive nation-building policies during German rule. Third, it was again exposed to more repressive policies during the reintegration attempts by the French nation-state (Anderson 1972, Harvey 1999).

Fourth, the whole region was occupied during World War II, but the treated part again suffered more from the conflict between the two nation-states. This is related

<sup>1</sup> The fortresses of Belfort in the south of Alsace are an exception, and are excluded from our analysis.

<sup>2</sup> Table and figure names beginning with a Latin letter (e.g., A1, C3) refer to the online Appendix.

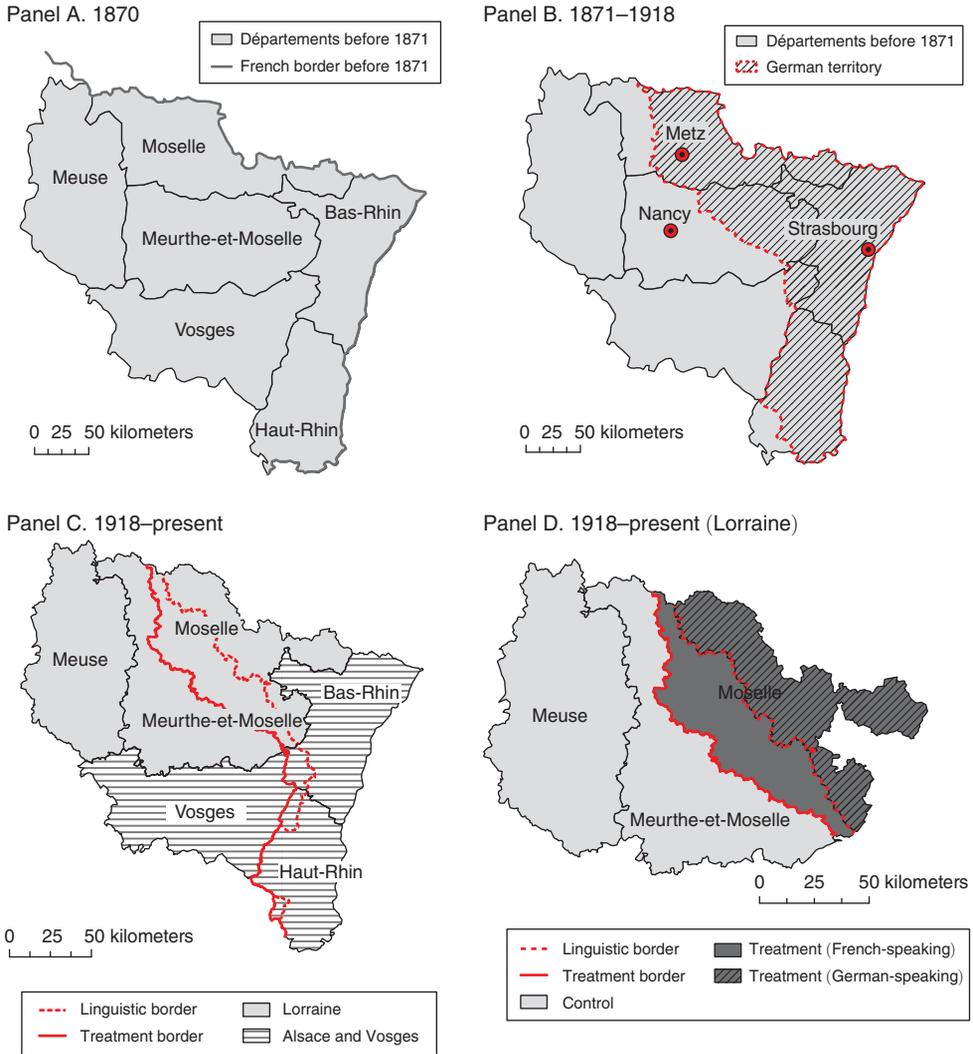


FIGURE 1. HISTORICAL BORDERS WITHIN ALSACE AND LORRAINE

*Notes:* Maps of Alsace and Lorraine before, during, and after the treatment period. Panel A: Alsace and Lorraine (1870)—Historical regions that were integrated into France for more than a century. Panel B: Alsace and Lorraine (1871–1918)—Treatment border does not follow old départements borders. Panel C: Alsace and Lorraine (1918–present)—Treatment border follows language border in Alsace to some extent. Panel D: Focus on Lorraine (1918–present)—Variation within historically homogeneous region and treatment border does not follow language border.

to the Bordeaux Trial in 1953, where Alsace-Lorraine soldiers who were forced to fight for the German side were convicted. The trials reactivated the tensions with the French central state, and constitute the last event that we attribute to the treatment period.<sup>3</sup> Tensions calmed down after repressive policies stopped and a general

<sup>3</sup>Fouka and Voth (2019) and Ochsner and Roesel (2017) show how historical memories can be reactivated.

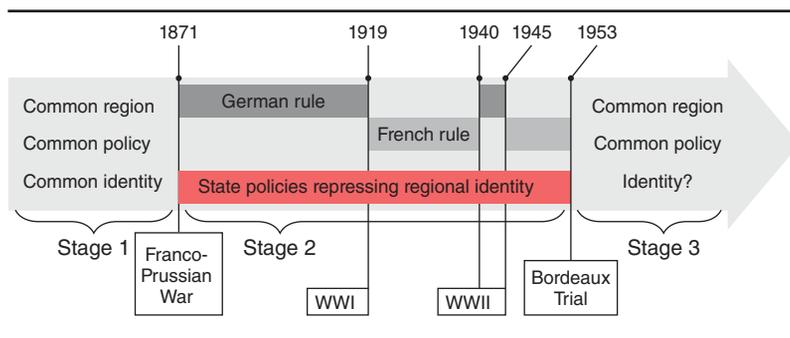


FIGURE 2. TIMELINE OF EVENTS

Notes: Simplified timeline of events in the Alsace and Lorraine regions. Stage 1 describes the pretreatment period, when all parts were part of a common region, exposed to the same or very similar policies by the central state, with no reasons to expect differences in the strength of regional identity. During Stage 2, the treated area was exposed to more negative actions than the control area by the German state and, later, the French central state. In stage 3, both areas belong to the same region again, and policies start to converge in the early 1950s.

TABLE 1—OVERVIEW OF POLICY CATEGORIES

Policy category	Example
Language policies	1920: French becomes the only language taught in school (Grasser 1998).
Media	1927–1928: Three autonomist journals, the <i>Volksstimme</i> , the <i>Zukunft</i> , and the <i>Wahrheit</i> , are banned (Goodfellow 1993).
Social, political, military freedom, equality	1927–1928: Colmar trials: 15 prominent autonomists are arrested and tried for participation in a plot to separate Alsace from France (Goodfellow 1993).
Separation and segregation	1918: Locals are classified according to an identity-card system. Lower classification leads to, e.g., travel bans (Harvey 1999).
Regional institutions and administrative personnel	1924: Ministerial Declaration by Premier Edouard Herriot imposes a centralized administration, French laws, and intuitions (Carrol and Zanoun 2011).

Notes: Sources and full lists of German and French policies until the 1950s in online Appendix A.

amnesty was declared. Both parts again belong to the same French administrative region.

Historians emphasize the effect of repressive policies on the formation of a stronger regional identity, both during German and French rule (Goodfellow 1993). Table 1 presents examples of those policies, distinguished in five categories: *language* policies, aiming to oust local languages and foster the use of the national language; *media* policies, restricting press freedom; *social, political, military freedom, and equality* policies, aiming to restrict political rights, participation, socioregional gatherings, and the choice to serve in the military; *separation and segregation* policies, aiming to separate or segregate locals according to origin or nationality; and *regional institutions and administrative personnel*, aiming to replace regional institutions and administration.

There are many examples of political restrictions under German rule. The treated part did not gain the same rights as other German regions. Voting in federal elections was allowed, but many other restrictions were imposed (Carrol and Zanoun 2011). As part of the *Kulturkampf* (culture war), regional education was restricted and tightly controlled by central Prussian authorities (Silverman 1966). Strasbourg University was reopened as Kaiser-Wilhelm-Universität, with the aim of replacing regional culture (Höpel 2012). Restrictions on the regional press were kept in place until 1898. A Dictatorship Paragraph restricted citizens' political rights to organize and allowed arbitrary house searches and the expulsion of political agitators (Carrol 2010). Contemporary accounts describe how this contributed to the development of a stronger regional identity, which is not to be confused with an "expression of an attachment to Germany" (Carrol and Zanoun 2011, 479). A regional party leader declared publicly "we assert ourselves as Lorrainers [...] and oppose Germany" (Carrol and Zanoun 2011, 470).

The French policies to realign preferences and values in the "lost provinces" after regaining control in 1919 are sometimes described as even more repressive than the German ones (Anderson 1972, Harvey 1999). The German "Alemannic" dialect, the mother tongue of a large share of the population, was removed as an official language from all government-related affairs, and, until the early 1950s, from schools. A special commission, the Commission de Triage, was formed to ascertain the "Frenchness" of the population in the re-annexed area (Carrol and Zanoun 2011). Travel was restricted; a sizeable share of citizens of German origin were even forced to leave. In the words of a Mosellian, "the Commission de Triage is the most shameful institution we have ever seen. Instead of making us love France, it did just the opposite" (Carrol and Zanoun 2011, 470). Municipal names, street names, and family names were almost all changed to French. Several newspapers promoting regional culture and specificity were forbidden, and some leaders of regionalist parties were put into jail. France replaced bureaucrats and local teachers with external personnel who were not familiar with local circumstances and traditions. After citizens initially welcomed the return to France, French repression had a comparable effect to German repression, and they tried to resist central policies regarded as being at odds with regional traditions. They increasingly felt that "Alsace-Lorraine was neither French nor German" (Carrol and Zanoun 2011, 470), and highlighted their regional identity (Harvey 1999) without any "nostalgia for the system under German rule" (Zanoun 2009, 62).

How can we think of the effects of those experiences on identity? We define identity by adapting an idea from Shayo (2009). Every individual can be a member of multiple groups, e.g., region and nation. The common regional identity of an individual  $i$  is 1 minus the perceived distance to a representative group member of the region  $R$ :

$$(1) \quad h^{i,R} = 1 - \left( \sum_{k \in K} \omega_k (p_k^i - p_k^R)^2 \right)^{1/2}.$$

The  $p_k^i$  represent the preferences (or traditions, values, and norms) of individual  $i$  regarding an attribute indexed  $k$  relative to the representative group member,  $p_k^R$ . We

assume  $p_k^i$  to be fixed;  $K$  is the set of all attributes. A higher weight  $\omega_k$  indicates that a potential difference regarding an attribute  $k$  has a larger influence on the perceived common identity.<sup>4</sup>

The intuition behind this is easy to understand. Individuals can differ or be aligned with other group members in attributes like shared history, spoken dialect, local cuisine, or clothing. The degree to which this translates into the strength of group identity depends on how much people emphasize the traits that differ from other group members relative to the traits they have in common. If one puts all weight on factors shared with the rest of the group members, group identity is strong. If one puts all weight on factors that distinguish the individual from the group, group identity is weak.

The historical shocks can strengthen regional identity by increasing the weight individuals put on an attribute—e.g., a tradition, a value, or a common history—that they share with others from the region or nation. This can happen in a purely psychological way, or by conscious investments in identity (cf. Cantoni and Yuchtman 2013, Cantoni et al. 2017). Investments can be kept private within the family, like the teaching of regional traditions, which we cannot observe. Investments also consist of setting up regionalist organizations, such as a regional party, association, or newspaper, that foster regional culture. Such investments can lead to persistent differences. For instance, once a regionalist party has been founded, future generations can benefit from the existing structure of the party or the organizational ability that regional citizens build up during repression. This is similar to the idea described by Jha and Wilkinson (2012), where a group of people acquire the skills to organize as a group.

## II. Data, Measures, and Identification Strategy

### A. Data

France is divided into 22 regions, which consist of 96 départements. These are further divided into 323 arrondissements and 1,995 cantons, but those two subunits are of lesser importance and do not possess the status of a legal entity. The municipalities (*communes*), of which there are 3,320 in Alsace and Lorraine, are the lowest unit. For our main analysis, we focus on these municipalities, using geographic information system (GIS) shapefiles from GADM. The National Institute of Statistics and Economic Studies (INSEE) provides data on municipality characteristics like age composition, commercial activity, and education. Electoral data such as voter turnout, election results, and referenda results are obtained from the Center for Socio-Political Data. In addition, we use the Observatoire Interrégional du Politique (OIP) survey carried out in 1999, 2001, and 2003—the only French survey that offers a sufficiently large number of observations at the département level. Online Appendix E provides all sources and descriptive statistics.

<sup>4</sup>Desmet, Ortuño-Ortín, and Wacziarg (2017) show that actual within-group variation in values and preferences (our attributes) is usually larger within than between-groups. The fact that strong group identities—e.g., regional or ethnic—nevertheless exist is only feasible when allowing people to assign different weights to objective attributes.

Our aim is to measure the medium- and long-run causal effects, using measures of revealed and stated preferences. We augment this with descriptive and correlational evidence on the short-term reactions during the treatment period. Each of the measures has its advantages and disadvantages, but together they paint a comprehensive picture of differences in regional identity.

*Main Outcome: Referendum on Regionalization, 1969.*—In 1969, French President Charles de Gaulle held a referendum explicitly focusing on decentralization and establishing regions as an important political unit in the French constitution (Bon 1970). Regions were supposed to take control of public utilities, housing, and urbanization and to be able to borrow money on their own. Furthermore, they would become independent contractual parties, able to set up public organizations, and would be part of an adapted second chamber representing the territorial collectivities. De Gaulle campaigned for decision-making to occur closer to the citizens and for the regions' cultural importance to be reflected politically. In the end, 52.4 percent of French voters rejected the proposal, and de Gaulle resigned immediately afterward. We gathered newspapers (*L'Est Republicain*) from April 1969 in the département archives that printed results at the municipal level, which we then transcribed and matched to the current municipalities.

*Persistence: Subsequent Referenda in 1992 and 2005.*—The Maastricht Treaty in 1992 was expected to enhance the role of regions in the European Union (EU) by fostering both regional decision-making and the expression of regional identity. The treaty was a huge step forward for regions in the institutional landscape in Europe. It formally introduced the principle of subsidiarity, which codified the aim that decision-making should be at the lowest feasible level of authority in the EU (Treaty on the EU 1992). In addition, it established a “Committee of the Regions” as part of the European institutional structure, which “created a political space for regions” (Fitjar 2010, 528). The Constitution for Europe, voted upon in a second (unsuccessful) French referendum in 2005, would also have increased the scope of regional decision-making decisively. An important point was the reinforcement of the subsidiarity principle and “greater recognition to the role of regional authorities” as well as “respect for regional and local self-government as part of national identities” (Hoffschulte 2004). Cross-border regions became a new way to represent common regional interests.

Both treaties were not only or mainly about regional autonomy and identity, but about deepening European integration. Thus, for both outcomes to function as a valid measure of regional identity, we assume that two geographically close neighboring municipalities on each side of the treatment border otherwise benefit from European integration to the same degree. Moreover, these regional aspects must have been salient to voters. Both are plausible. In fact, the widespread opinion in the 1990s, in particular, was that the EU was “moving towards a Europe of the regions” (Chacha 2013, 208), reducing the costs of regional autonomy. Hence, regionalist parties “favor European integration because it creates a more favorable political opportunity structure for their subnational autonomy movements” (Jolly 2015, 2). The moderate regionalist party *Le parti Alsacien*, for example, campaigns on its website for an “independent Alsace in a federal European Union.”

*Persistence: Regional Newspaper Subscriptions and Regionalist Party Success.*—Regional newspaper subscriptions capture the share of households that subscribe to regional newspapers. We received access to the internal municipal-level subscription data of the Lorrainian newspaper *Le Républicain Lorraine* in 2014. As a second long-run measure, we use regionalist party results from the 2015 regional elections, the only election where all moderate regionalist parties in the untreated and treated parts of the region ran on a joint list.

### B. Identification Strategy

Our geographical regression discontinuity (RD) design uses the following specification:

$$(2) \quad y_c = \alpha + \beta \text{Treatment}_c + p(\text{distance\_to\_border}_c) + \mathbf{z}'_c \boldsymbol{\gamma} + \epsilon_c,$$

where  $y_c$  is the outcome variable of interest for municipality  $c$ .  $\text{Treatment}_c$  takes the value 1 for municipalities in the treated area, and 0 otherwise. Note that  $p(\cdot)$  allows for different functional forms of the running variable, which measures the direct distance from the municipality centroid to the treatment border. Vector  $\mathbf{z}_c$  comprises the distances to the cities of Metz, Strasbourg, and Nancy and the French–German border, as well as border-segment fixed effects. As suggested by Gelman and Imbens (2019), our main specification includes a linear term for the distance that is allowed to vary on either side of the border. We use a uniform kernel density function with a 10 km and the efficient Imbens-Kalyanaraman (IK) bandwidth Imbens and Kalyanaraman (2012).<sup>5</sup> Conley standard errors with a radius of 10 km account for spatial spillovers to neighboring municipalities.

As a comparison, we show OLS specifications, which use the same control variables but do not condition on distance. Comparing the OLS to the RD estimates is informative for two reasons. First, we can assess to what degree potential sorting directly at the border is a problem. Second, we can assess the external validity of the estimated local average treatment effect from the RD and see whether the municipalities that we compare at the border are representative of municipalities in the region.

### C. Pretreatment Differences and Discontinuities

The section on the history of the region explained that the treatment border within Lorraine does not follow the existing département borders, any older historical border, or the historical language border between French and German speakers. We also check the RD assumptions formally by testing for discontinuities in geographic characteristics like elevation and suitability for the main agricultural products. Moreover, we were able to collect a wide range of socioeconomic indicators for nineteenth-century France on land usage, population, road lengths, and railways.

<sup>5</sup>As we use the municipality centroid to compute the distance to the border, using smaller bandwidths than 10 km results in dropping some municipality polygons even though they directly touch the border.

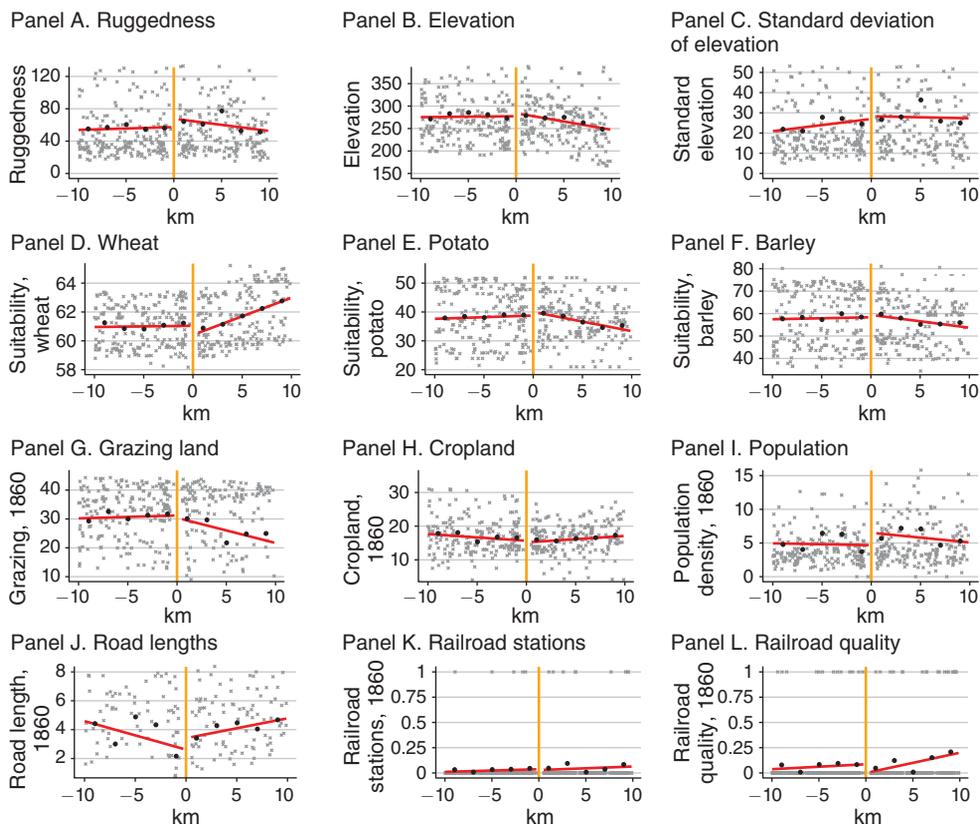


FIGURE 3. RD PLOTS FOR PRETREATMENT VARIABLES

Notes: RD plots for a number of geographic and socio-economic pretreatment measures. The black dots are bins that pool together municipalities within a similar range; the dots in light gray represent individual municipalities. Estimated discontinuities for all pretreatment variables are presented in Figure 4.

Sources: Nunn and Puga (2012); NASA SRTM; FAO/GAEZ; Talandier, Jousseume, and Nicot (2016); Klein Goldewijk et al. (2011); Perret, Gribaudo, and Barthelemy (2015); Mimeur et al. (2018). Online Appendix Table E5 provides further details.

Discontinuities in one of these indicators would indicate that the division was influenced by aspects that could also be related to pre-existing identity differences.

Figure 3 displays the RD plots for 12 measures. The plots show no systematic discontinuities at the treatment border using a linear polynomial. Figure 4 shows the corresponding RD coefficients using equation (2). There are no systematic discontinuities in any of them.

In addition, to gain a more direct sense of identity before 1871, we make use of the fact that in 1789, shortly before the French Revolution, King Louis XVI wanted to assess the loyalty of his citizens. This endeavor resulted in the *Cahiers de Doléances*, which contain specific information about the relative strength of regional identity compared to national identity. The *cahiers* are originally text data, collected by the king's bureaucrats, which French historian Beatrice Hyslop mapped to a numerical scale between 1 and 3. In Lorraine, data was collected for between four and eight

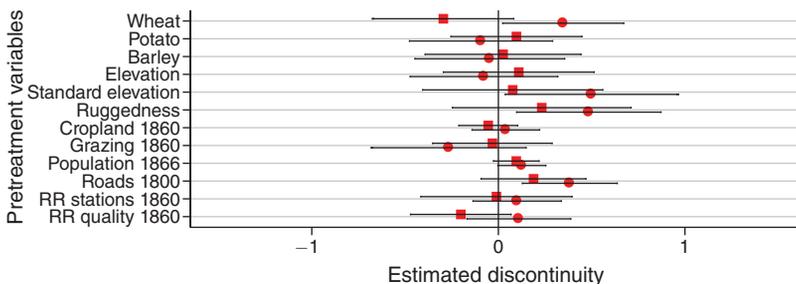


FIGURE 4. PRETREATMENT DISCONTINUITIES

Notes: Discontinuities in pretreatment variables at the treatment border. Each coefficient is the estimated discontinuity at the treatment border within Lorraine, using a 10 km bandwidth (squares) and the optimal IK bandwidth (circles). Horizontal bars represent 95 percent confidence intervals, based on Conley standard errors with 10 km bandwidth. RR stands for railroad.

Sources: Nunn and Puga (2012); NASA SRTM; FAO/GAEZ; Talandier, Jousseume, and Nicot (2016); Klein Goldewijk et al. (2011); Perret, Gribaudo, and Barthelemy (2015); Mimeur et al. (2018). Online Appendix Table E5 provides further details.

TABLE 2—PRE-TREATMENT REGIONAL IDENTITY

	Mean	Standard deviation	Observations
Lorraine (average)	2.0	0.6	19
Moselle (treated)	2.0	0.8	7
Meurthe-et-Moselle	2.0	0.6	8
Meuse	2.0	0.0	4

Notes: Regional identity relative to national identity in 1789 based on Cahiers de Doléances for three départements in Lorraine: Meuse, Meurthe-et-Moselle, and Moselle. The measures are based on an index created by Hyslop (1968) where the value 3 corresponds to “National patriotism strongest,” 2 corresponds to “Mixed loyalties: national patriotism combined with regionalism or class spirit, or both,” and 1 corresponds to “Other loyalties, regional, or class, or both, outweigh national patriotism.” The means are, indeed, precisely 2, by coincidence.

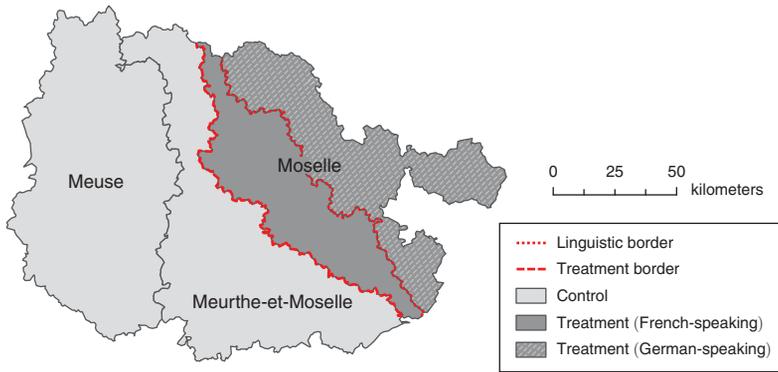
units per département (Hyslop 1968). Figure E1, in the online Appendix, shows the geographic locations. Following Johnson (2015), we exclude the first estate, clergy, who were more driven by religious policy. If assessments for more than one estate (class) are available, we take their arithmetical average. Table 2 shows that the average response is the same in the treated and control départements in Lorraine.

### III. Results

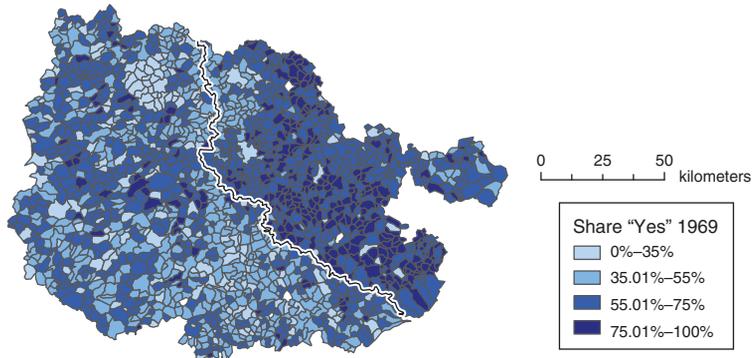
#### A. Main Outcome—Regional Identity in the Medium Run in 1969 Referendum

Panel A of Figure 5 shows the treated and control areas, and panel B provides a map of the referendum results from 1969 at the municipal level. Darker values indicate higher agreement in the referendum about strengthening regional decision-making powers. The map clearly indicates higher agreement, measured as the share of yes votes out of all valid votes, in the treated area east of the treatment border. The RD

Panel A. Treated and control areas



Panel B. Outcome map: Share "Yes" 1969



Panel C. RD plot: Share "Yes" 1969

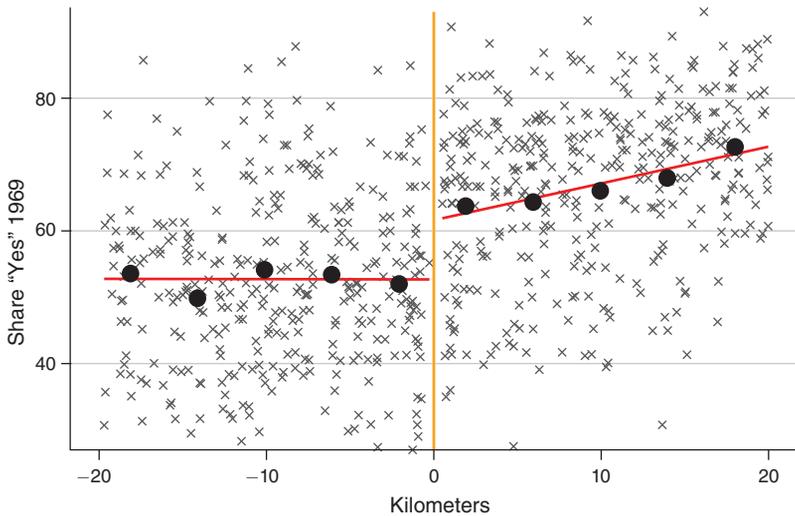


FIGURE 5. 1969 REFERENDUM ON MORE REGIONAL AUTONOMY

Notes: Panel A shows the division of the treated and the control areas; panel B presents municipal-level shares of yes votes in the 1969 referendum on more regional autonomy; panel C shows an RD plot for the 1969 referendum results at the treatment border. OLS and RD estimates are presented in Table 3.

TABLE 3—OLS AND RD RESULTS FOR THE 1969 REFERENDUM

	Main specification			Excluding German-speaking municipalities	Controlling for longitude and latitude
	OLS (1)	RD (2)	RD (3)	RD (4)	RD (5)
Treatment	13.210 (1.476) [<0.001]	12.645 (2.558) [<0.001]	9.813 (2.203) [<0.001]	9.063 (2.372) [<0.001]	10.527 (2.082) [<0.001]
Observations	1,677	388	1,123	989	1,123
Bandwidth	—	10 km	35.54 km	41.43 km	35.54 km

*Notes:* Discontinuity at the treatment border. The outcome is the share of yes votes in the 1969 referendum. Included controls in the main specification: distance to Germany (border), distance to Metz, distance to Strasbourg, distance to Nancy, and border-segment fixed effects. The first column presents OLS estimate using all municipalities in Lorraine. Specification 4 excludes all German-speaking municipalities, while specification 5 controls for longitude and latitude of municipality centroids, as well as their interaction. Conley standard errors (10 km bandwidth) are reported in parentheses and *p*-values in brackets. Specifications 3 to 5 are estimated using the optimal IK bandwidth.

plot in panel C of Figure 5 suggests that this visible difference corresponds with a clear increase in agreement at the border.

Table 3 then shows OLS together with RD estimates for different bandwidths. All coefficients clearly indicate a stronger regional identity in the treated area. Using OLS, the treatment effect is 13.2 percentage points; with the RD and the shortest 10 km bandwidth, it is 12.6 percentage points. It is illustrative to relate the effect to the average vote share of the whole region. For instance, 12.6 percentage points correspond to almost 20 percent of the average share of yes votes, 59.2 percent, in Lorraine. The estimated treatment effect using the efficient bandwidth is around 10 percentage points, and is statistically significant with a *p*-value below 0.001. Online Appendix Figure G5 shows that the point estimates remain stable and statistically significant across bandwidths from 10 to 50 km.

The similarity between OLS and RD also suggests that the RD local average treatment effect is generally representative for other municipalities further away from the border. Moreover, it suggests that sorting—which is more likely to be an issue directly at the border, because the costs of moving to the neighboring municipality are lower—does not constitute a big problem. The fact that both approaches yield similar results also indicates that the distance of a municipality to the border and its location within the département are not influencing the effect by much. There are no differences in turnout (online Appendix Table G2), suggesting that the discontinuity reflects a difference in the underlying population.<sup>6</sup>

One remaining concern is that the treated area contains German speakers—mostly Alsatian and Moselle Franconian—whereas in the control area there are only French speakers. German speakers might develop a stronger regional identity due to the linguistic divide between them and the rest of France, which may result from exposure to German media or different trading patterns (Egger and Lassmann 2015). We

<sup>6</sup>Figure G3c also shows no comparable pattern of support for de Gaulle in the 1968 presidential election, suggesting that preferences about him as a person cannot fully explain the differences in 1969.

TABLE 4—REGIONAL IDENTITY PROXIES IN THE LONG RUN

Dependent variable:	Share Yes 1992 (1)	Share Yes 2005 (2)	Newspaper sub. (3)	Regionalist parties (4)
Treatment	6.330 (1.448) [<0.001]	6.964 (1.738) [<0.001]	11.124 (1.567) [<0.001]	0.399 (0.200) [0.046]
Observations	1,512	1,045	1,412	1,259
Bandwidth	50.19 km	29.10 km	44.66 km	37.63 km

*Notes:* Discontinuity at the treatment border. The outcomes are the share of yes votes in the 1992 and 2005 referenda, the share of newspaper subscriptions to the Lorrainian newspaper *Le Republicain Lorraine* in 2014, and the vote share for regionalist parties in 2015. Included controls: distance to Germany (border), distance to Metz, distance to Strasbourg, distance to Nancy, and border-segment fixed effects. Estimates from using the optimal IK bandwidth. Conley standard errors with 10 km bandwidth are reported in parentheses and *p*-values in brackets.

trace the historical language border from Harp (1998) and overlay his map with the municipality boundaries using GIS. Figure 5, panel A maps the location of this language border.<sup>7</sup> When excluding all German-speaking municipalities, the estimates in column 4 remain highly statistically significant and similar in size. Furthermore, column 5 shows robustness in controlling for longitude and latitude to ensure that the municipalities compared are geographically close.

### B. Persistence in the Long Run

Table 4 shows the results for four measures of regional identity in the long run, using the same municipal-level RD specification with the efficient bandwidths.<sup>8</sup> Columns 1 and 2 show that support for the 1992 and 2005 referenda, which would have increased regional autonomy, remains significantly higher. In both cases, agreement in the treated area is more than 6 percentage points higher. These differences are statistically significant at the 1 percent level.

The effect on regional newspaper subscriptions also clearly indicates a stronger regional identity in the treated part. Subscription rates are more than 10 percentage points higher, with the difference again being significant at the 1 percent level. For regionalist parties, we find an effect of about 0.4 percentage points, which is significant at the 5 percent level. This seems low at first, but has to be set in regard to the overall low vote share of openly regionalist parties. This was, on average, about 2.4 percent in treated Lorraine and 1.2 percent in the untreated parts. The effect thus reflects an increase of more than 30 percent. Together, all four results indicate that in the long run, more than half a century after the treatment period ended, there is still a persistently stronger regional identity in the treated part of Lorraine. Section G.3 in the online Appendix shows the corresponding maps and RD plots.

<sup>7</sup>The border was formed in the eighth century and barely moved until the nineteenth century. Callender (1927, 430) cites the Count Jean de Pange who traces the border back to barbaric invasions and states that “in Lorraine the limits of the languages bear no relation to the topography of the country. They form an irregular fringe [...] these limits, arbitrarily traced by historical accident, have not appreciably altered in fifteen centuries.” Today, linguists describe the use of the German “Alemannic” dialect as steadily declining (Vajta 2013).

<sup>8</sup>Earlier versions show that these results are robust using a large range of bandwidths.

TABLE 5—SURVEY RESULTS: DIFFERENCE IN REGIONAL IDENTITY

Survey question	$\delta$	$p$ -value	Observations
Feel close to region (Regional identity)	0.203	<0.001	1,084
Feel close to nation (National identity)	0.037	0.530	1,082
In favor: transfer policy competence to region (average 10)	0.273	0.003	503
Education policy should be set at the regional level (average 5)	0.183	0.045	483

*Notes:* Differences in survey responses between treated (Moselle) and control (Meurthe-et-Moselle and Meuse) areas. Data allow only assigning respondents to treated or untreated départements. Identity is measured on a four-point Likert-scale. Average  $x$  indicates that the factor is composed of  $x$  underlying survey items. The outcomes have been standardized, meaning that the estimated differences are denoted as standard deviations of the outcomes. Heteroskedasticity-consistent (robust) standard errors.

*Sources:* Observatoire Interrégional du Politique (OIP) 1999, 2001, and 2003. The underlying survey questions are shown in Tables E7, E8, and E9.

### C. Stated Preferences: Survey Evidence on Identity and Policy Preferences

The OIP surveys for 1999 and 2001 include direct questions proxying for the perceived strength of regional and national identity. Data are only available at the département level, but given that the OLS and the RD estimates differ only little, there is no reason to expect the estimates to be strongly biased. We estimate the difference between treated and control area by using

$$(3) \quad y_i = \alpha_0 + \delta \text{Treatment}_i + \gamma_i' \alpha + \eta_i,$$

where  $y_i$  represents questions about regional and national identity. The variable  $\text{Treatment}_i$  is a dummy taking the value 1 if individual  $i$  is in the treated area, 0 otherwise. The estimated difference between the treated and the control areas is captured by  $\delta$ , and  $\gamma_i$  is a vector that contains controls for age, education, employment status, and gender.

According to the first row in Table 5, people in the treated area express a significantly stronger stated regional identity today. In contrast, there is no difference in French national identity.<sup>9</sup> Thus, the fact that national identity does not differ while regional identity is stronger documents that nested group identities (e.g., country-region-city) are not necessarily perfect substitutes for each other.

We also create two comprehensive proxy variables to measure preferences about regional versus national decision-making, each an average of several survey items in the OIP survey. We find that individuals in the treated area favor transferring policy competencies from the national to the regional level. This holds for general policies, as well as for educational policies that are often considered particularly relevant for identity and culture. Hence, a stronger regional identity relative to national identity potentially affects the institutional setup of states.

<sup>9</sup>If living under German rule for 50 years led to a somehow stronger German identity, this should be reflected in a weaker French national identity. Two identities at the same level are usually to some degree substitutes McLaren (2002), especially when they are perceived as oppositional (Fryer Jr. and Torelli 2010).

#### IV. Mechanisms: Regional Organizations

A temporary historical shock can lead to a persistently stronger regional identity if the weights that individuals in the affected area put on attributes that they share with other regional citizens remain different. One important mechanism, which qualitative evidence suggests is relevant in other regions experiencing repression, is that individuals organize collectively in regional organizations like political parties, newspapers, clubs, and associations. This section provides qualitative evidence about the establishment of such organizations and the successes of regional parties during the treatment period.

##### *A. Mechanisms: Regional Organizations during the Treatment Period*

Online Appendix C shows that a large number of regionalist organizations were founded in the treated area. As evident in their mixed German and French names already, most parties and newspapers were addressing citizens in Alsace and in the treated part of Lorraine. Both areas suffered from repression by the central states, making resistance and regional culture useful topics for private and political entrepreneurs. The French and German names highlight that, independent of language, regionalist organizations “were present in the Moselle and like their Alsatian counterparts they demanded autonomy for Alsace-Lorraine [... they were ...] a movement that transcended the traditional divide between left and right” (Zanoun 2009, 62). Online Appendix C shows that many additional organizations were established in Alsace, while there is no comparable development in the control part.

To explain their persistence this way, we need to assume that setting up such organizations once during the treatment period makes it less costly to continue investments in regional identity after it is over. In reality, most regional parties and newspapers were declared illegal or lost ideological and financial support due to alleged or actual relations with Nazi Germany after the treatment period. Hence, it is difficult to trace the origins of current organizations to their historical predecessors and to identify such organizations afterwards. Without direct links, we can also think of the fixed-cost investments during the treatment period as creating the organizational skills and capital that make it easier to organize the transmission of regional identity even without formal organizations. Online Appendix Table C2 indicates that after the treatment period, still more such organizations were established in the treated area. Maintaining and transmitting regional identity as an individual is challenging and costly, so it seems a natural reaction to form organizations to share the costs of a common aim.

##### *B. Regionalist Party Success during the Treatment Period*

To understand the short-term reaction to repressive policies by both the German and later the French nation-states, we can examine the electoral success of regionalist parties during the treatment period as a proxy for regional identity. Parties campaigned for “the protection of Mosellan traditions and identity” and acted as “defenders of the region’s distinctive culture and traditions” (Carrol and Zanoun 2011, 477).

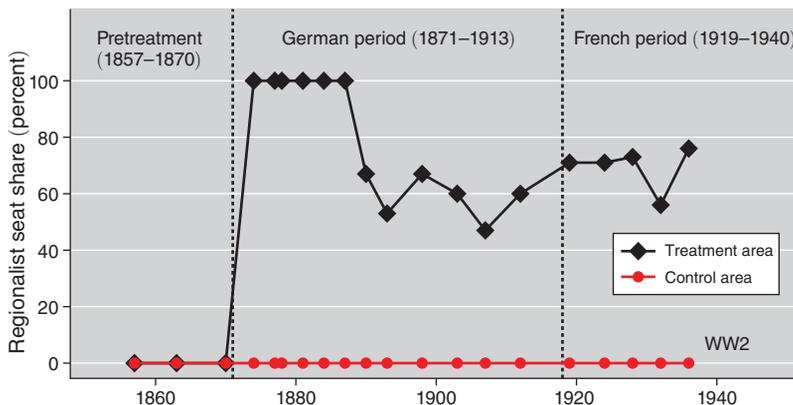


FIGURE 6. SEAT SHARE OF REGIONALIST PARTIES

*Notes:* The figure is based on coding each member of the respective national parliament elected in Moselle (treated) and Meurthe-et-Moselle and Meuse (control) as being regionalist or member of a regionalist party. Regionalists aimed at achieving more autonomy or independence for the region.

*Sources:* Official national government records, academic papers, newspaper articles, as well as biographies of MPs. Online Appendix J lists all sources.

To measure success, we code the vote share of regionalist members of parliament (MPs) out of all MPs that the region elected to the national French or German parliament. During the German period, this can be directly derived from party membership; during the French period, the coding is based on the biography of each individual MP.<sup>10</sup>

Regionalist parties were a new phenomenon in the region when they emerged in the treated part after 1871. There were no MPs from such parties anywhere before the treatment period, and there were none in the untreated parts after the treatment period. By contrast, Figure 6 shows that regionalist MPs constituted about 50 percent of the region's MPs in the German parliament and between 50 percent and 80 percent of the region's MPs in the French parliament before WWII. Given the zero vote share in the control area, there is no need for a more formal analysis. It is also important to recognize that support for the regionalist movement against rejection of French nation-state policies was neither signaling support for Germany nor restricted to German-speakers. Anderson (1972) describes that "the roots of the autonomist movement were indigenous. Camille Dahlet, who came from a francophile family, was the first to make a reputation as an autonomist." Regional party success, a plausible proxy for the strength of regional identity, shows that the short-term reaction during the treatment period to both German and French repression was already a strengthening of regional identity.

<sup>10</sup>The French period stops with the last election before WWII, as no openly regionalist candidates dared to run out of fear of appearing unpatriotic in the years after the war.

## V. Placebo Tests, Alternative Explanations, and Sensitivity

### A. Placebo Tests

One apparent concern with our identification strategy is that the treatment border overlaps with the border between two different départements in France. We will discuss the extent to which this could constitute a problem and then explore several placebo tests.

First, it is important to understand the administrative divisions in France and their related competences. The first-order subnational unit, corresponding to a state in the United States or a *Bundesland* in Germany, is the region. The départements correspond broadly to a US county or a German *Kreis*. Our comparison is between two départements within the same region. Moreover, France is a unitary, highly centralized state. The executive of a département, the *préfet*, is a public servant directly appointed by the central government. The scope of département-level decision-making, specifically, was very limited and only extended slightly in 1982. The outcome in 1969 would not have been affected by this.<sup>11</sup>

This understanding is important for evaluating potential problems associated with the administrative border. The historical data on regionalist parties show that the differences did not exist before the treatment within that region. All empirical tests show that the treatment border cuts exogenously through the region, unrelated to preexisting differences. Finally, we are not only making a comparison within a region, but in our strictest specifications, within one linguistic area.

Nonetheless, even small differences in policies could matter. To assess to what extent unobserved differences might constitute a problem, we begin by examining two placebo borders that should be unrelated to our treatment and outcome. The old département border within Moselle prior to 1870 (Figure 7, panel A) should not exhibit a discontinuity, given our claims that there were no systematic differences within the region before the treatment and that départements had limited political influence. The Maginot Line corresponds to the French defense line (of fortifications, obstacles, etc.) in WWII but does not correspond to repressive policies by national governments or the like. It also cuts through Lorraine (Figure 7, panel C) but does not overlap with the treatment border. When implementing the RD with these placebo borders, we find no discontinuities along either of them, as seen in Figure 7, panels B and D.

A second concern is whether French border départements—even within regions—generally developed a stronger regional identity for reasons other than our treatment. To examine this hypothesis, we conduct a further placebo exercise between all French départements bordering a foreign country and their directly adjacent, more centrally located, neighboring départements (see Figure 8, panel A). Given that we possess the 1969 data only for Lorraine, we use the survey questions from Table 5 instead. Figure 8, panel B shows that border départements do not generally have a stronger regional identity or stronger preferences about decentralizing policies.

<sup>11</sup> Online Appendix B lists the main current responsibilities of each administrative level in the French system.

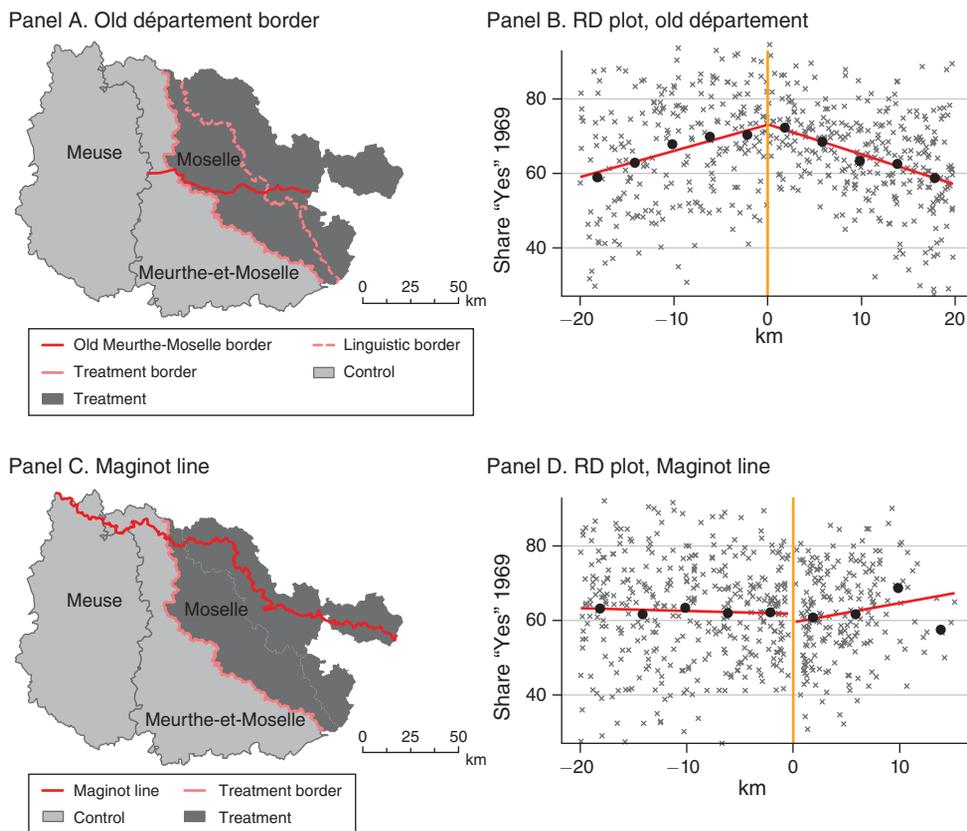


FIGURE 7. PLACEBO TEST—OLD DÉPARTEMENT BORDERS AND MAGINOT LINE

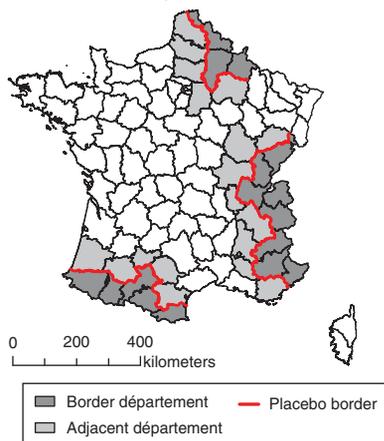
Notes: Panels A and C show placebo borders at the old département border and the Maginot Line, respectively. Panels B and D show RD plots for discontinuities in the 1969 referendum results at the placebo borders. RD estimates are reported in online Appendix Figure G6.

Third, given that we essentially compare three départements, we can ask from a statistical perspective how specific the RD estimates are and what that means for statistical inference. How likely is it that a comparable RD between other départements yields, by chance, an estimate that is of similar size and meaning as ours? To assess this, we implemented the following randomization inference exercise. We created a dataset with all random département pairs that share a border (see Figure 8, panel C). We randomly assigned all municipalities in one département to be the treated group, and those in the neighboring département to be the control group.

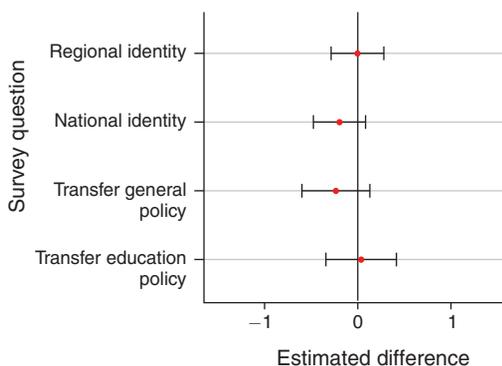
After having computed the distance from municipalities to the respective border, we computed a placebo RD estimate for each possible neighbor-département pair in France outside of Alsace and Lorraine. As an outcome, we selected the average share of yes votes in the 1992 and 2005 referenda, and we combine the  $t$ -statistics from estimates using 10 km bandwidth and the optimal IK bandwidth.<sup>12</sup> We possess

<sup>12</sup> Figure G9 shows the results when we use only the optimal IK bandwidth for the combination of the 1992 and the 2005 share of yes votes and when we combine the separate estimates that use 10 km and IK bandwidth for the

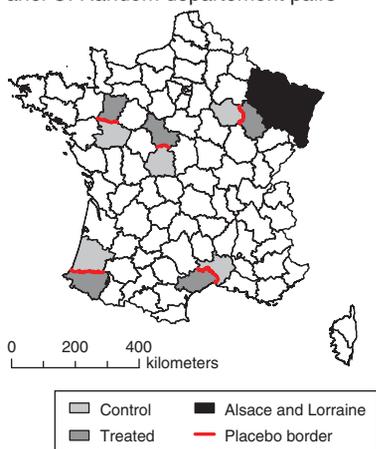
Panel A. Border départements



Panel B. Survey results



Panel C. Random département pairs



Panel D. Placebo *t*-statistics

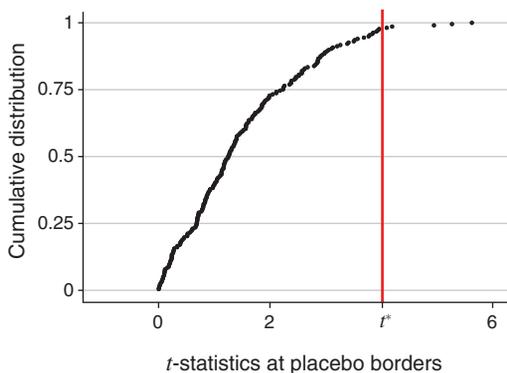


FIGURE 8. PLACEBO TESTS—BORDER DÉPARTEMENTS AND RANDOMIZATION INFERENCE

*Notes:* Panel A highlights départements with a land border and their adjacent neighbors, excluding Alsace and Lorraine. Panel B shows estimated coefficients of the difference in survey responses, as described in subsection IIIC between the border départements and their adjacent neighbors (95 percent confidence intervals based on heteroskedasticity-consistent standard errors). Panel C shows French département and regional borders, as well as five placebo département-pair examples. We use comparisons across and within regions, while our actual natural experiment is within a historically homogeneous region. Panel D shows the empirical cumulative distribution of placebo estimates against the *t*-statistic of the actual treatment effect (in red, denoted  $t^*$ ). All placebo regressions use from the same local linear regression, with Conley standard errors (10 km bandwidth).

the data on the 1969 referendum and the regional newspaper subscriptions only for Lorraine, and regional parties did not run in all départements. As the last step, we compiled and plotted the cumulative empirical distribution of the *t*-statistics of the placebo estimates against the *t*-statistic of our actual treatment effect in Figure 8, panel D. We find that our treatment effect *t*-statistic is larger than 97.7 percent

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1992 and the 2005 outcomes.

of the placebo estimates, corresponding to a randomization inference  $p$ -value of 0.023. Thus, it is unlikely that the discontinuity in regional identity at the treatment border is due simply to a comparison across an arbitrary département border.

### B. *Alternative Explanations*

Moreover, we tested for the relevance of alternative explanations by testing for discontinuities in other variables at the actual treatment border. The idea is that those variables should exhibit a discontinuity if alternative explanations would have a major influence on regional identity.

For instance, the treatment of the Catholic church during the treatment period differed between Germany and France prior to WWI. This initial difference might have led to a persistently different presence of the church, which in turn could have resulted in cultural differences. Moreover, differences in policies or migration could have affected the socioeconomic composition of populations, which can influence voting behavior, elections, and newspaper subscriptions. This also holds for certain rights of the treated part to deviate from rules imposed by the central state, the so-called Local Laws.<sup>13</sup> Finally, if public good provision would be relatively better in the treated part, this could explain a stronger preference for lower-level decision-making and potentially a stronger regional identity.

Table 6 shows that there are no significant differences in any of the indicators that we consider to reflect these alternative explanations. This is not driven by the choice of indicators. Figure G10 in the online Appendix further supports the absence of systematic differences using a larger set of 34 variables. Hence, as with any historical natural experiment, differences other than the ones we highlight as our treatment certainly exist. However, even with extensive tests there is no indication that any of those alternative mechanisms has a decisive influence on our outcome, regional identity.

### C. *Miscellaneous: Germanization, Trade, WWII, Religion, including Alsace*

This section outlines additional results, which we describe in more detail in Online Appendix D. Online Appendix Section G.2 shows the robustness of our preferred RD specification to plausible alternative specifications. Migration in and out of the treated part happened at two distinct points in time: when Germany annexed the area and when France took it back. Using data from a digitized version of the French census for each decade between 1916 and 1946 allows us to compute net changes in population at the treatment border. Online Appendix Figure G4 shows that employing these changes as additional control variables does not affect our result.

<sup>13</sup>Some differences exist with regard to a small number of welfare policies (including payments to sick employees), personal bankruptcy law, and registration of voluntary associations. Still, their importance diminished over time. Glenn (1974, 722) stated that, already by the 1970s, “local doctrine is generally of declining importance. There are few, if any, local jurists remaining.” One reason is that French courts refused to make any reference to German jurisprudence and interpret local laws according to French standards and principles.

TABLE 6—ALTERNATIVE EXPLANATIONS

Dependent variable:	Unmarried parents (1)	Single parents (2)	Number of churches (3)	Catholic church (4)
<i>Panel A. Religiocultural variables</i>				
Treatment	1.145 (1.384) [0.408]	-0.389 (0.750) [0.604]	-0.025 (0.080) [0.759]	-0.062 (0.039) [0.116]
Observations	1,479	1,734	233	205
Bandwidth	48.40 km	65.77 km	5.68 km	4.90 km
Dependent variable:	Median income (1)	Mean age (2)	Education (3)	Occupation (4)
<i>Panel B. Socioeconomic variables</i>				
Treatment	0.914 (1.011) [0.366]	-0.309 (0.424) [0.466]	0.004 (0.004) [0.311]	-0.009 (0.014) [0.537]
Observations	719	1,433	1,397	1,000
Bandwidth	25.13 km	45.91 km	43.83 km	27.55 km
Dependent variable:	Healthcare (1)	Post offices (2)	Schools (3)	Athletic centers (4)
<i>Panel C. Public good provision</i>				
Treatment	0.033 (0.096) [0.730]	0.079 (0.064) [0.216]	0.318 (0.217) [0.144]	0.056 (0.058) [0.332]
Observations	1,738	1,283	1,370	1,584
Bandwidth	65.67 km	38.44 km	42.55 km	53.96 km

*Notes:* Discontinuities at the treatment border. Included controls: distance to Germany (border), distance to Metz, distance to Strasbourg, distance to Nancy, and border segment fixed effects. *Healthcare* includes psychiatric establishments, service houses, and healthcare centers. *Schools* includes elementary and high schools. All public goods variables are denoted in number of facilities. Estimates from using the optimal IK bandwidth. Conley standard errors with 10 km bandwidth are reported in parentheses and *p*-values in brackets. Table E6 provides all details and sources, and Table E3 presents descriptive statistics.

More conceptually, we further examined the unsuccessful attempts to “Germanize” the individuals in the treated area. A stronger German identity could lead to a weaker French national identity, which could correlate with a relatively stronger regional identity, and bias our results. To examine this, we used Twitter tweets made during the 2014 World Cup that signal support for either the French or German national team. We found no difference at the border that would signal differences in the strength of either national identity. This supports our survey evidence, which also shows no differences in stated national French identity.

The historical literature is also unambiguous about the fact that the German occupation did not make people in the treated area feel more German. Goodfellow (1993, 469) describes how German repression “further alienated Alsations from pro-German movements and concomitantly with German cultural identity.” People in the German-speaking areas, “despite their attachment to Germanic dialects [...] were sincere in their desire to remain French” (Anderson 1972, 23). Callender (432) describes “only an extremely small amount of pro-German sentiment in Alsace and Lorraine” and contemporary witnesses state that “the anti-German sentiment of the population is today stronger than ever” (Carrol 2010, 60).

Moreover, autonomism was not an “expression of an attachment to Germany and a rejection of France” (Carrol and Zanoun 2011, 479). Henri-Dominique Collin, a leader of the Parti Lorrain Independent, declared that “we assert ourselves as Lorrainers [...] and oppose Germany” (Carrol and Zanoun 2011, 470). “Mosellans began to feel anxious at the central state’s assimilation process” only after experiencing French central-state repression. Assessing the situation some years later, “regional identity resulted from a strong resentment toward [both] Germany and France” (Zanoun 2009, 41). French identity returned to comparable levels after assimilation stopped, but regional identity remains relatively higher. This is the decisive aspect when it comes to preferences about where to allocate political decision-making powers.

We also explain that differences in the benefits from trade might matter for départements as a whole, but should not differ between neighboring municipalities just across the treatment border. The same holds, as we discuss, for the impact of WWII and of religious differences. Finally, online Appendix H shows that results do not change much in terms of magnitude and significance when including Alsace, which is reassuring as far as the validity and relevance of our prior results are concerned.

## VI. External Validity

The Alsace-Lorraine natural experiment might be unique in the causal identification it allows, but there are many examples of regions that experienced tensions with the central nation-state related to nation-building policies in general, or when regions changed national affiliations after wars. In Europe, examples of forceful integration into nation-states range from regions like Catalonia or the Basque country in Spain to Corsica in France. The Polish regions of Silesia and Kashubia originally featured a strong influence from German culture, which the central government tried to eliminate after WWII. Scania in Sweden was once Danish, and is known to feature a distinct regional identity today. More violent examples of homogenization policies and repressive policies today are found in Chechnya in Russia, in the Kashmir region in India, or in Tibet and in the Xinjiang region in China. Selected sources can be found in online Appendix K.

There are other cases where initially homogeneous regions were split between different nation-states. The Kurdish region, for instance, was split between Armenia, Iran, Iraq, Syria, and Turkey; the Austrian region of Tyrol was split into Austrian Tyrol and Italian South Tyrol; and the Basque region was split between France and Spain. In both Tyrol and the Basque country, the parts that arguably experienced more tensions with the central state—in Italy and Spain, respectively—feature stronger regionalist parties that reflect a stronger regional identity.

Table 7 illustrates the possibilities for identification, as well as the external validity of our case, by classifying those cases broadly in categories. Catalonia, in Spain, is a good example of a region that experienced repression as part of its integration into a nation-state—in particular, during the Franco era. It is true that, to some degree, every nation consisting of heterogeneous regions had to implement policies that fostered assimilation, which might have contained a repressive component.

TABLE 7—INTERNAL AND EXTERNAL VALIDITY

Case example:	Catalonia	South Tyrole	Alsace-Lorraine
Treatment consists of:			
Suppression of group identity during state integration	Yes	Yes	Yes
Change in national affiliation	No	Once	Twice
Mechanism	Increased investment in regional identity, establishment of regionalist organizations like parties, newspapers, etc.		
Result	Strong(er) regional identity, preference for regional decision-making		
Causality: counterfactual in same region	No	Yes	Yes
Causality: counterfactual in same country	Yes	No	Yes

*Notes:* Authors' own classification of other cases of regions' negative exposure to central states and their policies and the supposed effect on regional identity.

Still, there is a conceptual difference between this and cases of ongoing, severe repression. South Tyrol is one prime example of the second category of cases: areas that experienced repression related to a change in national affiliation that divided a region in two parts, usually following a war. The case of Alsace-Lorraine can be thought of as combining both categories to some extent.

Obviously, each case differs, and repression experienced while already being a member of a state can differ compared to that when being occupied and annexed after a war. Still, similar mechanisms seem to be at work in most of these cases. We often observe that citizens react to repression by forming regionalist organizations and privately investing in their regional identity as a response to repression. The Kurdish parties DBP and PKK act as important means to maintain Kurdish identity and interests in Turkey. In South Tyrol, citizens developed a regionalist organization of secret schools, which taught regional language and culture to children. In Catalonia, historians document that citizens formed bands, wrote songs, and organized concerts to maintain Catalan culture. In the Basque country, expositions of regional art were organized as reactions to repression during the Franco era. Thus, we interpret our natural experiment as providing causal evidence of an effect and of mechanisms that were relevant throughout history, and remain relevant until today.

## VII. Concluding Remarks

This paper uses a unique natural experiment in the French regions of Alsace and Lorraine. The experiment induces quasi-exogenous variation in negative exposure to the actions of nation-states associated with war, nation-building, repression, and the (re-)integration of a region into a larger nation-state. The setting allows us to measure the reactions of citizens in an initially homogeneous region in the short term, during the treatment period, and also in the mid- and long term. To the best of our knowledge, this is the first causal evidence of the effect of forceful integration, and the repressive nation-building policies often associated with it, on the identity of the suppressed group in their home region. Groups that constitute

a minority in their larger nation-state but a majority in selected regions constitute a common phenomenon. Understanding their reactions is not only relevant for regions like the Kurdish parts of Turkey, Iran, and Iraq; the Uighur in the Xinjiang region in China; Chechnya, in Russia; and the Kashmir region of India; but also for minority regions in established democracies like the Basque country and Catalonia in Spain; Corsica, in France; or the Russian minorities in the Baltic countries.

Our results show that regional identity, measured using revealed and stated preferences, is consistently stronger in the treated part of the regions after the repressive period is over. This is in line with the evidence by Fouka (2020) on the negative effect of repressive policies on German immigrants in the United States. We define group identity as determined not only by actual differences in preferences, but by the weight put on attributes that an individual shares with the rest of the group. This definition helps to explain why there are strong existing group identities even though actual heterogeneity in measurable preferences is larger within than between groups (Desmet, Ortuño-Ortín, and Wacziarg 2017). It aligns with the results in Depetris-Chauvin, Durante, and Campante (2020) that certain events, which have a largely symbolic character but are experienced as a group, can be sufficient to strengthen identities.

The results are in contrast to the finding in Fouka (2019) that immigrants as a minority group in a foreign country react by assimilating more during a repressive period. Instead, people in their home region seem to start expressing a stronger regional identity already during the treatment period. We provide evidence that regional citizens react to repression with conscious investments in regional identity in the form of establishing regional organizations like newspapers and parties. In the case of Alsace-Lorraine, this happened both as a reaction to repressive German policies and, later, as a reaction to repressive French policies.

What can we learn from these results and what are their implications for policies and future research? First, we show that a stronger regional identity has important policy implications for the set-up of heterogeneous states (Alesina and Spolaore 1997; Alesina, Spolaore, and Wacziarg 2000) and the study of secessionism (Esteban et al. 2018; Gehring and Schneider 2020). We argue that we can think of a common group identity as corresponding to the *perceived* preference heterogeneity in models about the optimal size of nations. Treated individuals in Lorraine with a relatively stronger regional identity prefer more regional decision-making. This documents that preferences about the setup of states, which play an important role for instance in public and institutional economics, are endogenous to history and context. Group identity also matters, for instance, regarding favoritism in budget allocations according to regional (Gehring and Schneider 2018) or ethnic (Hodler and Raschky 2014) background.

Second, it seems important for economists to consider in more depth to what degree identities constitute substitutes and are perceived as aligned or oppositional. Our study demonstrates that people with a stronger regional identity do not necessarily possess a weaker national identity. The results suggest that it should be possible to build up a joint identity, embracing existing groups without necessarily replacing existing lower-level identities. This would, however, require the central state not to impose policies that are in clear opposition with the identities of subnational groups,

or to find an institutional setup that allows for sufficient regional autonomy. France, in that regard, managed to establish a sufficiently strong national identity in the treated area after it gave up on its repressive policies.

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