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Abstract

The quasi-exogenous division of the French regions Alsace and Lorraine after the Franco-Prussian War allows us to provide evidence about group identity formation within historically homogeneous regions. We use several measures of stated and revealed preferences at the municipal-level in a geographical regression discontinuity design. More nation-state repression is associated with a strengthening of regional identity in the short, medium, and long run. We explain this in a model and document that the establishment of regionalist organizations is a key mechanism to strengthen identity. A relatively stronger regional compared to national identity is associated with preferences for more regional decision-making.

JEL-Codes: D910, H700, N400, Z190.

Keywords: group identity, nation-building, repression, assimilation, regional identity, border regions, Alsace-Lorraine.

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1 Introduction

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 on average greater 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). Among others, arbitrarily determined national borders led to strong ethnic and weak national identities in Africa, often associated with conflict, violent struggles for autonomy, and inferior development (e.g., Michalopoulos and Papaioannou, 2014, 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, in particular in the form of repressive policies, can help to explain differences in the strength of regional identities.

When countries moved towards 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, Reich, and Giuliano, 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 size for a short time period, 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, in contrast, can compare different approaches across regions in history, but face the difficulty that those regions usually also differ in many other dimensions. Hence, existing causal studies focus either on individual events and relatively short-term results (Depetris-Chauvin, Durante, and Campante, 2019), or study immigrant groups living in different parts of a host country that were exposed to more or less repressive policies (Fouka, 2019, 2018), with mixed results.

We exploit a unique historical natural experiment to estimate the causal effect of being more negatively exposed to 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 up between France and Germany after the Franco-Prussian war in 1870/71. The part that became German and then returned to France after WWI was clearly exposed to more repressive policies of both the German and French nation-state for more than half a century. Using a variety of outcomes on both stated and revealed preferences, we find that the repressed part developed a stronger regional identity that still persists until today. In contrast to the evidence on immigrants in a foreign host country (Fouka, 2019), we provide evidence that this stronger identity already started to form in the short run during the repressive treatment period.

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. Afterwards, it became French again and remains so until today. During the German period and until the 1950s under French rule, both nation-states enacted policies, which we document in detail,

that suppressed regional identity. This resembles the two circumstances in history when nation-building is a crucial policy measure. First, when countries move towards the model of a more centralized nation-state. Second, when countries acquire, by force or by negotiation, new territories that need to be integrated into the existing nation-state. Nation-building can be either benevolent or repressive. Benevolent policies include improving connectedness and public good provision, as well as the market integration of regions. In contrast, repressive policies range from language restrictions, to restrictions of personal or political freedoms, up to a forceful reeducation of problematic citizens. The advantage of our setting is that the treated part clearly suffered from more repressive policies by both nation-states in comparison to the counterfactual part that always 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 driven by pride and decided upon centrally in Versailles, and ignored local circumstances and prior administrative or historical borders. We focus on the region of Lorraine, where the border does not overlap with the historical linguistic divide between French and German-speakers. This enables us to implement a geographical regression discontinuity design at the municipal-level. We show that there are no discontinuities in both geographic, as well as in a wide range of socioeconomic pre-treatment measures at the border. Moreover, we use the Cahiers de Doléances from 1789, a survey-like investigation by the French king Louis XVI, as a pre-treatment measure of identity that suggests no differences prior to the division. This setting thus allows us to compare regional identity in a treated and control area that: (i.) belong to the same historically homogeneous regions, (ii.) were split in an exogenous way, (iii.) clearly differ in exposure to repressive policies, (iv.) belong to the same French region today, and (v.) allow us to gather outcome variables at the fine-grained municipal level.

Our main results document a stronger regional identity in the treated part, using agreement in a referendum about higher regional autonomy in 1969, about 15 years after the treatment period ended. The result stays virtually identical when focusing solely on French-speaking areas in Lorraine. There is also no heterogeneity in the treatment effect at the linguistic dialect border, and a placebo test at the pre-1870 département border shows no statistically significant difference. We then show that this difference persists in the long run. There is higher agreement in two referenda in 1992 and 2005, which were also related to more regional autonomy. We also use subscription rates to a regional newspaper and the success of regionalist parties as alternative outcomes, which both indicate a stronger regional identity in the treated area.

While those measures of revealed preferences as proxies for identity have the advantage of eliciting preferences in a setting that involves real choices and trade-offs, each of the measures might also be related to aspects other than regional identity. Still, the consistent results across all those revealed preference measures indicate that the treated area really 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 also find a stronger stated regional identity, while there are no significant differences in national identity.

To understand the mechanisms, we propose a simple theoretical model to show how 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 then provide evidence that citizens in the treated part did set up such regional organizations like parties, associations or newspapers during the period where nation-states suppressed regional identity. Suggestive evidence that such organizations are still established more often complements the previous results of persistently higher regional newspaper subscriptions and regional party success.

We also explore alternative mechanisms that could plausibly explain the persistent differences. For instance, the differential exposure of the two parts to historical events during the treatment period and during the two world wars could have affected the socioeconomic composition of the population. However, we find no consistent differences for a wide variety of socioeconomic measures. Moreover, we also find no significant differences in population changes that would reflect a differential effect of immigration or war casualties at the border. Finally, although both parts again belong to the same French region today, at a lower administrative level they constitute separate départements. This could affect public good provision, which in turn could affect identity. However, we again find no consistent significant differences. This does not rule out that unobservable differences exist and contribute to some degree to identity differences, but they do not seem to be a major mechanism.

In the next step, we examine alternative explanations both qualitatively and quantitatively. First, we are interested in whether the strengthening of regional identity was a result of only the German or only the following French repressive policies, or related to the additional change in national affiliation of the treated part. It is possible that repressive policies by a foreign nation-state after an annexation trigger 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 precisely 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 already during the German occupation, but also 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 both during the German and French repressive policies compared to the control part.

Furthermore, we run a large range of additional specifications, conduct placebo tests and examine further alternative explanations. Our results remain very similar using a wide range of RD specifications and different bandwidths. To test whether our results can be partly explained by the fact that regional identity is generally higher in border départements, a placebo test shows that there are no systematic differences in identity or policy preferences for the other border départements in France. To augment the survey results that a weaker French national identity – or stronger German identity – does not explain the stronger regional identity, we use Twitter Tweets about the German and French national soccer team at the 2014 World Cup. They also indicate no difference in either national identity. Finally, all results hold when including the southern area of Alsace in the analysis.

Our research adds and relates to different strands of literature. First, the literature about the

optimal size-of-nations (Alesina and Spolaore, 1997; Bolton, Roland, and Spolaore, 1996), fiscal federalism and the related literature on secessionism (Collier and Hoeffler, 2006; Esteban, Flamand, Morelli, and Rohner, 2018). Preferences about membership in a larger union are usually modeled as driven by economic factors (e.g., Gehring and Schneider, 2019) and cultural differences, which are labeled preference heterogeneity in Alesina and Spolaore (1997). We can think of our results, the strength of regional relative to national identity, as the perceived heterogeneity in preferences within a nation. Our survey results highlight the economic and political relevance of this concept. People in the treated area have a more positive perception and feel better informed about regional politics, and want to transfer decision-making in a wide range of areas from the national to the regional level.

Second, it adds to the literature on identity economics (e.g, Akerlof and Kranton, 2000; Fouka, Mazumder, and Tabellini, 2017; Lowes, Nunn, Robinson, and Weigel, 2017) and on the persistence and transmission of culture, identities and values (e.g, Bisin and Verdier, 2010; Giuliano and Nunn, 2016; Mazumder, 2018; Voigtländer and Voth, 2012 and Tabellini, 2008). 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 and Breuilly, 2008; Rozenas and Zhukov, 2019; Tajfel, 2010). We also contribute to an emerging literature on policies that affect identities (e.g., Alesina et al., 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, Mohnen, Rasul, and Viarengo, 2018; Cantoni and Yuchtman, 2013). Carvalho and Koyama (2016) model how an education system that marginalizes a certain identity can cause cultural resistance. Our model explains how this resistance can lead to investments to maintain 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, Boeckh, Hainz, and Woessmann, 2015; Guiso, Sapienza, and Zingales, 2016; Nunn, 2008; Voigtländer and Voth, 2012). Compared to many other papers, we can document the change in identity during the treatment period, in the mid range, as well as in the long run about half a century later.

Unlike the German immigrants in Fouka (2018, 2019), we find that Lorrainian citizens in the repressed part react by investing in regional identity already during the treatment period, and express a stronger regional identity both during and after the repressive policies. Our results thus shift our prior about the impact of repressive policies and highlight the need to study complex phenomena like identity formation in more detail based on various cases in different contexts. Moreover, we find that investments in regional organizations seem to act as a crucial mechanism.

Our paper is structured as follows. Section 2 explains the historical background and describes the treatment. Section 3 discusses the data, identification strategy and exogeneity of the border, and section 4 presents the main results. Section 5 discusses our model and evaluates potential mechanisms. Section 6 evaluates the robustness of the results, and section 7 concludes.

2 Historical background and treatment definition

2.1 History of Alsace-Lorraine: Division, borders and homogenization policies

To put our natural experiment into perspective, it is helpful to briefly discuss some important aspects of the history of Alsace and Lorraine. Both regions have been autonomous political entities as far back as the 7th 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 1870/71, the whole regions of Alsace and Lorraine had been French for more than a century and were exposed to a comparable degree to the nation-building policies of Napoleon and other French leaders.

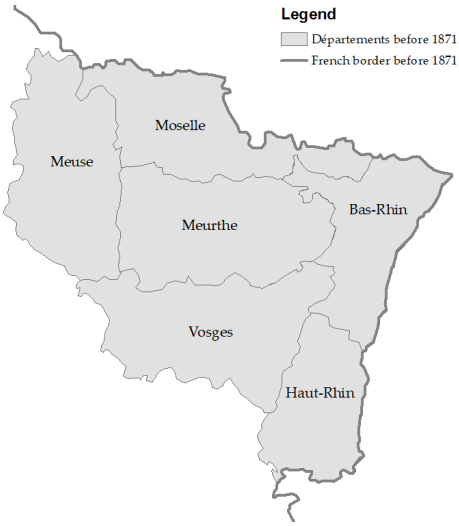
The peace treaty ending the Franco-Prussian War – July 19, 1870 to May 10, 1871 – then stipulated that large parts of Alsace and the eastern part of Lorraine were ceded to the newly created German nation-state. The German side in the negotiation was divided into to camps with opposing goals regarding 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 anti-war conservative party, Adolphe Thiers. Obviously, 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). In contrast, historians suggest that the military faction led by von Moltke had always planned to conquer as much territory as possible, and keep it to weaken the arch-enemy in subsequent conflicts (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.[1] For instance, Bismarck who considered retaining French-speaking parts of Lorraine altogether as a "folly of the first order" intended to "save Metz for France" (Wawro, 2005 p. 206). Von Moltke, however, considered having conquered Metz as 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 so that the German part contained Metz and its surroundings. Thiers was able to keep larger parts in the south in exchange for offering the German military to conduct a victory parade through the "Champs Élysées" boulevard in Paris, which they proudly accepted.

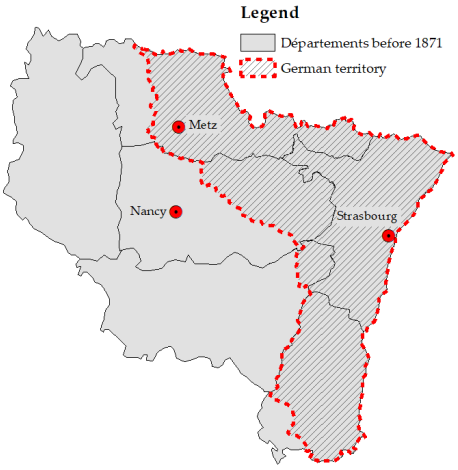
The final result was a compromise in which, at least partly, "Bismarck, [...], quite uncharacteristically wilted under the pressure" (Wawro, 2005 p.305). The treatment border was decided upon in

[1] There is one important exception where explicit strategic considerations mattered, regarding the fortresses of Belfort. This affects a small area south of Alsace, which we exclude from our empirical analysis.

Figure 1: Maps of Alsace and Lorraine before, during and after the treatment period

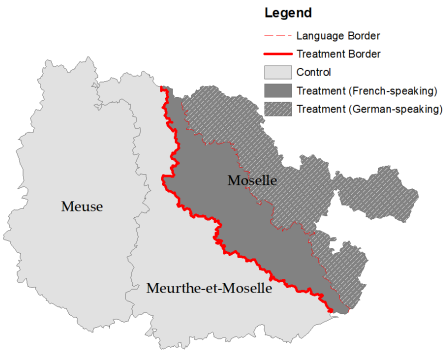


(a) Alsace and Lorraine: Fully integrated into France in 1870



(b) Alsace and Lorraine (1871-1918): Treatment border does not follow old département borders

(c) Alsace and Lorraine (1918 - present): Treatment border partly follows language border in Alsace



(d) Focus on Lorraine: Treatment border does not follow language border

Notes: Moselle is the treated area while Meuse and Meurthe-et-Moselle compose the control parts of Lorraine. The language border in Figures (c) and (d) marks the historical language border between French and German.

the central negotiation process without considering specific local circumstances. It does not follow (i.) the existing département borders (Figure 1a and Figure 1b), or (ii.) any older historical border (Figure A41 - Figure A44).[2] Moreover, (iii.) it only follows the historical language border between French- and German-speakers in the southern part of Alsace (Figure 1c). Our main specification focuses on the division within Lorraine in the North, where it never overlaps with the language border (see Figure 1d). To augment the historical evidence, we will test for discontinuities in geographical factors, and socioeconomic pre-treatment measures, as well as for differences in a measure of identity prior to the treatment.

[2] Tables and figures denoted with an "A" are shown in the Online Appendix.

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, our focus, 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 kept this administrative delineation of départements until today.[3] Thus, the treated part corresponds to the current département *Moselle*, the control part to *Meurte-et-Moselle* and *Meuse*.

2.2 Description of treatment: Repression by both nation-states

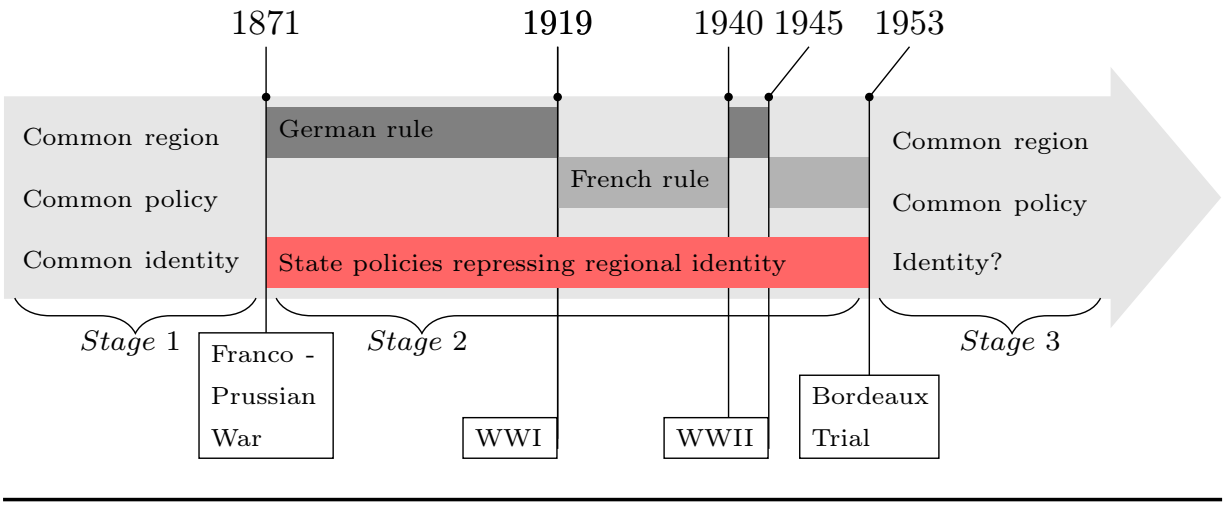
As Figure 2 illustrates, the whole region thus shares a common history, until exposure to repression by nation-states starts to diverge after 1871. There are four main differences. First, the treated part changes national affiliation from French to German, and then back to French again. Second, it is exposed to more repressive nation-building policies during German rule. Third, it is again exposed to more repressive policies during the reintegration attempts by the French nation-state (Anderson, 1972; Harvey, 1999). Fourth, during WWII, the whole region was occupied, but the treated part again to some degree suffered more from the actions of nation-states. This is associated with the Bordeaux Trial in 1953, where Alsace-Lorrainian soldiers who were forced to fight for the German side were convicted. The trials reactivated the tensions with the French central state, and constitutes the last large event we attribute to French repression and the treatment period.[4] These tensions calmed down thanks to a declared general amnesty and relaxations of policies in other areas. Since then, both parts are again part of the same French administrative region and there is no obvious difference in nation-state repression any more.

Throughout history, nation-building policies were often aimed at regions that had changed their national affiliation after a war. Both the French and German national government recognized the crucial importance of nation-building. By design, our natural experiment does not allow us to disentangle the individual contribution of each aspect to differences in outcomes. This would be worrying for the interpretation of the effect if investments in regional identity and differences in its strength would be caused solely by the changing national affiliation or by the reaction to repressive policies by a foreign nation-state. To address this concern about the interpretation of our results, we document a consistent reaction to repressive nation-building policies after annexation by Germany, and to the repressive policies after returning back to France. Thus, the medium and long term results of our natural experiment can be understood as documenting the effect of both exposure of a region to repressive nation-building policies as part of the integration into a foreign state after annexation, as well as of exposure to more repressive policies by its "own" (French) nation-state. The crucial

[3] As a potential source of confusion, the treated parts in Alsace and Lorraine are referred to as "Alsace-Lorraine" in Germany and "Alsace-Moselle" in France.

[4] Fouka and Voth (2016) show how current events can reactivate historical exposure to war in Greece. Ochsner and Roesel (2017) suggests that war memorials and statues also function as a technology to transmit a common history.

Figure 2: Timeline of events treated vs. control areas



differences between treated and control part are the more repressive nation-building policies.

Historians emphasize the effect of these repressive policies on the formation of a stronger regional identity, both during the 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, socio-regional 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 at replacing regional institutions and administration. Table A1 provides a comprehensive list of both German and French policies until the early 1950s.

There are many examples of political restrictions under German rule. They include that, due to doubts about the loyalty of the newly acquired citizens, the treated area did not gain the same rights than other German regions; instead it was governed as an imperial territory under the direct authority of emperor Wilhelm I. (Carrol and Zanoun, 2011). As part of the "Kulturkampf" (culture war), regional education was restricted and tightly controlled (Silverman, 1966). Restrictions on the press were kept in place until 1898. Moreover, the government kept the French dictatorship paragraph of 1849 in force, which allowed house searches, the expulsion of agitators, and the prohibition of political organizations (Carrol, 2010). Strasbourg University was reopened as "Kaiser-Wilhelm-Universität", with the aim to replace regional culture (Höpel, 2012).

The French policies to realign preferences and values in the "lost provinces" (Carrol and Zanoun, 2011, p.469) 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 for all government related affairs, and, until the early 1950s, from schools. A special commission was formed to ascertain the "Frenchness" of the population in the re-annexed area (Carrol and Zanoun, 2011). Depending on the classification, traveling was restricted; a sizable share of citizens of German origin was even forced to

Table 1: Overview of policy categories and examples

Policy category	Example
Language policies	1920: French becomes the only language taught in school (Grasser, 1998).
Media	1927/28: Banning of three autonomist journals, the "Volksstimme", the "Zukunft" and the "Wahrheit" (Goodfellow, 1993).
Social, political, military freedom, equality	1927/28: 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 list of policies in Appendix B.

leave. 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 consequently replaced bureaucrats and local teachers with external personnel who were not familiar with the local circumstances and traditions. Historians describe how these policies further strengthened regional identity (Harvey, 1999).

3 Data, measures, and identification strategy

3.1 Data

France is divided into 22 regions, which consist of 96 départements. These are further divided into 323 arrondisements and 1,995 cantons, but those two sub-units are of lesser importance and do not possess the status of a legal entity. The municipalities, of which there are 3,320 in Alsace and Lorraine, comprise the lowest unit. For our main analysis, we focus on this municipality level, using geographic information system (GIS) shapefiles from *www.data.gouv.fr*. 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* (CDSP). In addition, we use the *Observatoire Interrégional du Politique* survey, carried out in 1995, 1999, 2001 and 2003, the only French survey that offers a sufficiently large number of observations at the département level. Appendix G provides all sources and descriptive statistics.

Our aim is to measure a causal effect in the medium and long run, using measures of revealed and stated preferences. We augment this with descriptive and correlational evidence on the short-term reaction during the treatment period. Stated preferences about identity in a survey have the

advantage that we can use direct questions asking people about the strength of their respective identities. However, those answers are free of costs, and might thus exaggerate existing differences or yield biased estimates. A measure of revealed preferences is ideally a costly decision, where we can observe a representative sample of the population, who face a decision that signals the strength of regional identity. The agreement in an important referendum about regionalization in France in 1969 as our main measure of regional identity fulfills these criteria. To estimate the persistence of potential differences, we then also use two additional referenda, regional newspaper subscriptions, and regionalist party success, as well as a survey question about stated regional identity. Each of those 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, urbanization, and be able to borrow money on their own. Furthermore, they would become independent contractual parties, be able to set up public organizations, and be part of an adapted second chamber representing the territorial collectivities. De Gaulle campaigned for decision-making closer to the citizens and that the regions' cultural importance should be reflected politically. In the end, 52.4 percent of French voters rejected the proposal, and De Gaulle resigned immediately afterwards. We gathered newspapers from April 1969 in the département archives that printed results at the municipal-level, which we then transcribe and match to the current municipalities.

Persistence: Referendum on Maastricht Treaty, 1992, and referendum on Constitution for Europe, 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, p.528). The *Constitution for Europe*, voted upon in a second (unsuccessful) French referendum in 2005, would also have decisively increased the scope of regional decision-making. 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". 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 is 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, p.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, p.2). The moderate regionalist Alsatian party "Le parti Alsacien", for instance, campaigns on its website for an "independent Alsace in a federal European Union".

Persistence: Regional newspaper subscriptions and regionalist parties

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 Republicain 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 part in Alsace and Lorraine ran on a joint list.

3.2 Identification strategy

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

$$y_c = \alpha + \beta Treatment_c + p(\text{distance to border}_c) + \boldsymbol{z}_c'\boldsymbol{\gamma} + \epsilon_c, \tag{1}$$

where y_c is the outcome variable of interest for municipality c, $Treatment_c$ is a dummy variable taking the value 1 for municipalities in the treated area, and 0 otherwise. $p(.)$ allows for different functional forms of the running variable, which measures the direct distance from the municipality centroid to the former national border. Vector $\boldsymbol{z}_c$ comprises the distances to the city of Metz, city of Strasbourg, city of Nancy, and the current French-German border. As suggested by Gelman and Imbens (2017), our main specification estimates a local linear regression model with a linear term for the distance, allowing its coefficient to vary on either side of the border.[5] We use uniform kernel density function, and compute results for a range of plausible bandwidths consisting of a minimum of just 10 kilometers, the efficient Imbens-Kalyanaraman (IK) bandwidth, and the maximum of 50 kilometers.[6] Conley standard errors with a radius of 10 km account for spatial spillovers to neighboring municipalities. Table A17 shows that the main results are robust to clustering at larger levels such as the canton or département level.

As a comparison, we show OLS specifications, which use the same control variables, but do not condition on distance as a running variable. Comparing OLS to RD results is informative for two

[5] Dell (2010) discusses that a semi-parametric approach is superior when the geospatial data is not precise in terms of geographical location. In our case, we do not have data on individuals; rather our outcome variables measure the municipality level aggregate of individual decisions.

[6] As we use the municipality centroid to compute the distance to the border, using smaller bandwidths than 10km results in dropping some municipality polygons even though they directly touch the border.

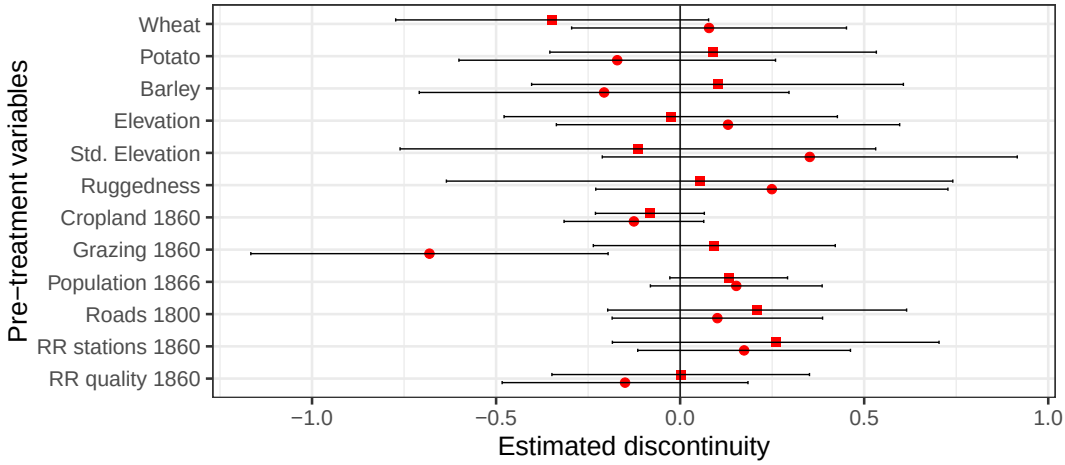
reasons. First, we can assess to what degree potential sorting directly at the border is a problem. Second, we can assess the external validity of the estimated local average treatment effect from the RD, and see whether the municipalities that we compare at the border are representative of municipalities in the region in general.

3.3 Pre-treatment differences and discontinuities

The section on the history of the region explained that the treatment border within Lorraine does not follow (i.) the existing département borders, (ii.) any older historical border (iii.) 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 also able to collect a wide-range of socioeconomic indicators for 19th century France on land usage, population, road lengths, and railways. Discontinuities in either dimensions would indicate that the division was influenced by aspects that could also be related to pre-existing identity differences.

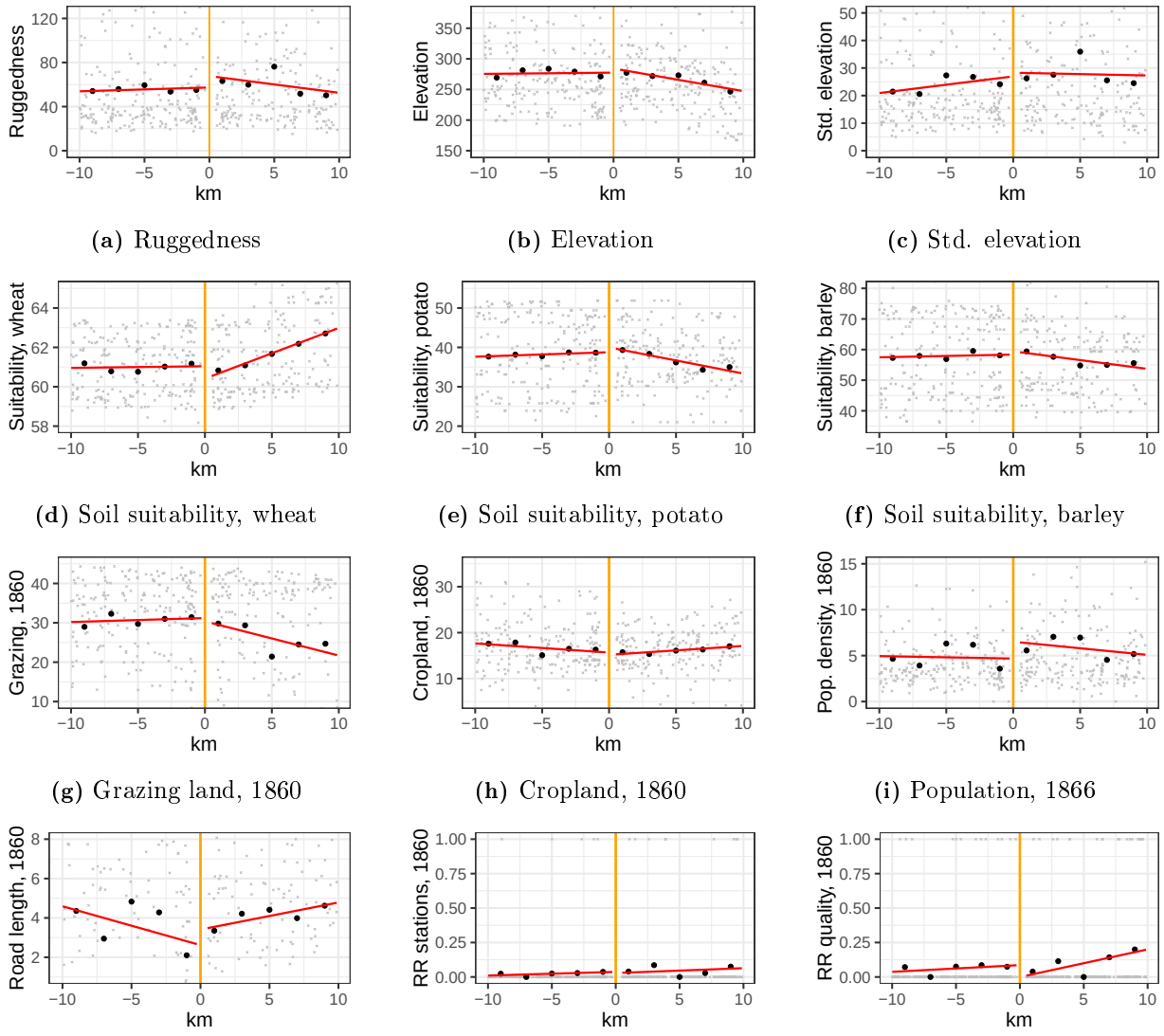
Figure 4 displays the RD plots for 12 measures. The plots show no systematic discontinuities at the treatment border using a linear polynomial. Figure 3 shows the corresponding coefficients using the specification in equation (1) for all 12 outcomes. There is no significant discontinuity in any of them. This supports the extensive historical literature about the border decision being taken centrally in Versailles, largely without considering local circumstances and strategic considerations.

Figure 3: Pre-treatment discontinuities



Notes: Coefficient plot for pre-treatment variables. Each coefficient is the estimated discontinuity at the former border within Lorraine, using a 10 km bandwidth (squares) and the optimal bandwidth (circles). Horizontal bars represent 95 percent confidence intervals, based on Conley standard errors with 10 km bandwidth. RR stand for railroad. Table A10 provides all details and sources, as well the studies that collected the historical socioeconomic measures.

Figure 4: Discontinuities of pre-treatment variables using municipalities within Lorraine



(a) Ruggedness (b) Elevation (c) Std. elevation

(d) Soil suitability, wheat (e) Soil suitability, potato (f) Soil suitability, barley

(g) Grazing land, 1860 (h) Cropland, 1860 (i) Population, 1866

(j) Total road length, 18th century (k) Railroad stations, 1860 (l) Railroad quality, 1860

Notes: Regression discontinuity plots for a number of geographic and socioeconomic pre-treatment measures. The black dots are bins that pool together municipalities within a similar range, the dots in light gray represent individual municipalities. Table A10 provides all details and sources, as well as the citations of the studies that collected the historical socioeconomic measures.

To the extent that these other pre-treatment measures proxy for potential pre-treatment differences in identity, the prior results indicate that the division was indeed arbitrary and not correlated with observable differences. In addition, to get a 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 compared to national identity. The Cahiers are originally text data, collected by the king's bureaucrats, which the French historian Hyslop mapped to a numerical scale between 1 and 3. In Lorraine it was collected for between 4 and 8 units per département Hyslop (1968). Figure 5 shows the geographic locations. Following Johnson (2015), we exclude the *first estate*, clergy, which was more driven by religious policy. We include the *second estate*, nobility, the *third estate*, other citizens, as well as the category *unified orders*. If assessments for more than one estate are available, we take the arithmetic average. Table 2 shows that the average response is the same in the treated and control départements in Lorraine.

	Mean	Std. dev.	Obs.
Lorraine (average)	2.000	0.601	19
Moselle (treated)	2.000	0.816	7
Meurthe-et-Moselle	2.000	0.598	8
Meuse	2.000	0.000	4

Table 2: Pre-treatment regional identity in Cahiers de doléances

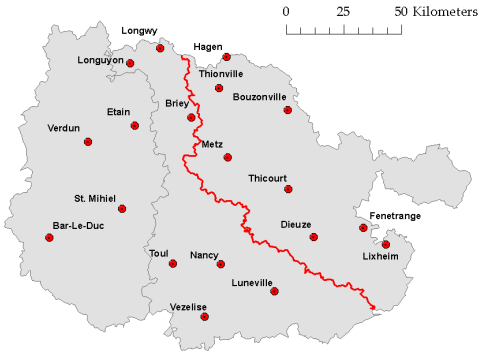


Figure 5: Location of Cahier units

Notes: Regional relative to national identity in 1789 based on Cahiers de doléances for three départements in Lorraine: Meuse (left), Meurte-et-Moselle (middle) and Moselle (right). 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".

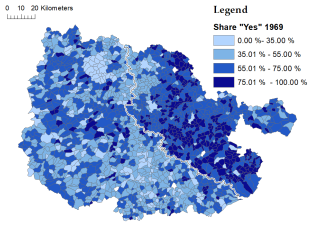
4 Results

4.1 Main outcome – Regional identity in the medium run in 1969 referendum

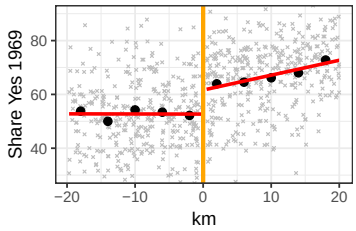
Figure 6a provides a map of the referendum results at the municipal level from 1969, with darker values indicating higher agreement to the referendum that would strengthen regional decision-making powers. The map clearly indicates higher agreement, measured as the share of yes votes out of all valid votes, in the treated area on the right hand side. The RD plot in Figure 6b suggests that this visible difference on the map goes along with a clear jump in agreement at the border.

Figure 6: Maps and RD plots for 1969 referendum on more regional autonomy

Panel A: Regional identity at the treatment border

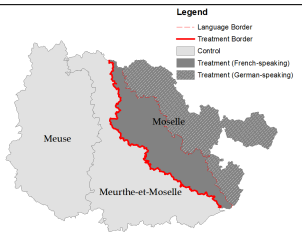


(a) At the treatment border

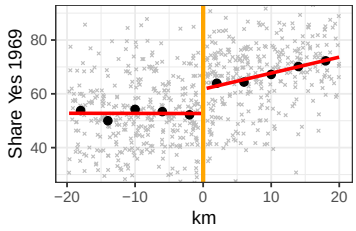


(b) Share Yes 1969

Panel B: Excluding German-speaking areas

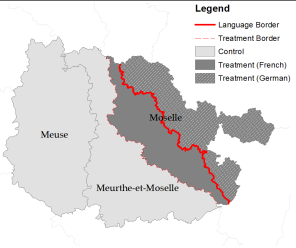


(c) At the treatment border

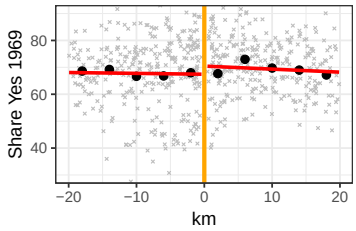


(d) Share Yes 1969

Panel C: Treatment Heterogeneity - Language border French vs. German

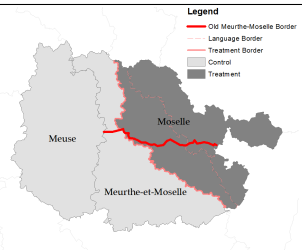


(e) At the language border

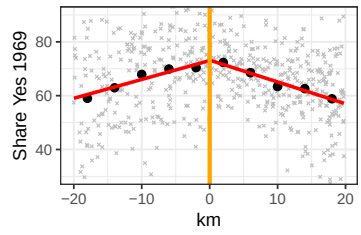


(f) Share Yes 1969

Panel D: Placebo: Old département border



(g) At pre-1870 département border



(h) Share Yes 1969

Notes: Figure (a): map visualizing Share of Yes votes in referendum about more regional autonomy in 1969 within region of Lorraine; Figure (b): RD plot at treatment border; Figure (c): map with treatment border and language border; Figure (d): RD plot at treatment border excluding German-speaking areas; Figure (e): map with language border; Figure (f): RD plot at language border; Figure (g): map with placebo border separating the pre-1871 départements of Moselle and Meurthe; Figure (h): RD plot at placebo 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 yes-vote share of 59.2 in Lorraine. The coefficient using the efficient bandwidth is around 10 percentage points, and also statistically significant with a p-value below 0.01. Figure 7 shows that the point estimates remain stable in size and always highly significant across bandwidths ranging between 10 and 50 km.

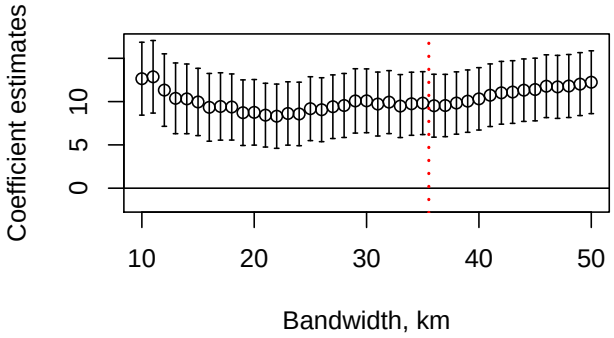
Table 3: RD and OLS results 1969 referendum

	RD				OLS
	(1)	(2)	(3)	(4)[a]	(5)
Treatment	12.645	9.959	8.761	9.813	13.210
	(2.558)	(2.362)	(2.302)	(2.203)	(1.476)
	[<0.001]	[<0.001]	[<0.001]	[<0.001]	[<0.001]
Obs.	388	563	712	1123	1677
Bandwidth	10 km	15 km	20 km	35.54 km	-

Notes: Discontinuity at the treatment border using municipalities in Lorraine. The outcome is the share of Yes votes in the 1969 referendum. Included controls: distance to Germany (border), distance to Metz, distance to Strasbourg, distance to Nancy, and border segment fixed effects. Last column presents OLS estimate using all municipalities in within Lorraine. Conley standard errors (10 km bandwidth) are displayed in parentheses and p-values in brackets.
[a] Estimated using the optimal IK bandwidth.

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 is not affecting the effect by much. This also indicates that the département-level stated preferences survey results following later not to be biased by much.

Figure 7: Regression coefficients with varying bandwidths for 1969 referendum



Notes: Estimates of treatment effect, bandwidths ranging between 10 and 50 km, specification as in equation (1). Dashed vertical line at optimal IK bandwidth. Solid vertical lines represent 90 percent confidence intervals based on Conley standard errors with 10 km bandwidth.

Moreover, there are no differences in turnout as Table A22 shows. Figure A4c 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. Section 6 shows that the effect is robust to choosing plausible other specifications that are common in the literature.

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, due to German media exposure, or different trading patterns (Egger and Lassmann, 2015). We trace back the historical language border from Harp (1998), and overlay his map with the municipality boundaries using GIS. Figure 6c maps the location of this language border.[7] To address a potential correlation between dialect and regional identity, we then exclude all German-speaking municipalities. The estimates in Table 4, panel A remain highly significant and similar in size to the ones in Table 3.

We know that citizens in the treated area suffered both from repressive policies by the German and the French central government. It seems plausible that French-speakers were more harshly affected by German policies, and German-speakers more harshly by the French policies (especially regarding language use). Thus, it is an interesting empirical question whether this led to a difference in the strengthening of regional identity, or whether both suffered to a similar degree from the combined German and French policies. Note that based on our coding of repressive policies, most repressive policies by both nation-states targeted and repressed both French- and German-speakers in the treated part. Figure 6, panel C visualizes how we use the language border to test for treatment heterogeneity within the treated part at the language border. The RD plot in Figure 6f suggests no obvious discontinuity at the border, and the corresponding estimates in Table 4, panel B are small and statistically insignificant.

To reinforce the causal interpretation of the discontinuity in regional identity at the treatment border, we also conduct a placebo test using the pre-1870 border distinguishing départements before the division. If there were strong pre-existing differences in identity within the region, for instance because prior département policies affected identity, we would expect to still see differences in identity at this border today. In contrast, if, as we argue, the whole region was integrated into France to a similar degree, we would not expect such differences. The RD plots in Figure 6, panel D, as well as the regression results in Table 4, panel C show no consistent differences. In one specification, there is a significant discontinuity, but the effect switches signs as we increase the bandwidth.

Our main results thus reveal a significantly stronger regional identity in the treated part of Lorraine that was more negatively affected by the repressive policies and wars of the nation-states France and Germany. As the treatment period with clearly more repressive policies ended in the

[7] The border was formed in the 8th century and barely moved until the 19th century. Callender (1927, p.430) cites the Count Jean de Pange who traces the border back to barbaric invasions and stated 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, and mostly being used by older generations (Vajta, 2013).

Table 4: RD results for 1969 referendum: Language differences and placebo border

	Panel A: Only French-speaking municipalities			
	(1)	(2)	(3)	(4)
Treatment	12.903	9.678	8.850	9.063
	(2.590)	(2.409)	(2.354)	(2.372)
	[<0.001]	[<0.001]	[<0.001]	[<0.001]
Obs.	380	534	655	989
Bandwidth	10 km	15 km	20 km	41.43 km
	Panel B: Language Border, French-German language border			
	(1)	(2)	(3)	(4)
Treatment	-1.529	0.454	1.274	0.483
	(2.236)	(2.102)	(2.087)	(2.116)
	[0.495]	[0.829]	[0.542]	[0.820]
Obs.	341	469	576	460
Bandwidth	10 km	15 km	20 km	14.52 km
	Panel C: Placebo Border, pre-1870 département border			
	(1)	(2)	(3)	(4)
Treatment	2.640	0.602	-0.267	-5.552
	(2.564)	(2.466)	(2.623)	(2.442)
	[0.304]	[0.807]	[0.919]	[0.023]
Obs.	260	389	538	1173
Bandwidth	10 km	15 km	20 km	43.11 km

Notes: RD estimates at treatment border, excluding German-speaking municipalities (panel A), at French-German language border (panel B), and at Placebo border between pre-1870 départements Moselle and Meurthe (panel C). Outcome is the share of Yes votes in the 1969 referendum. Column 4 shows estimates from using the optimal IK bandwidth. Included controls: distance to Germany (border), distance to Metz, distance to Strasbourg, distance to Nancy, and border segment fixed effects. Conley standard errors with 10 km bandwidth are displayed in parentheses and p-values in brackets.

early 1950s, this can be described as the reaction in the medium run. In the next three subsections, we show results from the two referenda in 1992 and 2005, regional newspaper subscriptions in 2014, and regionalist parties in 2015, to measure the long-term effect. Moreover, we use several waves of a large-scale survey, which allows us to draw a comparison with stated identity measures.

4.2 Persistence in the long run

Table 5 shows the results for four measures of regional identity in the long run, using the same municipal-level RD specification with the efficient bandwidth. Column 1 and 2 show that support for the 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 is also clearly indicating 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 sight, but has to be set in regard to the overall low vote share of openly regionalist parties. This was on average about 2.1 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 also in the long run, more than half a century after the treatment period ended, there still is a persistently stronger regional identity in the treated part of Lorraine. For robustness, subsections H.2-H.4 in the Online Appendix show the results using the 10 km bandwidth, and additional details like the corresponding maps and RD plots. Moreover, subsections I.3-I.4 show that when including the southern region Alsace and the département Vosges in the comparison, these results are if anything slightly stronger.

Table 5: RD results 1992 and 2005 referenda, newspaper subscriptions, and regionalist parties

Dep. variable:	Yes 1992	Yes 2005	Newspaper sub.	Regionalist parties
	(1)	(2)	(3)	(4)
Treatment	6.330	6.964	11.124	0.399
	(1.448)	(1.738)	(1.567)	(0.200)
	[<0.001]	[<0.001]	[<0.001]	[0.046]
Obs.	1512	1045	1412	1259
Bandwidth	50.19 km	29.10 km	44.66 km	37.63 km

Notes: Discontinuity at the treatment border using municipalities in Lorraine, with first-degree polynomial that is allowed to vary on each side of the border. The outcomes are the share of Yes votes in the 1992 and 2005 referenda, share of newspaper subscription for the Lorrainian newspaper "Le Republicain Lorraine" in 2014, and 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 displayed in parentheses and p-values in brackets.

4.3 Stated preferences: Survey evidence on identity

The *Observatoire Interrégional du Politique* (OIP) surveys include direct questions proxying for the perceived strength of regional and national identity. As the geographic identifier of the survey is the département level, we are in essence comparing the conditional mean of individuals in treated Moselle, with those in the control group composed of Meurte-et-Moselle and Meuse. This allows us to estimate a causal effect under the conditional independence assumption. We need to assume that conditional on observables people were quasi-randomly allocated to a location in the treatment or control group, as we cannot control for distance to the border. Note that controlling for distances does not strongly change our results in the RD specifications, and OLS and RD results were very similar. So even without controlling for the location of participants, we do not expect β to be strongly biased.

The estimate of the difference between treated and control area, β, comes from the equation

$$y_i = \alpha_0 + \gamma_i'\alpha + \beta Treatment_i + \eta_i, \tag{2}$$

where y_i are questions about regional and national identity, $Treatment_i = \mathbf{1}[\text{individual } i \text{ in treated area}]$, and γ_i is a vector that contains controls for age, education, employment status, and gender.

According to the first row in Table 6, people in the treated area express a significantly stronger stated regional identity today. In contrast, there is no difference in French national identity. We also compute the ratio of regional relative to national identity, and standardize this variable to ease

interpretation. This relative measure of regional identity is 14 percent of a standard deviation higher in the treated part. Thus, the fact that national identity does not differ while regional identity is stronger documents that nested group identities are not necessarily substitutes.

The absence of a difference in national identity helps to rule out one plausible alternative interpretation of what constitutes the treatment in our natural experiment. If German nation-building and the experience of living under German rule for 50 years led to a somehow stronger German identity, this could partly explain that regional relative to national French identity became stronger. The existing literature, however, indicates that 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). A stronger German identity should thus be reflected in a weaker French national identity. The fact that there is no significant difference in French national identity – with the point estimate also being very small in magnitude – indicates that Germany was not successful in turning Alsatians and Lorrainians into Germans. It is also in line with the qualitative historical accounts, which describe the development of a stronger regional instead of a German identity.

Table 6: Survey results (département level)

Survey question	Mean, control	β	P-value	No. obs.
Feel close to region (Regional identity)	3.362	0.154	<0.001	1314
Feel close to nation (National identity)	3.635	0.028	0.409	1313
Regional identity/National identity (standardized)	-0.138	0.138	0.011	1311

Notes: Sources are the Observatoire Interrégional du Politique (OIP) 1999, 2001, and 2003, using respondents in the three départements in Lorraine. Data allows only assigning respondents to treated or untreated départements. Identity is measured on a 4-point Likert-scale. Table A35 shows similar results for all of Alsace and Lorraine. A positive β indicates that people in the treated region agree more with the statement. Heteroscedasticity-consistent (robust) standard errors.

4.4 Survey evidence: Policy implications

A relatively stronger regional identity is not related to differences in general policy preferences, but to differences in preferences about the allocation of political decision-making. In contrast to studies assessing the long-term effect of, for instance, exposure to the rule of law (Lowes et al., 2017), differences in regional identity should not result in strong differences in general preferences like rule-following behavior or risk aversion. Models on the optimal size of nations (e.g., Alesina and Spolaore, 1997) suggest however, that besides economic concerns (Boix, Codenotti, and Resta, 2011), heterogeneity in preferences between a region and the rest of the country influences preferences about more autonomy. We can think of the relative strength of regional identity as the perceived preference heterogeneity, and can then use the OIP surveys to measure the consequences of a larger perceived heterogeneity.

In line with the models, Table 7 provides clear evidence that the stronger identity in the treated part of Lorraine also moves policy preferences towards a higher appreciation for regional decision-making. People in the treated area have a more positive perception of regional democratic processes (second row), feel better informed about regional policies (third row). In line with our interpretation

that subjects in the treated part perceive themselves as less aligned with the rest of the country, they are also less concerned that more regional autonomy would increase inequality between regions (last row).

Table 7: Survey results: policy preferences (département level)

Survey question	Mean, control	β	P-value	No. obs.
Democracy works well in France	2.536	-0.023	0.616	1316
Democracy works well within region	2.630	0.111	0.008	1290
Well informed about regional policies	2.704	0.089	0.021	1308
In favor: transfer policy competence to region (avg. 10)	3.031	0.092	0.005	605
In favor: allow more autonomy at reg. level (avg. 5)	2.134	0.108	0.025	1315
Educ. policy should be set at reg. level (avg. 5)	2.855	0.112	0.024	574
Concerned reg. admin. would increase interreg. inequality	3.208	-0.172	0.037	574

Notes: Sources are the Observatoire Interrégional du Politique (OIP) 1999, 2001, and 2003, using respondents in Alsace and Lorraine, on département level. The Online Appendix shows similar results for within-Lorraine only. A positive β indicates that people in the treated area agree more with the statement. Avg. "x" indicates that the factor is composed of "x" underlying survey items. The underlying survey questions are shown in Table A12.

Moreover, we create three comprehensive proxy variables to measure preferences about regional versus national decision-making. To make sure differences are not caused by different interpretations of any one particular question, each proxy is the average of several survey items in the OIP survey. We find that the average individual in the treated area generally favors transferring policy competencies from the national to the regional level in a large range of areas. More, they are also in favor of a higher regional autonomy. Finally, subjects in the treated area express clearly more favorable views towards setting educational policy and standards at the regional level. Hence, even without obvious differences in economic outcomes, a stronger regional identity relative to national identity matters as it affects political preferences and thus potentially the institutional set-up of states.

5 Mechanisms

The first part of this section sketches our formal model to illustrate through which mechanisms a temporary historical shock can lead to persistent differences in regional identity, but not necessarily in national identity. It highlights investments by regional citizens in regional organizations like parties, newspapers, and associations as a key mechanism to maintain and strengthen regional identity. Appendix A presents the full formal model. The second part of the section shows evidence that citizens indeed invested in such organizations during the treatment period, both as a reaction to the German and the French policies suppressing regional identity. The third part uses the success of regionalist parties in general elections as a proxy for short-term changes in regional identity during the treatment period. The last part shows that we find no significant evidence for other potential mechanisms like socioeconomic changes or public good provision.

5.1 A simple model of investments in identity and persistence

We have two main requirements for a formal definition of a common group identity. First, building on the results about policy preferences, it should be possible to relate it to the preference heterogeneity between a region and the rest of the country in optimal-size-of-nation models (Alesina and Spolaore, 1997). Second, unlike in most existing models (e.g., Bisin, Patacchini, Verdier, and Zenou, 2011), each person needs to be able to possess multiple nested identities. Regional identity is nested in the higher order national identity, and both can, but do not have to be substitutes. Moreover, it needs to align with Desmet et al. (2017) who show that actual within-group variation in values and preferences is usually larger than between-group variation. Accordingly, the fact that strong group identities – e.g., regional or ethnic – nevertheless exist is only feasible when recognizing that it is the perception of heterogeneity that matters to determine group identity.

To mirror these requirements, we adapt a definition by Shayo (2009). Every individual is a member of two groups: region and nation. We define the common identity of an individual i with regard to a group $j \in \{R, N\} = \boldsymbol{J}$, with R and N corresponding to *Region* and *Nation*, as 1 minus the perceived distance to a representative group member:

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

The p_k^i represent the preferences (or traditions, values and norms) of individual i regarding an attribute indexed k in contrast to those of the representative group member, p_j^i. K is the set of all attributes. We assume p_k to be fixed so that the exposure to different historical events changes is captured by the weights ω_k assigned to an attribute. A higher weight ω_k indicates that a potential difference between the individual and the group regarding an attribute k has a larger influence on the perceived common identity.

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, clothing or music taste. 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 she has in common with the rest, group identity is strong. If one puts all weight on factors that distinguish the individual from the group, group identity is weak.

Regional agents – parents and regional citizens – as well as the central government can influence the strength of regional and national identity through investments in identity (cf. Cantoni and Yuchtman, 2013, and Cantoni, Chen, Yang, Yuchtman, and Zhang, 2017). The nation-state chooses exogenously how much to invest in regional and national identity through public schooling (similar to Bisin et al., 2011). Regional agents respond to the choice of the central state, and select the best combination of their own regional and national identity investments. An investment in national or regional identity increases the weight individuals put on an attribute, e.g., a tradition, value, or

common history, that they share with others from the region or nation.

Regional agents combine Beckerian altruism about the future economic well-being of children with a paternalistic value assigned to their kids sharing their regional regional identity (cf. Doepke and Zilibotti, 2017; Bénabou and Tirole, 2011). Having a stronger regional identity can have several advantages. Psychologically, it can help individuals to feel socially compatible with fellow group members and give them a sense of belonging. Economically, there are costs associated with a weak regional identity. A lack of social compatibility with fellow regional citizens can lower employment opportunities and business opportunities. Of course, the same holds for national identity. If someone does not know how to comply with national traditions, it is more difficult to find a job in the centrally controlled public administration and to trade with other regions in the same country.

We make two key assumptions. First, that regional actors invest in "technologies" to transmit regional identity in the form of history, culture or traditions. This is plausible as we know, for instance, that immigrants in foreign countries engage in efforts like organizing festivities and setting up associations to teach their children the culture of their home country. Second, we assume that these investments have a fixed cost component, which has to be paid only once. In other words, one generation can set up an organization or learn how to privately teach a regional tradition, and the next generation inherits this ability.[8] It is plausible that setting up an organization has a fixed cost component, and that it is easier to teach a regional tradition that one actively practiced during one's childhood. For instance, once a regionalist party has been founded, future generations can benefit from the existing structure of the party. This does not need to be a physical structure, we can also think of the organizational ability that regional citizens build up. It is similar to the idea in Jha and Wilkinson (2012), where a group of people acquire the skills to organize as a group, which they maintain in a different setting.

The model then unfolds in three stages, resembling the historical events in Figure 2. In ***Stage 1*** (until 1870/71), both areas are exposed to the same public schooling policy by the nation-state. Because they belong to homogeneous regions, there is no reason to expect differences in regional agents' decisions on how much to invest in the transmission of regional or national traditions and norms to future generations. Regional and national identity are the same in treated and control area.

In ***Stage 2*** (1871 until ∼1953), people in the treated part are exposed to repressive policies, exemplified by a public schooling policy that represses regional culture or at least teaches it less than in the counterfactual untreated part. If their utility from regional identity is high enough, regional agents invest in strengthening it. If schools no longer teach children a regional tradition like a song or dance, parents choose whether to invest in the ability to teach their children themselves. Alternatively, regional agents can cooperate to set up regionalist organizations like a regional party, association, or newspaper, which foster regional culture. As we cannot observe private investments, we emphasize this second aspect of regionalist organizations as the main mechanism in the model.

Finally, in ***Stage 3*** (after ∼1953), the temporary shock is over and public schooling returns to

[8] For simplicity, these costs are modeled as a one-time fixed cost, but the model could be extended to include variable costs. This could be the time spent on teaching children a regional tradition or supporting regionalist organizations.

teaching regional and national culture at similar levels in both areas. Nonetheless, the optimal level of investing in regional identity transmission remains higher in the treated area if regional agents chose to invest the fixed costs in Stage 2. In contrast, national identity converges back to the same level in the treated and non-treated part once tensions with the nation-state are over, as long as regional agents did not have an incentive to invest in the ability to transmit national identity.[9]

The model thus reflects that policies converge after the treatment period has ended with regard to the teaching of regional and national traditions. Public schooling policy was slowly adapted after WWII and once again permitted the teaching of regional culture and dialect since the 1950s. Today, the treated area uses the same school curricula as the rest of France.[10] It can account for the fact that we see persistent increases in one identity, regional, but no weakening of the over-arching national identity. The next part examines whether the historical evidence for the establishment of regionalist organizations during the treatment period corresponds to our model.

5.2 Mechanisms: Regionalist organizations during the treatment period

Table 8 provides a list of all regionalist organizations in the treated area for which we were able to verify their establishment during the treatment period. Remember that the repressive German period was between 1870 and 1918, and the French repressive period roughly between 1918 and the early 1950s. The table contains all organizations that are either founded in Moselle or were relevant for both Moselle and the treated parts of Alsace. We distinguish between parties, newspapers, and other organizations like associations that represented the region or regional interests.

The table documents that this type of investment was indeed a crucial feature of the movements to maintain regional identity. Most parties and newspapers were addressing both Alsace and the treated part of Lorraine – as visible in their names – which was plausible as both were suffering the same fate. We also observe that there are parties with both French and German names, highlighting that, independent of the spoken dialect Lorrainians and Alsatians suffered from repressive policies. As Appendix D shows, many additional such organizations were established in Alsace, while there is no comparable development in the control part.

This reaction thus corresponds to the key mechanism in our model. It seems generally to be a common reaction of repressed groups under similar circumstances. Maintaining and transmitting regional identity as an individual is challenging and costly, so it seems a natural reaction to form groups to share the costs of a common aim. Still today, for instance, the Kurdish parties DBP and PKK act as important means to maintain Kurdish identity and interests in Turkey. In Turkey, the national government did forbid the PKK in an attempt to curb the Kurdish autonomy movement, and similarly the German and French national government declared several newspapers and parties as illegal during their repressive periods.

To explain persistence, our model assumes that setting up such organizations once during the

[9] Note that the equilibrium level of national and regional identity in both areas depends on the objective functions of the parents and other regional agents, as well as the cost of transmitting traditions. There can be functional forms and costs, for which it is optimal to give up regional identity.

[10] One exception is religion. Appendix F discusses this in more detail.

Table 8: Establishment of regionalist organizations during German and French repressive periods

Name	Founded in	Area	Category
Elsass-Lothringen Partei (also "Les Protestaires")	1874	Alsace and Moselle	Party
Les Autonomistes	1877	Alsace and Moselle	Party
Elsass-Lothringische Landespartei	1903	Alsace and Moselle	Party
Elsass-Lothringisches Zentrum	1906	Alsace and Moselle	Party
Parti Lorrain Indépendant (also "Groupe Lorrain")	1907	Moselle	Party
Liga zur Verteidigung Elsass-Lothringens	1914	Alsace and Moselle	Other org.
Parti Communiste Français	1918	Alsace and Moselle	Party
Union Républicaine Lorraine*	1919	Moselle	Party
Die Zukunft	1925	Alsace and Moselle	Newspaper
Die Volksstimme	1925	Alsace and Moselle	Newspaper
Christlich-Soziale Partei	1926	Moselle	Party
Elsass-Lothringischer Heimatbund	1926	Alsace and Moselle	Other org.
Elsass-Lothringische Einheitsfront	1926	Alsace and Moselle	Other org.
Unabhängige Landespartei für Elsass-Lothringen	1927	Alsace and Moselle	Party
Elsass-Lothringisch-Autonomistische Partei (ELAP)	1927	Alsace and Moselle	Party
Elsass-Lothringische Fortschrittspartei	1929	Alsace and Moselle	Party
Kommunistische Partei-Opposition (KP-O)	1929	Alsace and Moselle	Party
Die Elsass-Lothringer Zeitung	1929	Alsace and Moselle	Newspaper
Républicains du centre (DRC)	1932	Alsace and Moselle	Party
Elsass-Lothringer Partei	1936	Alsace and Moselle	Party
Indépendants d'action populaire (IAP)	1936	Alsace and Moselle	Party
Elsass-Lothringische Arbeiter und Bauernpartei (ELABP)	1939	Alsace and Moselle	Party

Notes: We define the treatment period with repressive nation-state policies as ranging from 1871 - 1953. Individual sources for this and following tables are specified in Appendix D.
* Although the party contained a regionalist wing from its founding, it was not until 1926 that the party officially adopted an autonomist program.

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 back the origins of current organizations to their historical predecessors and identify such organizations afterwards. Beyond that direct link, we can also think of the fixed-cost investments during the treatment period as creating the organizational skills and capital that makes it generally easier to organize the transmission of regional identity even without formal organizations. Also more suggestive in nature, Table 9 indicates that after the treatment period still more such organizations are founded in the treated area.

Table 9: The Establishment of Regionalist Organizations after WWII

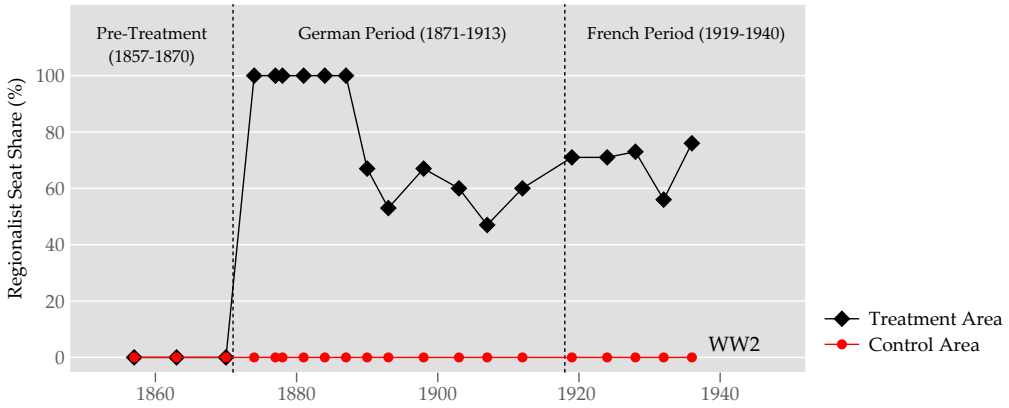
Area	Moselle / Alsace and Moselle	Meuse and Meurthe-et-Moselle
Category	Treated	Untreated
Party	3	0
Newspaper	6	4
Other org.	11	4

Notes: Descriptive and not adjusted for population size. Individual sources are specified in Appendix D.

5.3 Regionalist party success during the treatment period

To understand the short-term reaction to the repressive policies by both the German and later the French nation-state, we can examine the electoral success of regionalist parties during the treatment period as a proxy for regional identity. To do that, 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.[11]

Figure 8: Seat share of regionalist parties, pre-treatment and during repression periods (by election year)



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. Appendix D lists all sources.

Regionalist parties were a new phenomenon in the region when they emerged in the treated part after 1870. There were no MPs from such parties anywhere before the treatment period, and there continued to be none in the untreated parts. In contrast, Figure 8 shows that regionalist MPs constituted at least about 50 percent of the region's MPs in the German parliament, and also later between 50 percent and 80 percent in the French parliament until WWII. Given the zero vote share in the treated are, there is no need for a more formal regression analysis. 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.

5.4 Other potential mechanisms

We also examine alternative mechanisms that could help to explain the emergence and formation of a stronger regional identity. For instance, the differential exposure of the two parts to historical events during the treatment period, but also during the two world wars, could have affected

[11] The French period stops with the last election before WWII as no openly regionalist candidates dared to run out of fear to appear unpatriotic in the first years after the war.

the socioeconomic composition of the population. Socioeconomic differences could help to explain differences in voting behavior, elections and newspaper subscriptions. Moreover, large immigration waves can be directly related to differences in identity or indirectly by also causing socioeconomic differences. Finally, the fact that the treated and control part belong to the same region, but different départements, could be related to differences in public good provision. If local 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.

Migration mostly happened at two distinct points in time: when Germany annexed the area and when France took it back. First, after 1870, the German government required applying for German citizenship for those who wanted to stay. Earlier expectations of a large exodus of more than 130,000 people (Vajta, 2013) were much higher than the actual number of less than 50,000. In addition, a large share of Germans migrated or were sent to work into the area after 1870, but some of them had to leave after WWI (Harvey, 1999). Finally, during the French repressive phase, the national government sent bureaucrats and workers from other regions to the treated part. Conceptually, these migratory movement could bias in the direction of our effect if those with the weakest regional identity were most likely to leave the treated part. It could also bias against our results, as new German and French immigrants from other regions are less likely to exhibit a strong Lorrainian identity.

We collected data from a digitized version of the French census for the years 1916 to 1946 that allows us to at least compute net changes in population at the treatment border. In the absence of municipal-level data about the origin and destination of migrants at the municipal level, this enables us to test for significant discontinuities in net flows at the border. Their existence would signal that migration could be an important mechanism. However, Table 10 show that at least at the border there are no significant discontinuities in any population change measure. Table A24 shows that employing these changes as additional (potentially bad) control variables also does not affect our result.

Even with no signs of a net discontinuity, in and out-migration together with other historical shocks could contribute to socioeconomic changes across the border. The higher exposure to repressive policies could, for instance, affect birthrates, investments in education or businesses, or occupational choices. Panel B considers differences with regard to income, age, education, and occupation measured around the year 2000, about half a century after the treatment period ended. Again, we find no statistically significant differences for any measure.

Finally, panel C also indicates no significant differences in public good provision. This is in line with the relatively limited competences of the départements in France, described in Table A2. Table A37 further supports the absence of consistent differences using a larger range of 25 variables. Hence, there is no evidence that either migration, socioeconomic changes or public good provision constitute key mechanisms explaining the stronger regional identity.

Table 10: Mechanisms: Migration, socioeconomic aspects, and public goods

	Panel **A**: Migration			
Dep. variable:	1916 to 1926	1926 to 1936	1936 to 1946	1916 to 1946
	(1)	(2)	(3)	(4)
Treatment	-1.967	1.062	-4.608	-9.467
	(5.782)	(3.266)	(2.598)	(9.730)
	[0.734]	[0.745]	[0.076]	[0.331]
Obs.	1312	1331	1246	1407
Bandwidth	40.15 km	40.73 km	37.14 km	44.99 km
	Panel **B**: Socioeconomic variables (2000s)			
Dep. variable:	Median income	Mean age	Education	Occupation
	(1)	(2)	(3)	(4)
Treatment	0.914	-0.309	0.004	-0.009
	(1.011)	(0.424)	(0.004)	(0.014)
	[0.366]	[0.466]	[0.311]	[0.537]
Obs.	719	1433	1397	1000
Bandwidth	25.13 km	45.91 km	43.83 km	27.55 km
	Panel **C**: Public good provision (2000s)			
Dep. variable:	Healthcare	Post offices	Schools	Vocational
Variable	(1)	(2)	(3)	(4)
Treatment	-0.019	0.022	0.012	-0.002
	(0.042)	(0.030)	(0.104)	(0.007)
	[0.655]	[0.457]	[0.905]	[0.749]
Obs.	1092	1790	1423	1618
Bandwidth	31.02 km	73.98 km	45.48 km	55.70 km

Notes: *Healthcare* includes psychiatric est., service houses and healthcare centers. *Schools* include elementary and high schools; *Vocational* includes vocational training and tech. vocational training. Details on all variables can be found in Online Appendix Table A11. All estimates include population differences for municipalities only within Lorraine. 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 displayed in parentheses and p-values in brackets.

Another potential mechanism of persistence, are certain rights of the treated part to deviate from rules imposed by the central state, the so-called "local laws". 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, p.772) stated that, already by the 1970s, "local doctrine is generally of declining importance. There are few, if any, local jurists remaining [...]". One reasons is that French courts refused to make any reference to German jurisprudence and interpret local laws according to French standards and principles. Moreover, as we thought they do not seem to results in measurable socioeconomic or public good differences. Hence, we do not rule out that their existence in the treated part itself works as a mechanism of persistence by being a symbol of the region's distinctiveness.

6 Sensitivity and alternative explanations

This section discusses some sensitivity tests, alternative explanations to our interpretation of what constitutes the treatment, whether the outcomes really measure regional identity, and an important placebo test using the survey data. Subsection H.6 shows further insignificant placebo tests for the 1992 and 2005 referenda.

6.1 Results are robust to different RD specifications

Table 11 shows the estimate from our preferred RD specification for the main 1969 referendum result, along with plausible alternative specifications. Different contributions in the literature (e.g., Dell, Lane, and Querubin, forthcoming; Dell, 2010) have used and advocated slightly different approaches, and the table shows that these choices do not affect our result. In column 2, we omit control variables altogether.

In column 3, we only compare geographically very close municipalities by controlling in two dimensions for longitude, latitude, and their interaction. Column 4 displays the estimate excluding all German-speaking municipalities. Column 5 examines whether urban municipalities constitute outliers. In particular, we might worry about large urban agglomerations like Metz, which is in the treated part just right of the border. Metz historically enjoyed greater autonomy and might have developed a stronger local identity for that reason. Finally, column 6 varies how we specify the polynomial for the running variable. Note that this last specification uses both a very small bandwidth, and two polynomials that can vary on each side of the border. This makes it more likely that the lines can be fitted so that there is no discontinuity. In all specifications, there is a large and statistically significant treatment effect.

Table 11: Robustness checks for 1969 referendum RD results

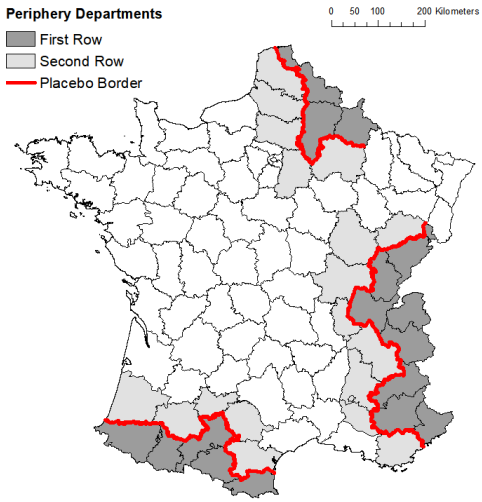
	Base	No controls	Longitude & latitude	Excluding German-speakers	Excluding Metz	2nd degree polynomial
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	12.645	12.491	12.603	12.903	13.231	8.137
	(2.558)	(3.357)	(2.386)	(2.590)	(2.575)	(3.496)
	[<0.001]	[<0.001]	[<0.001]	[<0.001]	[<0.001]	[0.020]
Obs.	388	388	388	380	351	388
Bandwidth	10 km	10 km	10 km	10 km	10 km	10 km

Notes: *Base* is the same as 10 km bandwidth in Table 3; *No controls* excludes all distance controls and border segment fixed effects; *Longitude & latitude* controls for the longitude and latitude of the municipality centroid, as well as their interaction; *Excluding Metz* excludes all municipalities in Metz agglomeration; *2nd degree polynomial* adds both a linear and a quadratic term for the running variable (allowed to vary on either side of the cut-off). The outcome is the share of Yes votes in the 1969 referendum. Conley standard errors with 10 km bandwidth are displayed in parentheses and p-values in brackets.

6.2 Regional identity is not generally higher in border départements

When comparing regional identity in the treated and the untreated parts of Lorraine, we are also comparing citizens of different départements, with treated Moselle being closer to the country border and further away from Paris than Meurthe-et-Moselle and Meuse. One might worry that even without a measurable difference in public good provision, border départements develop a stronger regional identity for reasons other than the treatment.

Figure 9: Geographical location of the treated and untreated area



Notes: The map highlights départements with a land border and their direct neighbors, excluding Alsace and Lorraine.

Table 12: Placebo survey results, comparing other border regions with their adjacent neighbors

Survey question	Mean of control	β	P-value	No. obs.
Feel close to region (Regional identity)	3.355	-0.003	0.982	8108
Feel close to nation (National identity)	3.635	-0.122	0.169	8116
Regional identity/National identity (standardized)	-0.046	0.044	0.694	8100
Democracy works well in France	2.526	0.095	0.472	8104
Democracy works well within region	2.622	0.181	0.139	7932
Well informed about regional policies	2.591	0.054	0.669	8058
In favor: transfer policy competence to region (avg. 10)	3.058	-0.099	0.206	3793
In favor: allow more autonomy at reg. level (avg. 5)	2.223	0.675	<0.001	8110
Opinion about project of regional council	1.895	-0.021	0.745	4635
Educ. policy should be set at reg. level (avg. 5)	2.872	0.022	0.857	3397
Concerned reg. admin. would increase interreg. inequality	3.170	-0.114	0.578	3397

Notes: Sources are the OIP survey 1999, 2001, and 2003, and the French Electoral Panel in 2002, using respondents in all département bordering a foreign country, and their adjacent neighbors (except départements in Alsace and Lorraine). Identity is measures on a 4-point Likert-scale. Avg. "x" indicates that the factor is composed of "x" underlying survey items. The underlying survey questions are shown in Table A12. A positive β indicates that respondents in a border département agree, on average, more with the statement than respondents in départements adjacent to départements at national borders.

To examine this hypothesis, we conduct a placebo exercise where we examine differences in the survey questions presented in Tables 6 and 7 between all French départements bordering a foreign country, and their direct adjacent more centrally located neighboring départements (see Figure 9).

These estimates, presented in Table 12, show that there is a statistically significant difference only for one out of eleven questions.

6.3 External validity: mechanisms are relevant in many other cases

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-affiliation 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 of German culture, which the central government tried to eliminate after WWII. Scania in Sweden was once Danish, and is also known to still feature a distinct regional identity. More violent examples of homogenization policies and repressive policies today are found in Chechnya in Russia, the Kashmir region in India, or in Tibet and regarding the Uighurs in the Xinjiang region in China. Selected sources can be found in Appendix E. There are also other cases where initially homogeneous regions were split between different nation-states. The Kurdish region, for instance, was even split between Armenia, Iran, Iraq, Syria and Turkey; the Austrian region Tyrol was split into Austrian Tyrol and South Tyrol in Italy; and the Basque region was split between France and Spain. In both Tyrol and the Basque country, for instance, 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 13 illustrates both the possibilities for identification, as well as the external validity of our case, by broadly classifying those cases in three categories. Catalonia in Spain is a good example of a region that experienced repression as part of the 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, and might have contained a repressive component. 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. In South Tyrol, citizens develop a regionalist organization of secret schools, which taught regional language and culture to children. In Catalonia, historians document that besides parties, citizens also formed bands, wrote songs and organized concerts to maintain Catalan culture. In the Basque country, expositions of regional art were organized as a reaction to repression during the Franco era. Thus, we interpret our natural experiment as providing causal evidence of an effect and mechanisms that were relevant throughout history, and remain relevant until today.

Table 13: Internal and external validity - types of forceful integration into nation-states

External validity of Alsace-Lorraine case			
Case example: Treatment consists of	**Catalonia**	**South Tyrole**	**Alsace-Lorraine**
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

Threat	**Test**	**Evidence**
Stronger regional identity is only caused by switching national-affiliation	Timing of emergence of regionalist parties and newspapers	Establishment of regionalist organizations and regionalist party success during both repressive periods

6.4 Miscellaneous: Germanization, trade, WWII, religion, including Alsace

This subsection outlines additional results, which we describe in more detail in Appendix F. First, we further examine 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 use Twitter tweets during the 2014 World Cup that signal support for either the French or German national team. We find no difference at the border that would signal differences in the strength of either national identity. This is in line and supports our survey evidence, which also shows no differences in stated national French identity.

Second, we 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. Third and fourth, we discuss the impact of WWII and of religious differences. Finally, Appendix I shows results when including Alsace in the regressions. As explained before, the overlap with the language border is much larger in Alsace, which could lead us to overstate the impact of repression on identity. However, the results do not change much in terms of magnitude and significance when including Alsace, which is reassuring regarding the validity and relevance of our prior results.

7 Concluding remarks

This paper uses a unique natural experiment in the French regions of Alsace and Lorraine. The experiment induces quasi-exogenous variation in exposure to repressive nation-states policies associated with nation-building 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 often associated repressive nation-building policies, 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 in Turkey, Iran, and Iraq, the Uighur in the Xinjiang region in China, Chechnya in Russia, the Kashmir region in India, but also for minority regions in established democracies like the Basque country and Catalonia in Spain, or the Russian regions in former Soviet countries.

Our results show that regional identity, measured both 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 (2018) 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 understand why there are strong existing group identities even though actual heterogeneity in measurable preferences is larger within than between groups (Desmet et al., 2017). It aligns with the results in Depetris-Chauvin et al. (2019) that certain events, which largely have a symbolic character but are experienced jointly as a group, can be sufficient to strengthen identities.

In contrast, 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 already start expressing a stronger regional identity already during the treatment period. Based on a simple model of identity transmission, 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 happens 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, 2019). 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 set-up 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 built 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 sub-national groups, or 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 it on its repressive policies.

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Online Appendix to "The origins of common identity: Division, homogenization policies and identity formation in Alsace-Lorraine"

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A Theoretical framework

The common identity of an individual i and a group $j \in \{R, N\} = \boldsymbol{J}$, with R and N corresponding to *Region* and *Nation*, depends on the perceived distance to the average group member:

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

where p_k^i represents the preferences (or traditions, values and norms) of individual i regarding an attribute indexed k, p_k^j represents the preferences of the average member of the region or the nation, and K is the set of all attributes. An important part of this heterogeneity function are the ω_k, which can be understood as attention weights. Higher weights indicate that the tradition, value or norm k has a larger influence on the strength of common identity.

Assume for simplicity that the attributes in K can be categorized in a number of subsets: K_R, K_N, and K_o. K_R are those attributes that the individual has in common with the other people in his region, for instance speaking the local dialect or in Alsace cooking the local specialty "tarte flambée". The vector $\boldsymbol{\omega_R}$ comprises of the weights for all attributes belonging to K_R. For these attributes, we assume $p^i - p^R = 0$, meaning that individuals within a region share the attributes.[1] We use the scalar $\omega_R = \sum_{k \in K_R} \omega_k$ as the sum of all weights put on common regional culture.

K_N are the attributes that the individual has in common with the rest of the nation. In France, consider common history or traditions that are widely shared, for instance celebrating the 14th of July, the French language or French cuisine. As with regional attributes, the scalar $\omega_N = \sum_{k \in K_N} \omega_k$ is the sum of all weights put on national culture. The remaining attributes are represented by K_o and are neither clearly aligned with the region nor the nation, for example preferences about social or economic questions that show a lot of variation both within regions and nations. Other identities relating to, for instance, their municipality can also be thought of as based on attributes contained in K_o, but we focus on regional and national identity as the main distinction between treated and control area. All weights sum up so that $\omega_o + \sum_{j \in \boldsymbol{J}} \omega_j = 1$, where ω_o is the sum of the weights put on the remaining attributes.[2]

Regional agents, for instance parents, but also other regional citizens, decide whether and how much to invest in influencing the identity formation of children. They do so by maximizing the expected utility that future generations derive from their regional and national identity. We choose a specific functional form for the sake of easier exposition and drop the i subscript for individuals, as we focus on differences between people in the treated and untreated area, equivalent to using one representative citizen for each area. Hence, we can write the utility of a *regional agent* based on the weights of future generations as

$$U = \omega_R^\alpha + \omega_N^\alpha - C,$$

[1] This is a simplifying assumption that makes the following comparisons much clearer. One could instead define the set of common regional or national attributes as those with a distance lower than some positive threshold value.

[2] We assume the p's to be fixed, and only ω to vary. In other words, we assume that perceived distance to other group members rests on underlying differences which an individual herself cannot influence. Of course, there are exceptions in reality but it is also true that many attributes that are crucial for common identities rest on such factors like place of birth, joint mother tongue or skin color. What varies is whether these differences are relevant when individuals assess their degree of common identity with a particular group. Take for instance the controversial case of Crimea in Ukraine: Before the tensions between Russia and the Ukraine there was no strong separatist movement in the region. Russia's claim to the region is based on the existence of a Russian speaking minority and a common history, and an important policy aim was to increase the salience of these attributes among people in the region.

with $0 < \alpha < \frac{1}{2}$. This means that a positive utility is assigned to individuals sharing the regional identity (ω_R), but the potential benefits of alignment with the rest of the nation is also taken into account (ω_N), as argued above. We assume α to be the same for both identities but this could easily be adapted. Accordingly, both identities are to some degree substitutes, but the optimal choice will usually be to possess some regional and some national identity as $\alpha < \frac{1}{2}$. As we describe below in detail, it is costly for *regional agents* to actively be involved in influencing individuals' identities. For simplicity, this cost is modeled as C. Our analytical results would hold, however, also with any cost function that has a fixed cost component.

The transmission of weights (ω_R and ω_N) is influenced by investment in regional identity and public schooling. Hence, the ω_j of an individual is a function of the traditions *regional agents* chose to transmit and the traditions transmitted via public schooling. Just like *regional agents*, public schooling can spend time on teaching both regional and national culture, as well as on other subjects unrelated to identity. The weights of an individual when growing up are then formed as $\omega_j = \frac{t_j^P + t_j^S}{2}$ for $j = \{R, N\}$, with t_j^P and t_j^S denoting the investments made by the regional community (i.e., by parents and other regional actors) and public schooling by the central nation-state. Let $t_R^S + t_N^S \leq 1$, but in most situations it is more realistic to think of it as smaller that one as schooling also spends time on teachings subjects like math or sciences. For *regional agents*, we assume $t_R^P + t_N^P = 1$ for simplicity if the benefits from transmitting regional or national culture exceeds the costs, as discussed below. The total amount of investments in transmitting regional identity decides the magnitude of the sum of the weights ω_R and ω_N, which translates into the weights individuals will put on these sets of attributes and the strength of their identities.[3]

When *regional agents* choose t_R^P and t_N^P. they weight the benefits of transmitting regional or national culture against a (fixed) costs $C_j^P \tau_j \geq 0$. Take for instance the ability to teach regional music or dances to children. Parents need to learn the text or moves and how to convey this information or skill, which is an important fixed cost. Alternatively, consider the foundation of a regionalist party: *regional agents* need to make an initial investment in the appropriate organizational structure and physical infrastructure for the party to function. Accordingly, we make one central, but plausible, assumption. Individuals who engaged in actively practicing a tradition themselves within their own family inherit the ability to teach it to their own children. This means that if one generation paid the fixed costs, the next generations do not have to bear the fixed cost component of learning how to transmit the tradition. This argument is maybe even more obvious when considering regional organizations, like regionalist parties, clubs or newspapers or other associations. All of those clearly have a fixed cost component of being established. Even if there is some depreciation, the next generation(s) will face lower costs if the older generations did already set up these organizations. Accordingly, $\tau_j = 0$ if individuals were themselves exposed to $t_j^P > 0$.[4]

The (fixed) cost of influencing identity for *regional agents* is then given by the following cost function:

$$C = C(t_R^P, 1 - t_R^P) = \begin{cases} C_R^P \tau_R & \text{if } t_R^P = 1 \\ C_N^P \tau_N & \text{if } t_N^P = 1 \\ C_R^P \tau_R + C_R^P \tau_R & \text{if } 0 < t_R^P < 1 \\ 0 & \text{if } t_R^P = t_N^P = 0 \end{cases}$$

If time is the limiting factor, transmitting one tradition also creates opportunity costs reflecting less

[3] This means that all attributes belonging to $\boldsymbol{\omega}_j$ (for $j \in \{R, N\}$), receives equal weights of $\omega_j / |K_j|$. The weight put on the remaining attributes is given by $\omega_o = 1 - \omega_R - \omega_N$.

[4] The complete notation including the subscript i for individuals is $\tau_j = \mathbf{1}[i \in T], \forall i \in I$ and $T \subset I$. I is the set of all individuals, and T is the subset of individuals that did not inherit the ability to transmit j culture.

time spent on transmitting other traditions. With the public schooling parameter selected by the central nation-state exogenously given, plugging in the expressions for the weights into the utility function maximized by the *regional agents* gives

$$\begin{aligned} U(t_R^P, 1-t_R^P) &= \left(\frac{t_R^P + t_R^S}{2}\right)^{\alpha} + \left(\frac{(1-t_R^P) + t_N^S}{2}\right)^{\alpha} - C(t_R^P, 1-t_R^P) \\ &= B(t_R^P, 1-t_R^P) - C(t_R^P, 1-t_R^P), \end{aligned}$$

where $B(t_R^P, 1-t_R^P)$ is the benefit from transmitting traditions. The optimal choice of *regional agents* is a function of the degree to which regional and national culture is taught by the public schooling system, the utility they derive from both identities and the costs associated with transmission. This leads to an optimal investment of $t_R^{P*} = \left(\frac{1+t_N^S - t_R^S}{2}\right)$, conditional on being incentive-compatible, i.e. if the utility from transmitting the optimal level exceeds the utility from not transmitting at all. Let $\tilde{B}(t_R^P, 1-t_R^P) = B(t_R^P, 1-t_R^P) - B(0,0)$ denote this excess utility. The first number in the parentheses here and in the following refers to regional traditions, and the second number to national traditions. Consider four different cases:

Case 1 If $\tilde{B}(t_R^{P*}, 1-t_R^{P*}) \geq C(t_R^{P*}, 1-t_R^{P*})$ for $0 < t_R^{P*} < 1$, then $t_R^P = t_R^{P*} = \left(\frac{1+t_N^S - t_R^S}{2}\right)$ and $t_N^P = t_N^{P*} = 1 - \left(\frac{1+t_N^S - t_R^S}{2}\right)$. This means that *regional agents* will invest in transmitting both **regional** and **national** traditions.

Case 2 If $\tilde{B}(t_R^{P*}, 1-t_R^{P*}) < C(t_R^{P*}, 1-t_R^{P*})$ and $U(1,0) > U(0,1)$, and $\tilde{B}(1,0) \geq C(1,0)$, then $t_R^P = 1$ and $t_N^P = 0$. This means the *regional agents* will only invest in transmitting **regional** traditions.

Case 3 If $\tilde{B}(t_R^{P*}, 1-t_R^{P*}) < C(t_R^{P*}, 1-t_R^{P*})$ and $U(1,0) < U(0,1)$, and $\tilde{B}(0,1) \geq C(0,1)$, then $t_R^P = 0$ and $t_N^P = 1$. This means that *regional agents* will only invest in transmitting **national** traditions.

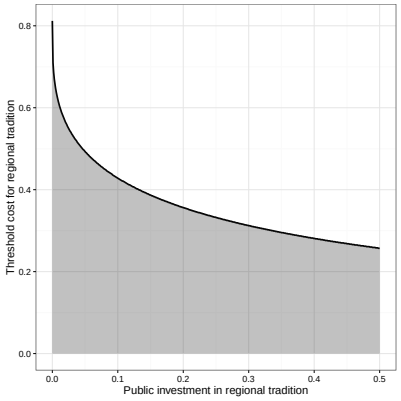
Case 4 If $U(0,0) = \max U(t_R^P, 1-t_R^P)$, then $t_R^P = t_N^P = 0$. This means the *regional agents* will not invest anything in transmitting any traditions.

Figure A1 shows the distribution of costs for which it is optimal for *regional agents* to invest in infrastructure that facilitates the transmission of regional traditions and culture. A decrease in t_R^S makes transmitting regional traditions the best choice for agents along a larger range of parameter values. We can use this framework to analyze the natural experiment, which can best be described in the three stages introduced in the paper.

Stage 1

In the first stage, public schooling policy is identical in both areas. *regional agents* decide to invest either in emphasizing regional or national traditions, both traditions, or none of them. The optimal choice of transmission depends on *i)* the nation-state's public investment in teaching regional and national traditions, and *ii)* the cost of learning to influence and transmit regional and national traditions. For public investments $t_{R,stage1}^S$, $t_{N,stage1}^S$, there exist costs $C_R^P > \bar{C}_{R,stage1}^P$ and $C_N^P > \bar{C}_{N,stage1}^P$ such that *regional agents* decide not to invest in teaching any traditions, where $\bar{C}_R^P$ and $\bar{C}_N^P$ are the maximum allowed (threshold) costs for *regional agents* to invest time in regional and national traditions, respectively. *Regional agents* invest time if the costs of doing so are lower than

Figure A1: Threshold costs for teaching regional tradition



Notes: The solid black line indicates the threshold costs $\bar{C}_R^P$ of investments in transmitting regional culture and traditions. The gray area represents those parameter constellations where the costs are lower than the threshold costs, so that regional agents will invest in transmitting regional traditions. The less regional traditions are taught in public schools, the higher the costs regional agents are willing to pay to maintain regional culture and traditions.

the threshold cost $\bar{C}^P_{R,stage1}$ and $\bar{C}^P_{N,stage1}$ for the respective traditions. We assume that in the first stage, the costs are above the threshold in the treated and control area so that parents decide not to learn and teach privately.

Stage 2

After occupation and reflecting the intrusive policies, public schooling in the treated area does not teach regional traditions any more, so that $t^S_{R,stage2} = 0$ in the treated region. This increases the threshold cost and it is now optimal for parents to invest in teaching regional traditions for a larger range of costs C^P_R. As national traditions are still taught to a high degree by the state, *regional agents* decide to spend all their time teaching and transmitting regional traditions and $t^P_{R,stage2} = 1$. In the control area there was no comparable shock, and public and private investments remain unchanged.

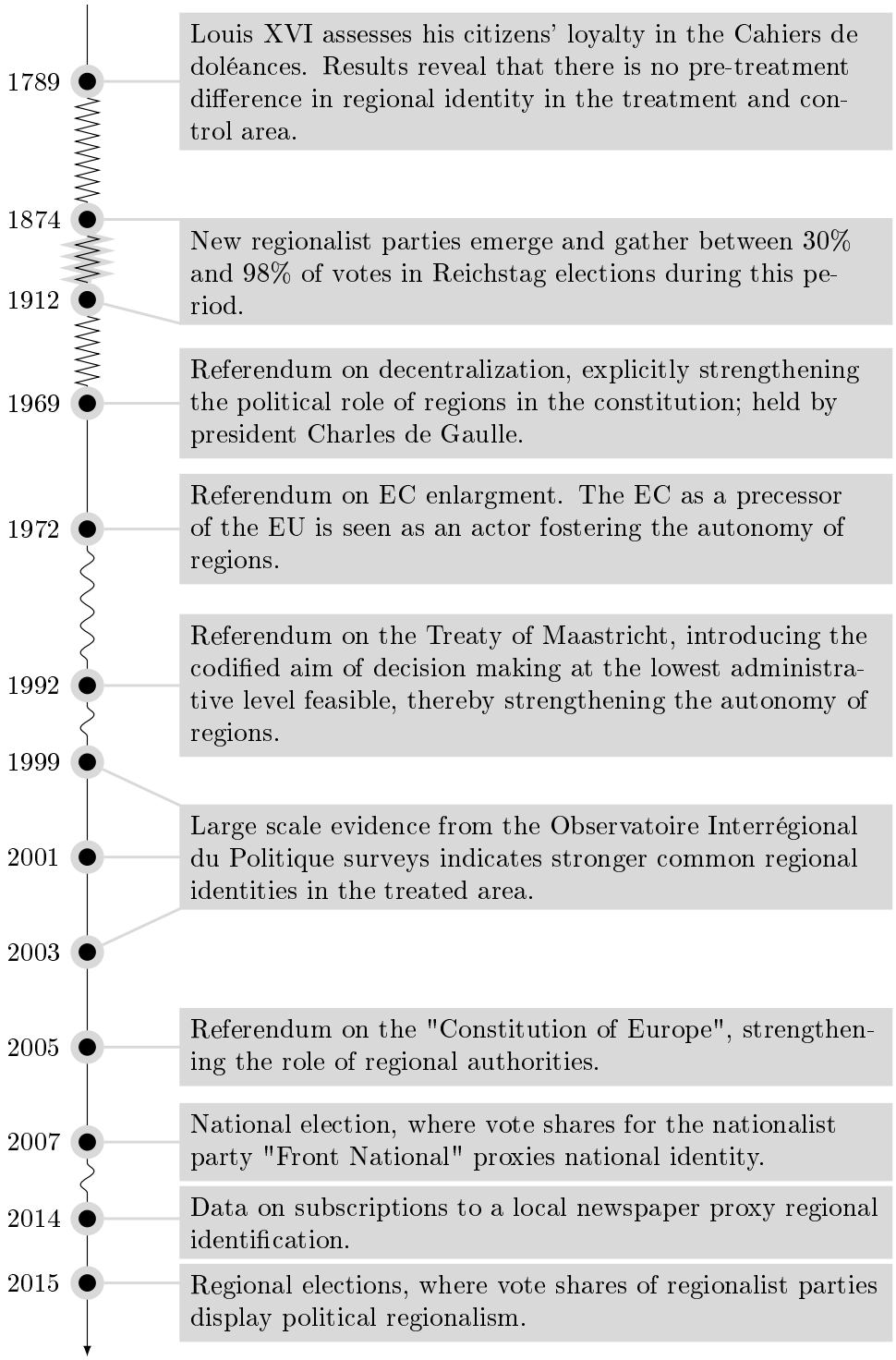
Stage 3

In the third stage, the temporary shock is over and $t^S_{R,stage3}$ reverts to the same level in both the treated and the untreated area. If nation-state public investment in regional traditions reverts back to a high enough level, for instance comparable to stage 1, *regional agents* in the untreated area are not willing to bear more costs of learning the regional traditions as $C^P_R > \bar{C}^P_{R,stage3}$. However, if regional traditions were taught and transmitted in the treated area during stage 2, for instance through regional organizations, *regional agents* in the area do not have to bear the fixed costs ($\tau_j = 0$) and they choose $t^P_R = t^{P*}_R > 0$. Accordingly, a higher level of teaching regional culture can persist after the shock is over. This difference persists for the first generation; its long term persistence depends on whether $t^P_j > 0$, i.e. *regional agents* put enough value and time on regional culture so that their children acquire and imitate this behavior.

Note: Our model does not rule out that central-states can be successful in completely eradicating regional culture and identity. If the benefits from national identity are high enough (or the costs of not having it sufficiently), *regional agents* would rationally decide not to invest in maintaining regional traditions. Another, more positive, possibility that could easily be integrated is the degree to which national and regional identity are perceived as oppositional. If the central state chooses less intrusive measures of integration, like better infrastructure, bilingual teaching or better transport

connections, both regional and national identity could persist and prosper. There is a theoretical upper limit due to time and monetary constraints, but those constraints do not seem to be major factors explaining identity conflicts in contrast to aspects where two identities seem incompatible. France provides a good example of that. After the central state relaxed its policies in the 1950s, reported tensions disappeared and our results show that national identity is equally strong in the treated and untreated area today, even though regional identity is stronger in the treated area.

Figure A2: Timeline of outcomes



Notes: Distances on the straight parts of the timeline are proportional to years. The curled line is proportional to five years and the zigzag line is proportional to 25 years.

B Overview of Repressive Policies

Table A1: Detailed Overview of Repressive Policies in Alsace and Lorraine

Time Period	Ruled By	Policy	Policy Category	Source
1871-1902	Germany	Reactivation of the 1849 "dictatorship paragraph": permitted house searches, the expulsion of agitators and prohibiting political organizations.	Social, political, military freedom, equality	Carrol (2010); Grasser (1998)
Beginning 1871/72	Germany	Bismarcks *Kulturkampf*: government seriously restricted Catholic education as well as the Catholic press. Moreover, some religious orders were expelled from the Reichsland.	Regional institutions and administrative personnel	Silverman (1966)
May 1872	Germany	Strasbourg University is reopened as "Kaiser-Wilhelm-Universitaet".	Language	Höpel (2012)
Oct. 1872	Germany	Introduction of obligatory military service.	Social, political, military freedom, equality	Grasser (1998)
1873	Germany	French is prohibited to be taught in schools.	Language	Grasser (1998)
1878	Germany	Legislation to restrict the political participation of the people.	Social, political, military freedom, equality	Carrol (2010)
1882	Germany	The use of French is prohibited in the Delegation.	Language	Grasser (1998)
1887	Germany	Choral and gymnastic societies are banned as they are seen as opportunities for the coming-together of pro-French minded people.	Social, political, military freedom, equality	Carrol (2010)
1890 onward	Germany	Unwelcome legislation (e.g. German trade regulations) is introduced in Alsace-Lorraine.	Regional institutions and Administrative Personnel	Höpel (2012)
1890 onward	Germany	German becomes the only official language and district and county councils become obliged to embrace German as their only language.	Language	Grasser (1998)
Until 1898	Germany	Restrictions are imposed on the press.	Media	Silverman (1966)
1914	Germany	Citizens sympathizing with the French are taken in "protective detention" without trial.	Separation and segregation; Social, political, military freedom, equality	Harvey (1999)

1917/18	France	Approximately 100 000 Germans are deported.	Separation and segregation	Carrol and Zanoun (2011), Callender (1927)
1918	France	Establishment of French Currency.	Regional institutions and administrative personnel	Callender (1927)
Dec. 1918	France	An identity-card system is implemented: Locals are classified and receive a specific civil status according to the origin of their parents. Lower classification is often associated with discrimination.	Separation and segregation	Harvey (1999)
Dec. 1918 to Oct. 1919	France	"Commissions de Triage" are established: Designed to assert the Frenchness of the population in re-annexed areas, individuals suspected of faulty loyalties are investigated and either exonerated, placed under surveillance, taken into custody or expelled from France. In this context, some pro-German Alsatians are forcefully emigrated.	Separation and segregation; Social, political, military freedom, equality	Carrol and Zanoun (2011); Harvey (1999)
1920	France	French becomes the only language to be taught in schools. The so-called "direct method", where students are immersed in the French language with no reference to German, leads to considerable difficulties for a majority of French-speaking Alsatiens.	Language	Grasser (1998); Goodfellow (1993)
1920s	France	French becomes the official legal language. Due to this, many bureaucrats, who had previously built their career under the German system, are in danger of losing their jobs or being denied promotions as the French government now regards them as incompetent or politically problematic.	Language	Goodfellow (1993)

June 1924	France	The Ministerial Declaration by Premier Edouard Herriot introduces a centralized French administration as well as all French laws and institutions into the recovered territories. The Declaration also introduces the separation of church, secular education and a number of anti-clerical laws.	Regional institutions and administrative personnel	Carrol and Zanoun (2011); Goodfellow (1993)
1925	France	The post of Commissioner General is abolished and the regional government returned to the Government of Paris	Regional institutions and administrative personnel	Callender (1927)
1927/28	France	Three autonomist journals become banned as they are seen to have had a central role in a campaign against the French: The "Volksstimme" ("voice of the people"), the "Wahrheit" ("truth") and the "Zukunft" ("future").	Media	Goodfellow (1993)
1927/28	France	Colmar trials: 15 prominent autonomists are arrested and tried with the reason given that they had participated in a plot to separate Alsace from France. 4 of the 15 are sentenced to 1 year in prison, while 5 are sentenced to be exiled.	Social, political, military freedom, equality	Goodfellow (1993)
1939	France	15 autonomists are arrested for relations with the enemy. One autonomist leader is later executed by a fire squad in 1940 in Champigneulles.	Social, political, military freedom, equality	Goodfellow (1993)
1940	Germany	The French language is prohibited from use and street signs must be renamed in German. French names must be replaced by German equivalents.	Language	www.nithart.com; Encyclopédie
1940	Germany	Germans prohibit the Alsatian dialect as it is regarded as a means of protest against the Nazi-government.	Language	Encyclopédie
1940	Germany	Germans prohibit typically Alsatian gatherings and celebrations as they are seen as expressions of specifically regional culture and therefore against the Germanisation efforts of the Nazi regime.	Social, political, military freedom, equality	Encyclopédie

1940	Germany	German is made the official language of the administration.	Language	Grasser (1998)
1945-1952	France	Teaching of German is de jure prohibited in schools, de facto this is applied in about half of the schools.	Language	www.alsace-lorraine.org; Anderson (1972)
1953	France	Bordeaux trials: 13 Alsatian *malgré-nous* are sentenced to death due to their involvement in the massacre of Oradour-sur-Glane.	Social, political, military freedom, equality	Boswell (2008) Collins (2007)

Notes: Encyclopédie refers to www.encyclopedie.bseditions.fr.

C Sub-levels of Governance in France

Table A2: Division of Powers: Sub-levels of Governance in France

Level:	**Central**	**Regional**	**Departmental**	**Municipal**
	All National Policies	Regional Transport	Departmental Transport	Municipal Transport
	Defence	Education (high school), vocational training and apprenticeship	Education (ordinary secondary school), vocational training (music, dance and drama)	
	Justice	Environment	Environment (particularly protection waste and water plants)	Environment (water and waste)
	Foreign Affairs	Regional Planning	Planning (in cooperation with Region)	
	Security	Economic Development	Economic Development (rural, social, inclusion)	Housing
		Scientific Development	Public health (incl. sanitary protection & vaccination)	Public health (incl. vaccination)

Notes: This table gives an overview over the distribution of competences among the different levels of governance in France. The information is obtained from the website of the European Committee of the Regions.

D Establishment of Regionalist Organizations

Table A4: The Foundation of Regionalist Organizations in the Control Area

Name	Category	Place	Time	Regionalist	Source
L'Est républicain	Newspaper	Meurthe-et-Moselle	1889	No	41
L'Humanité	Newspaper	National (newspaper of PCF)	1925	No	42
Le Progrès de la Meuse	Newspaper	Meuse	1878	No	43
Courrier de Meurthe-et-Moselle	Newspaper	Meurthe-et-Moselle	1871	No	44
La Chronique des Vosges	Newspaper	Vosges	1899	No	45
l'Union patriotique de l'Est	Other org.	Meurthe-et-Moselle	1891	No	46
l'Union républicaine de l'Est	Other org.	Meurthe-et-Moselle	1924	No	47
Cercle d'études des Marches de l'Est	Other org.	Meurthe-et-Moselle	1913	No	48
le Cercle militaire clandestin de Nancy	Other org.	Meurthe-et-Moselle	1909	No	49
le Groupe lorrain de la représentation proportionnelle	Other org.	Meurthe-et-Moselle	1910	No	50
le Groupe d'études sociales de Nancy	Other org.	Meurthe-et-Moselle	1895	No	51

Table A3: The Foundation of Regionalist Organizations in the Treatment Area

Name	Category	Place	Time	Regionalist	Source
Union Républicaine Lorraine (URL)	Party	Moselle	1919	Yes	1
Christlich-Soziale Partei	Party	Moselle	1926	Yes	2
Parti Lorrain Indépendant (also "Groupe Lorrain")	Party	Moselle	1907	Yes	3
Elsaß-Lothringische Landespartei	Party	Alsace and Moselle	1903	Yes	4
Elsass-Lothringen Partei (also "Les Protestataires")	Party	Alsace and Moselle	1874	Yes	5
Les Autonomistes	Party	Alsace and Moselle	1877	Yes	6
Elsass-Lothringer Partei	Party	Alsace and Moselle	1936	Yes	7
Unabhängige Landespartei für Elsass-Lothringen	Party	Alsace and Moselle	1927	Yes	8
Elsass-Lothringisches Zentrum	Party	Alsace and Moselle	1906	Yes	9
Elsass-Lothringische Fortschrittspartei	Party	Alsace and Moselle	1929	Yes	10
Parti Communiste Français (PCF)	Party	Alsace and Moselle	1918	Yes	11
Indépendants d'action populaire (IAP)	Party	Alsace and Moselle	1932	Yes	12
Républicains du centre (DRC)	Party	Alsace and Moselle	1936	Yes	13
Elsass-Lothringisch-Autonomistische Partei (ELAP)	Party	Alsace and Moselle	1925	Yes	14
Kommunistische Partei-Opposition (KP-O)	Party	Alsace and Moselle	1929	Yes	15
Elsass-Lothringische Arbeiter und Bauernpartei (ELABP)	Party	Alsace and Moselle	1939	Yes	16
Faisceau	Party	Alsace	1925	Yes	17
Union Populaire Républicaine d'Alsace (UPRA; sometimes UPR	Party	Alsace	1919	Yes	18
Action Populaire Nationale d'Alsace (APNA)	Party	Alsace	1928	No	19
Parti Républicain Démocratique (PRD)	Party	Alsace	1919	No	20
Elsaesserpartei (EP)	Party	Alsace	1922	Yes	21
Elsaessischer Oppositionsblock (EOB)	Party	Alsace	1927	Yes	22
Elsassische Fortschrittspartei (EFP)	Party	Alsace	1926	Yes	23
Union Populaire Républicaine Nationale d'Alsace (UPRNA)	Party	Alsace	1924	Yes	24
Elsässische Arbeiter und Bauernpartei (EABP)	Party	Alsace	1935	Yes	25
Le Lorrain	Newpaper	Moselle	1883	No	26
Die Lothringer Zeitung (German-speaking); Metzer Tageblatt	Newspaper	Moselle	1878	No	27
Metzer Freies Journal (Le Républicain lorrain)	Newspaper	Moselle	1919	No	28
La Moselle Républicaine	Newspaper	Moselle	1921	No	29
Die Elsass-Lothringer Zeitung	Newspaper	Alsace and Moselle	1929	Yes	30
Journal d'Alsace et de Lorraine	Newspaper	Alsace and Moselle	1919	No	31
Die Zukunft	Newspaper	Alsace and Moselle	1925	Yes	32
Die Volksstimme	Newspaper	Alsace and Moselle	1925	Yes	33
Die Wahrheit	Newspaper	Alsace	1926	Yes	34
Das Neue Elsass	Newspaper	Alsace	1911	Yes	35
D'r Schliffstaan	Newspaper	Alsace	1919	Yes	36
Elsass-lothringische Einheitsfront	Other org.	Alsace and Moselle	1926	Yes	37
Elsass-Lothringischer Heimatbund	Other org.	Alsace and Moselle	1926	Yes	38
Liga zur Verteidigung Elsass-Lothringens	Other org.	Alsace and Moselle	1914	Yes	39
Elsassischer Bauernbund	Other org.	Alsace	1924	Yes	40

1. Union Républicaine Lorraine (URL)
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   (b) https://fr.wikipedia.org/wiki/Union_r%C3%A9publicaine_lorraine
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   (b) https://fr.wikipedia.org/wiki/Union_r%C3%A9publicaine_lorraine
3. Parti Lorrain Indépendant (also "Groupe Lorrain")
   (a) Grohman (1999), p. 95, p. 301
   (b) Carrol (2011), p. 476
4. Elsaß-Lothringische Landespartei
   (a) Eccard, Frédéric. L'Alsace sous la domination allemande. 1919. pp. 197-198
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    (a) https://books.google.ch/books?id=4G29K4eTqK4C&pg=PA219&lpg=PA219&dq=die+volksstimme+alsace+lorraine&source=bl&ots=5qDc9OIDer&sig=ACfU3U3laKULdeNS_XeCNIUwP2ZpS_ab8g&hl=en&sa=X&ved=2ahUKEwjIgJLV_oviAhU4xcQBHatlA9MQ6AEwAXoECAcQAQ#v=onepage&q=die%20zukunft&f=false
    (b) http://www.webcitation.org/5kmXUnBss?url=http%3A%2F%2Fwww.geocities.com%2Fbfel%2Fgeschichte6.html
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    (a) https://books.google.ch/books?id=iGHiwxONZ8EC&pg=PA177&lpg=PA177&dq=%22Die+Volksstimme%22+alsace&source=bl&ots=XFhUASWxIf&sig=ACfU3U3tGkXyDOjTOMeHTriKc15ypgGlYw&hl=fr&sa=X&ved=2ahUKEwiog5Ktn8XiAhWIalAKHfxDBWAQ6AEwA3oECAgQAQ#v=onepage&q=%22Die%20Volksstimme%22%20&f=false
34. Die Wahrheit
    (a) https://books.google.ch/books?id=4G29K4eTqK4C&pg=PA219&lpg=PA219&dq=die+volksstimme+alsace+lorraine&source=bl&ots=5qDc9OIDer&sig=ACfU3U3laKULdeNS_XeCNIUwP2ZpS_ab8g&hl=en&sa=X&ved=2ahUKEwjIgJLV_oviAhU4xcQBHatlA9MQ6AEwAXoECAcQAQ#v=snippet&q=die%20wahrheit&f=false p. 190
35. Das Neue Elsass
    (a) https://books.google.ch/books?id=Y-t3l5UJKCcC&pg=PA97&lpg=PA97&dq=%22Das+neue+Elsass%22&source=bl&ots=rZ324aQcPs&sig=ACfU3U0Bt1jSFu2iv15bNxDVHrxADf7qfw&hl=fr&sa=X&ved=2ahUKEwjE6ov7oMXiAhWPJVAKHWgAC24Q6AEwC3oECAkQAQ#v=onepage&q=%22Das%20neue%20Elsass%22&f=false
36. D'r Schliffstaan
    (a) https://data.bnf.fr/32865481/d_r_schliffstaan__strasbourg_/
    (b) https://www.wintersonnenwende.com/scriptorium/deutsch/archiv/10jahreversailles/10jv314.html
37. Elsass-lothringische Einheitsfront
    (a) http://hsozkult.geschichte.hu-berlin.de/beitrag/diskusio/kosovo/kosovo2.htm
    (b) http://www.webcitation.org/5kmXUnBss?url=http%3A%2F%2Fwww.geocities.com%2Fbfel%2Fgeschichte6.html
38. Elsass-Lothringischer Heimatbund
    (a) http://blogerslorrainsengages.unblog.fr/2014/03/31/histoire-de-lautonomisme-alsacien-lorrain-1918-1939/
    (b) http://www.webcitation.org/5kmXUnBss?url=http%3A%2F%2Fwww.geocities.com%2Fbfel%2Fgeschichte6.html
39. Liga zur Verteidigung Elsass-Lothringens
    (a) https://www2.landesarchiv-bw.de/ofs21/olf/struktur.php?bestand=5543&sprungId=2111106&letztesLimit=suchen
    (b) https://biblio-archive.unog.ch/detail.aspx?ID=152941
    (c) https://biblio-archive.unog.ch/detail.aspx?ID=152940
    (d) https://books.google.ch/books?id=6xFBDAAAQBAJ&pg=PA813&lpg=PA813&dq=Liga+zur+Verteidigung+Elsass-Lothringens&source=bl&ots=WkP5EnNIKD&sig=ACfU3U2RSy45jadmk7JVmSebDdWkwS6FGA&hl=en&sa=X&ved=2ahUKEwjqOobupIziAhVEz6YKHfJwBwIQ6AEwBnoECAcQAQ#v=onepage&q=Liga%20zur%20Verteidigung%20Elsass-Lothringens&f=false p. 624
    (e) https://books.google.ch/books?id=xd5KCgAAQBAJ&pg=PA385&lpg=PA385&dq=Liga+zur+Verteidigung+Elsass-Lothringens&source=bl&ots=RuZadmWCrT&sig=ACfU3U2Y7Ex5t5j-1N-NdrrOs1HiQIY-3w&hl=en&sa=X&ved=2ahUKEwjqOobupIziAhVEz6YKHfJwBwIQ6AEwBHoECAkQAQ#v=onepage&q=Liga%20zur%20Verteidigung%20Elsass-Lothringens&f=false p. 385
40. Bauernbund
    (a) http://www.cyberato.org/sites/default/files/cyberato/lerch-dominique/publications/e-eratosthene/lerch_bilger_cyberato.pdf
    (b) http://www.alsace-histoire.org/fr/notices-netdba/bilger-joseph-theodore.html

41. L'Est républicain
    (a) http://www.kiosque-lorrain.fr/exhibits/show/est-republicain_89-18/naissance-du-journal
42. L'Humanité
    (a) https://books.google.ch/books?id=scvcL3fgSIcC&pg=PA79&lpg=PA79&dq=La+Lorraine+ouvri%C3%A8re+et+paysanne&source=bl&ots=jIkxggKw_B&sig=ACfU3U36fqrvl0h_j6jnTBUuwjUUKQX5Qw&hl=en&sa=X&ved=2ahUKEwisw8jxxqLiAhWJL1AKHc9YCJcQ6AEwEHoECAgQAQ#v=snippet&q=humanit%C3%A9&f=false
43. Le Progrès de la Meuse
    (a) http://presselocaleancienne.bnf.fr/ark:/12148/cb328202120
44. Courrier de Meurthe-et-Moselle
    (a) https://data.bnf.fr/fr/32750677/courrier_de_meurthe-et-moselle/
45. La Chronique des Vosges
    (a) https://data.bnf.fr/fr/32741724/la_chronique_des_vosges/
46. l'Union patriotique de l'Est Zentrum
    (a) Departmental Archive
    (b) https://books.google.ch/books?id=wnOKAgAAQBAJ&pg=PA123&lpg=PA123&dq=l%27Union+patriotique+de+l%27Est+Meurthe&source=bl&ots=bMraaBGGQ1&sig=ACfU3U3vr6KdRUc1nH-60VA6SaBIRUJHnQ&hl=fr&sa=X&ved=2ahUKEwii9vSZqsDiAhUC2aYKHUqTBgE4ChDoATABegQICRAB#v=onepage&q=l'Union%20patriotique%20de%20l'Est%20Meurthe&f=false
47. l'Union républicaine de l'Est Fortschrittspartei
    (a) Departmental Archive
48. Cercle d'études des Marches de l'Est (PCF)
    (a) Departmental Archive
    (b) http://www.qucosa.de/fileadmin/data/qucosa/documents/8569/Dissertation_Padiou_Nicolas_1_End.pdf
49. le Cercle militaire clandestin de Nancy
    (a) Departmental Archive
50. le Groupe lorrain de la représentation proportionnelle
    (a) Departmental Archive
51. le Groupe d'études sociales de Nancy
    (a) Departmental Archive
    (b) https://books.google.ch/books?id=k6jJDgAAQBAJ&pg=PA260&lpg=PA260&dq=le+Groupe+d%27%C3%A9tudes+sociales+de+Nancy&source=bl&ots=l6tDQXSwOS&sig=ACfU3U3_z-e5EmqW0DVGNM3qnTguStZE5g&hl=fr&sa=X&ved=2ahUKEwjjjJzWiMHiAhUkyIUKHe17B68Q6AEwB3oECAcQAQ#v=onepage&q=Fran%C3%A7ois%20Mariatte&f=false

E Links: Examples of Other Regions Experiencing Repression

- Scania, Sweden
  https://sverigesradio.se/sida/artikel.aspx?programid=83&artikel=1915851

- Silesia, Bohemia, Kaliningrad and Danzig, Poland and the Czech Republic
  http://homepage.univie.ac.at/philipp.ther/breslau/html/Entdeutschung%20und%20Polonisierung.%20Die%20Umwandlung%20Breslaus%20in%20eine%20polnische%20Stadt.html
  https://web.archive.org/web/20071208130441
  http://www.haus.pl/de/opis/arb4.html
  https://www.britannica.com/place/Silesia
  https://www.economist.com/eastern-approaches/2013/05/07/the-expulsion-of-sudeten-germans-is-still-raw
  https://www.britannica.com/place/Bohemia
  https://www.britannica.com/place/Gdansk
  http://dfk-danzig.eu/de/deutsche-in-danzig/deutsche-in-danzig

- Chechnya, Russia
  https://www.britannica.com/place/Chechnya
  http://linguistics.berkeley.edu/ ingush/ingush_people.html
  https://www.economist.com/news/2003/03/25/putins-proposition

- Kurds in Turkey, Iran, Iraq and Syria
  https://www.nytimes.com/2008/02/17/magazine/17turkey-t.html?ex=1361854800&en=df64cf85326e2103&ei=5124&partner=permalink&exprod=permalink
  https://www.bbc.com/news/world-middle-east-29702440

- South Tyrol, Italy
  https://www.tandfonline.com/doi/full/10.1080/1369183X.2017.1352465 // *https://www.uibk.ac.at/zeitgeschichte/zis/stirol.html*

- Xinjiang, China
  https://www.economist.com/china/2015/06/27/tongue-tied
  https://www.economist.com/briefing/2018/05/31/china-has-turned-xinjiang-into-a-police-state-like-no-other

- Tibet, currently occupied by China
  https://www.economist.com/china/2016/09/17/the-plateau-unpacified
  https://www.nytimes.com/2010/07/25/world/asia/25tibet.html

- Crimea, formerly in Ukraine, annexed by Russia 2014
  https://www.economist.com/news/2015/06/11/bad-memory
  https://www.economist.com/eastern-approaches/2014/03/17/ukraines-amputation

- Basque country - organize art festivals
  http://www.euskadi.eus/hasiera/

F Alternative Explanations

F.1 Support driven by urban agglomerations

Another potential concern is whether the effect is driven by outliers. More specifically, it might be driven by urban agglomerations for two potential reasons. Historically, cities enjoyed greater autonomy and might have developed a stronger local identity relative to national identity. A visual inspection of the maps in Figure A36c in the main text suggests that the area surrounding Metz does in these cases feature high shares of yes votes. We test whether this is a problem by excluding municipalities belonging to the metropolitan area as defined by INSEE. Depending on bandwidth length, this means that between 30 and 38 municipalities are excluded. Table A25 presents the results for the analysis of newspaper subscriptions within Lorraine excluding Metz (Panel A). All point estimates are very similar and still statistically significant.

F.2 The role of World War II

It is not absolutely clear how to interpret the role of WWII. During most of the war, the treated and untreated area were occupied by Germany. German policies were surely repressive, but the suppression of regional identity and traditions was not the main objective and a potential suppression of French identity took place in all occupied parts of France. Neither the treated nor control area belonged to the self-governed Vichy part of France. We are thus reluctant to emphasize the role of WWII, even though it was clearly a drastic shock influencing the lives of many people.

Nonetheless, one concern is that the shock was stronger in the treated area, as a sizable number of young men were drafted into the German military and exposed to different and potentially more intense war experiences. This difference in exposure probably led to a final phase of perceived alienation and repression, because the French central government sentenced some of these so-called *malgré-nous* who were in the *Waffen-SS* to death in the Bordeaux Trial in 1953 for their involvement in war crimes. This punishment was perceived as unfair and caused massive public outrage and protest, because it did not take the historical circumstances into account.[5] It was probably the last major part of a set of policies which was imposed by the national majority in disregard of the local preferences and opinions. By 1964, all French citizens who had collaborated with the Nazis including the convicts from the Bordeaux trials had benefited from a general amnesty.

Based on the results in Vlachos (2017), using variation within Alsace, the only outcome correlated significantly with a higher share of war veterans is higher support for candidates of the right-wing National Front. In an earlier version of this paper (Dehdari and Gehring, 2016), we show that there is no difference in support for nationalist leader Jean-Marie Le Pen in the 2007 presidential election.[6] Thus, there does not seem to be a problematic discontinuity with regard to WWII exposure at the border we exploit. Finally, the composition of the population might have been affected differently, but Table A37 indicates no problematic differences.

F.3 Germanization - weaker French identity?

Although feeling more German would not directly explain a stronger regional identity, being exposed to German ideas, newspapers and institutions for nearly fifty years could affect preferences. In our model, however, there is no reason to expect a persistently stronger German identity after the

[5] Nearly all mayors of towns in Alsace attended a public protest walk in Strasbourg. For alternative versions and views about the actions and historical circumstances see http://www.scrapbookpages.com/Oradour-sur-Glane/Story/index.html.

[6] Results available upon request.

occupation ended. Although identities based on different levels (regional, national) need not to be substitutes, national identities probably are to some degree. Accordingly we would expect that a stronger German identity is related to a weaker French identity. Although we find no such difference in the survey results, we also code a variable based on tweets issued using Twitter about the French and German national football team during the World Cup in 2014 as a robustness test. When using this as an alternative measure of German and French national identity at the local level within Lorraine, we find no significant difference at the 10 kilometers and at the optimal IK bandwidth (see Table A6). The analysis rests on relatively few tweets, but the results are in line with the survey evidence and suggest no difference in German or French national identity.[7]

Twitter: Georeferencing

There are two ways in which Twitter users indicate their geographic location:

1. **User-provided georeferencing:** User can tag a location in their tweet directly. This type of tweet is unreliable for research, because the location tagged doesn't necessarily coincide with the location of the person tweeting.

2. **GPS-provided georeferencing:** The GPS function in mobile phones allows Twitter messages sent via the phone to contain the coordinates of the user's location. Due to the optionality of the GPS function, only 2- 3 percent of all Twitter users can be georeferenced this way. Due to the abundance of tweets, this method still generates a large number of possible observations.

Twitter: Availability of data

It is possible to collect a random selection of tweets at any given point in time via Twitter's API (Application Programming Interface).

Twitter: Approach and coding

The relevant tweets were identified and analyzed in a three-step process.

1. Over the period of the Football World Cup 2014 a random sample of tweets was obtained via Twitter's API. This method resulted in 18,278 observations.

2. Because Twitter only allows for data selection in geographic areas of rectangular shape, ArcGIS was used to identify the tweets specifically located in Lorraine.

3. The content of the selected tweets were then analyzed based on a selection of keywords about the German and French national football teams. The lists of keywords are displayed in Table A5.

[7] The historical and sociological literature also argues that although citizens accepted their legal belonging to Germany, they did so "without feeling German themselves" (Höpel, 2012, p.37). De La Valette (1925) refers to a disillusioned German journalist saying "Alsace does not want us; the Alsatians are lost to us". Carrol (2010, p.66) cites a government official stating that "Prussian methods had failed to instill alien national sentiments into the minds of a people who were proud of their history". It also seems to be partly misleading to frame the regionalist parties in the 1920s and 30s as pro-German. The "Landespartei" is described as "referring in its manifesto to the right of peoples to self-determination and looked forward to the day when a 'free Alsace- Lorraine' would be the mediator between France and Germany in a United States of Europe" (Anderson, 1972). Similarly, the UPR called for "administrative decentralization, a regional elected council and the recognition of bilingualism" rather than for a return to Germany.

Table A5: List of Twitter Keywords

List France		List Germany	
les Bleus	#BLEUS	mannschaft	allemagne
#SPAFRA	#FRA	DFB_Team	#GER
#ESPFRA	#UKRFRA	#GERPOL	#FRAGER
#SWEFRA	#SUIFRA	#FRADEU	#FRAALL
#SWIFRA	#ECUFRA	#TeamGermany	#DEU
Landreau	Lloris	#ALL	#HOLDEU
Ruffier	Debuchy	#NEDGER	#NEDALL
Digne	Evra	#DENDEU	#DANDEU
Koscielny	Mangala	#DANGER	#DENGER
Sagna	Sakho	#DANALL	#DENALL
Varane	Cabaye	#USAGER	#USAALL
Matuidi	Mavuba	#USADEU	#BRADEU
Pogba	Schneiderlin	#BRAALL	#BRAGER
Sissoko	Valbuena	Neuer	Wiese
Benzema	Cabella	Zieler	Badstuber
Giroud	Griezmann	Boateng	Höwedes
Rémy	Deschamps	Hummels	Lahm
Carrasso	Mandanda	Mertesacker	Schmelzer
Clichy	Mexès	Bender	Götze
Rami	Réveillère	Gündogan	Khedira
Arfa	Diarra	Kroos	Özil
M'Vila	Malouda	Reus	Schweinsteiger
Marvin Martin	Nasri	Gomez	Klose
Ribéry	Valbuena	Müller	Podolski
Ménez	Blanc	Schürrle	Löw
Boghossian	Gasset	Flick	Köpke
Raviot		Weidenfeller	Durm
		Großkreutz	Mustafi
		Draxler	Ginter
		Kramer	

Twitter: RD results

Table A6: RD results Twitter data, within Lorraine

Dep. Variable:	Share Tweets Germany		Share Tweets France	
Variable	(1)	(2)[a]	(3)	(4)[a]
Treatment	2.927	-0.456	0.131	-1.013
	(1.996)	(1.078)	(0.569)	(0.961)
	[0.144]	[0.673]	[0.819]	[0.292]
Obs.	170	370	170	481
Bandwidth	10 km	23.94 km	10 km	37.77 km

Notes: Testing for discontinuities in the share of tweets about the German and French national football team using municipalities in Moselle, Meurthe et Moselle, and Meuse. The dependent variable is coded as the number of tweets about Germany during World Cup 2014 in Brazil, divided by the total number of tweets in each municipality. Included controls: distance to Germany (border), distance to Metz, distance to Strasbourg, distance to Nancy, and border segment fixed effects. Conley standard errors (10 kilometer bandwidth) in parentheses and p-values in brackets.

[a] Estimates from using the optimal IK bandwidth.

F.4 Differences in benefits from trade

One of the main benefits of more international integration that is usually mentioned is increased gains from trade stemming from lower trade costs (Alesina and Spolaore, 1997). Accordingly, we need to assume that these benefits are comparable close to the border. Clearly, distance to the respective neighboring states correlates with trade costs; municipalities that are closer to the country borders could benefit more from increased trade and thus exhibit higher agreement to more EU integration in the 1992 and 2005 referenda. At the same time, relying less on trade with the rest of France and more on exports could also foster a stronger regional relative to national identity. There are two ways to evaluate whether this is problematic in our cases.

Firstly, our smallest bandwidth is 10 kilometers only, so that it seems implausible that the relatively small additional distance between treated and control municipalities affects trade costs sufficiently to explain the results. Moreover, our estimates are robust to controlling for distance to the German as well as to other borders. Secondly, the point estimates of the treatment effect barely change when we increase the bandwidths and include more municipalities. Thirdly, if distance to the border has a significant effect, we would expect to see a significant, or at least positive difference between former Lorraine and the rest of France as well. AS this is also not the case, our assessment is that differences in trade benefits do not seem to be sufficient to explain the strong effects we find.

F.5 EU funding, relevant for 1992 and 2005 referenda

Another potentially biasing factor in the 1992 and 2005 referenda could be differences in European Union fund receipts if the treated area would receive significantly more money which could directly affect the likelihood to vote yes or indirectly through potential growth effects (Becker et al., 2010). However, the funds are allocated to regions, not départements (the respective categories in the 2014-2020 period are "Lorraine et Vosges - ERDF/ESF" and "Lorraine - Rural Development"). The whole region is responsible for the within-region allocation and there is no reason to assume that municipalities just right of the former border in the treated area would be awarded more funds.

F.6 Religiosity and EU support

One distinct feature in which the local laws strongly differ from the rest of France is with regard to religion. Historically, the church played a larger role in the average citizens life in the treated area

until after WWI, and still does to some degree until today. In contrast to the rest of France, pupils in the area are still subjected to compulsory religious classes at school (usually two hours per week). This is not uncommon in other European countries, for instance, many of the southern German states feature a similar policy. Usually these classes are not dogmatic, but transmit information about religions in general, of course still with an emphasis on Christianity. If religion or religious denomination is related to a more favorable attitude towards the EU, part of the effect we measure and attribute to differences in exposure to intrusive policies might be driven by differences in religious identity.

However, the available literature indicates no direct relationship between religious attachments and European integration and "even indirect effects of religion on Euroscepticism are small or appear to cancel each other out"(Boomgaarden and Freire, 2009, p.1). To the opposite, albeit minimally, it is argued that "actors such as religious parties and the churches have strayed from the integrationist path and contributed to Euroscepticism" (Minkenberg, 2009, p.1190).

To make sure this is really no concern, we examine the purported relationship in a more systematic way as well. In the specific French context, there are no municipal level measures on religious affiliation and the share of people who consider themselves secular, due to the specific secular constitution and approach in France. Nonetheless, we can use outcomes aggregated at the département level for all of France to assess the relationship between religion and voting in the EU referendum. Table A7 shows results for two variables that measure the intensity of religiousness and religious denomination. *Attendance* measures how often subjects attend religious services, both as a continuous variable and coded as a set of dummies with *never attending* as the reference category. Denomination relates to the share of people who perceive themselves as *Roman Catholic*, *Protestant*, *Christian Orthodox*, *Jewish*, *Muslim* or *other faiths*, with *no religious affiliation* as the reference category.

The results show no difference for *Attendance* in both 1992 and 2005. With *Attendance* coded as individual dummies, there is also no stable relationship. Only very enthusiastic churchgoers have a marginally significant positive correlation compared to those who never attend in 2005, but not in 1992. The pattern is similar for denomination. The only positive correlation which is significant at the 10 percent level is with *Protestant* in 1992, but it also disappears in 2005. Overall, this supports the existing literature that religion does not play a major role for attitudes towards the EU. Thus, the concern that religious differences would contaminate our main results appears unfounded.

Table A7: Share of Yes votes 1992/2005 and religion, all of France.

	Share Yes 1992			Share Yes 2005		
	(1)	(2)	(3)	(4)	(5)	(6)
Attendance [mean]	-1.839			-1.774		
	[0.167]			[0.113]		
Attendance: Weekly		0.114			0.099	
		[0.167]			[0.135]	
Attendance: 2-3 times a month		0.002			0.025	
		[0.983]			[0.788]	
Attendance: Once a month		-0.052			-0.097	
		[0.625]			[0.164]	
Attendance: Sev. times a year		0.057			0.054	
		[0.114]			[0.144]	
Attendance: Less freq.		0.036			-0.001	
		[0.391]			[0.988]	
Roman Catholic			0.029			0.004
			[0.291]			[0.902]
Protestant			0.353			0.146
			[0.054]			[0.321]
Christian Ortodox			0.115			0.267
			[0.846]			[0.585]
Jewish			0.847			1.095
			[0.116]			[0.278]
Moslem			-0.092			0.008
			[0.437]			[0.955]
Other Religions			-0.155			0.010
			[0.495]			[0.971]
Obs.	94	94	94	94	94	94

Notes: This table tests whether there is a clear relationship between religious affiliation and voting in the two referenda 1992 and 2005. The OLS estimates use aggregate survey results at the département-level. *Attendance* refers to how often the respondents attend religious services. *Never attending* is the omitted reference category for attendance, *no religious denomination* is the omitted reference category for religion. Controls: Sex, Age, Years of schooling, Urban vs Rural, Union membership, Degree, Income, and Household size. p-values in brackets. There is no systematic effect of religion, which is reassuring as the areas in former Alsace-Lorraine has a slightly different history with regard to schooling. Accordingly, these differences and schooling should not explain our results.

Short Interpretation: Religious beliefs and denomination could affect voting in the referenda. We show for all of France that such a relationship never shows up significantly at any level, both for intensity of belief measured by church attendance, as well as when using denomination as the variable of interest. We conclude that there are some differences with regard to the treatment of religion between the departments, but none that closely influences or could explain our result.

G Descriptives

Table A8: Descriptive statistics for outcome variables and treatment

Variable	Mean	Std. dev.	Min.	Max.
Treatment	0.52	0.50	0.00	1.00
Yes 1969	59.69	14.28	5.65	94.74
Yes 1992	53.91	11.39	0.00	86.25
Yes 2005	45.51	9.96	6.67	81.01
Newspaper subscriptions	14.62	7.63	0.00	32.90
Turnout 1969	84.59	7.56	7.41	100.00
Turnout 1992	74.40	6.04	52.44	100.00
Turnout 2005	73.28	6.40	50.79	100.00

Notes: Descriptive statistics for the binary treatment variable, *Share Yes 1969*, *Share Yes 1992* and *Share Yes 2005*, in the respective referenda, and share of newspaper subscriptions, whereas *Turnout 1969, 1992*, and *2005*, refers to turnout in the respective year.

Table A9: Descriptive statistics for RDD control and pre-treatment variables

Variable	Mean	Std. dev.	Min.	Max.
Distance to Metz	83.11	44.02	1.60	203.16
Distance to Strasbourg	108.61	50.58	0.02	223.02
Distance to Nancy	73.60	34.71	0.06	164.98
Distance to Germany	51.75	35.65	0.33	141.55
Ruggedness	68.28	62.81	2.29	549.24
Elevation	300.51	118.79	110.12	1045.90
Wheat	61.00	3.24	38.74	66.87
Potato	37.13	10.47	7.30	58.82
Barley	55.85	17.71	7.94	100.00
Elevation, std.	32.07	35.49	0.00	301.98
Pop. density 1860	8.23	25.26	0.00	841.67
Road length 1860	4.43	5.83	0.00	74.39
Grazing 1860	23.36	13.10	0.00	45.43
Cropland 1860	20.45	11.40	0.00	51.89
RR stations 1860	0.04	0.21	0.00	1.00
RR quality 1860	0.11	0.37	0.00	2.00

Notes: Descriptive statistics for variables used as covariates (for variables used in the main paper) and pre-treatment variables. Distances are in kilometers. Potato and wheat refer to the suitability of the soil to grow the respective crop, based on FAO data. Other variables were chosen with the aim to have the date date closest to our main outcome variables.

Table A10: Variable description and sources 1

Variable	Definition	Source
Dependent Variables		
Share Yes 1969	Share of Yes votes in the 1969 constitutional referendum	*L'Est Repubblicain*
Share Yes 1992	Share of Yes votes in the 1992 referendum (Maastricht Treaty)	Centre de données socio-politiques (CDSP)
Share Yes 2005	Share of Yes votes in the 2005 referendum (European Constitution Treaty)	Centre de données socio-politiques (CDSP)
Turnout, 1969	Voter turnout in the 1969 constitutional referendum	*L'Est Repubblicain*
Turnout, 1992	Voter turnout in the 1992 referendum (Maastricht Treaty)	Centre de données socio-politiques (CDSP)
Turnout, 2005	Voter turnout in the 2005 referendum (European Constitution Treaty)	Centre de données socio-politiques (CDSP)
Subscription regional newspaper	Subscriptions to "Le Republicain Lorraine"/No.households in 2014	*Le Republicain Lorraine*
Share Tweets Germany	Number of tweets about Germany during the 2014 World Cup	*Twitter*
Share Tweets France	Number of tweets about France during the 2014 World Cup	*Twitter*
Pre-treatment variables		
Ruggedness	Index of variance of elevation in each municipality	Global elevation data set
Elevation	Raw elevation data	NASA SRTM data set
Potato	Soil suitability for production of potatoes (medium input intensity and irrigation)	IIASA/FAO, 2012
Wheat	Soil suitability for production of wheat (medium input intensity and irrigation)	IIASA/FAO, 2012
Barley	Soil suitability for production of barley (medium input intensity and irrigation)	IIASA/FAO, 2012
Population	Population in 1866	French Census 1866
Cropland	total area of arable land and permanent crops in the municipality in 1860	HYDE 3.2
Grazing Land	total land area used for mowing or grazing livestock in the municipality in 1860	HYDE 3.2
Road Length	Total length of road network in the municipality in 1860	Perret et al., 2015
Railroad Station	Presence of railroad station in municipality in 1860	Mimeur et al., 2018
Railroad Quality	Quality of railroad infrastructure in the municipality in 1860	Mimeur et al., 2018

Notes: Variable description and source for all variables used in the paper and this Online Appendix.

Table A11: Variable description and sources 2

Variable	Definition	Source
Covariates		
Median income	Median income in 2008	INSEE
Mean age	Mean age in 2006	INSEE
Education	Share of people with a high school degree	INSEE
Occupation	Share of blue-collar workers	INSEE
Workers, 2006	Share of workers in 2006	INSEE
Farmers, 2006	Share of farmers in 2006	INSEE
Artisans, 2006	Share of artisans in 2006	INSEE
Executives, 2006	Share of executives in 2006	INSEE
Intermediate prof., 2006	Intermediate professionals in 2006	INSEE
Companies, 2011	Number of companies per capita in 2011	INSEE
Commercial est., 2011	Number of commercial establishments per capita in 2011	INSEE
Industrial est., 2011	Number of industrial establishments per capita in 2011	INSEE
Building est., 2011	Number of building establishments per capita in 2011	INSEE
Public est., 2011	Number of public establishments per capita in 2011	INSEE
Theatre rooms, 2013	Number of theatre rooms per capita in 2013	INSEE
Athletic centers, 2013	Number of athletic centers per capita in 2013	INSEE
Multisport fac., 2013	Number of multisport facilities per capita in 2013	INSEE
Swimming fac., 2013	Number of swimming facilities per capita in 2013	INSEE
Psychiatric est., 2013	Number of psychiatric establishments per capita in 2013	INSEE
Service houses, 2013	Number of service houses per capita in 2013	INSEE
Health care, 2013 (short)	–	INSEE
Health care, 2013 (medium)	–	INSEE
Health care, 2013 (long)	–	INSEE
Post offices, 2013	Number of post offices per capita in 2013	INSEE
Elementary schools, 2013	Number of elementary schools per capita in 2013	INSEE
High schools, 2013	Number of high schools per capita in 2013	INSEE
Vocational training, 2013	Number of secondary schools with vocational training per capita in 2013	INSEE
Tech. vocational training, 2013	Number of secondary schools with technical vocational training per capita in 2013	INSEE

Notes: Variable description and source for all variables used in the paper and this Online Appendix.

Table A12: Survey questions (i.)

Variable	Question	Categories/Scale	Source
Regional identity	"Could you tell me whether you feel very attached, rather attached, not very attached or not attached at all to [name of region]?"	4 = very attached; 3 = rather attached; 2 = not very attached; 1 = not attached at all	OIP 99/2001 Q2a3
National identity	"Could you tell me whether you feel very attached, rather attached, not very attached or not attached at all to France?"	4 = very attached; 3 = rather attached; 2 = not very attached; 1 = not attached at all	OIP 99/2001 Q2a2
European identity	"Could you tell me whether you feel very attached, rather attached, not very attached or not attached at all to Europe?"	4 = very attached; 3 = rather attached; 2 = not very attached; 1 = not attached at all	OIP 99/2001 Q2a1
Regional relative to National identity (standardized)		Relation of two identities, standardized with standard deviation 1 and mean 0	OIP 99/2001
European relative to national identity (standardized)		Relation of two identities, standardized with standard deviation 1 and mean 0	OIP 99/2001
Democrazy works well within France	"Personally, do you reckon the democracy in France to function very well, fairly well, not very well or not well at all?"	4 = very well; 3 = fairly well; 2 = not very well; 1 = not well at all	OIP 99/2001 Q4
I feel well informed about regional policies	"You personally, do you think that you are well or badly informed about the actions of the regional council of [name of region]?"	4 = very well; 3 = rather well; 2 = rather badly; 1 = very badly	OIP 99/2001 Q14
Democary works well within the region	"And in [name of region], do you reckon the democracy to function very well, fairly well, not very well or not well at all?"	4 = very well; 3 = fairly well; 2 = not very well; 1 = not well at all	OIP 99/2001 Q5
I am concerned regional administration would increase interregional inequality	"If the region takes action in all those domains instead of the state, are you concerned about the development of interregional inequality?"	4 = Yes, very much so; 3 = Yes, somewhat; 2 = No, not very much; 1 = No, not at all	OIP 2003 Q11a2

Notes: Description of survey questions from the Observatoire Interrégional du Politique (OIP) 1999 and 2001. The values of the categories are reversed compared to the original question categories. Questions were originally in French and have been translated.

Table A13: Survey questions (ii.)

Variable	Question	Categories/Scale	Source
Power_Transfer_Region	**"Are you in favor of the transfer of all the power and means of the state to the regions?" (Average across 10 policy dimensions)**	Value between 1 and 4. 4 = "Strongly in favor" and 1 = "Strongly against"	
1	"Are you in favor of the transfer of all the power and means of the state to the regions regarding the choice in setting up high schools?"	4 = Strongly in favor; 3 = Somewhat in favor; 2 = Somewhat against; 1 = Strongly against	OIP2001 Q36a1
2	"Are you in favor of the transfer of all the power and means of the state to the regions regarding the management of high school teachers?"	4 = Strongly in favor; 3 = Somewhat in favor; 2 = Somewhat against; 1 = Strongly against	OIP2001 Q36a2
3	"Are you in favor of the transfer of all the power and means of the state to the regions regarding the management of administrative personnel in high schools?"	4 = Strongly in favor; 3 = Somewhat in favor; 2 = Somewhat against; 1 = Strongly against	OIP2001 Q36a3
4	"Are you in favor of the transfer of all the power and means of the state to the regions regarding the definition of school programs and certificates?"	4 = Strongly in favor; 3 = Somewhat in favor; 2 = Somewhat against; 1 = Strongly against	OIP2001 Q36a4
5	"Are you in favor of the transfer of all the power and means of the state to the regions regarding the choice in setting up university centers in the region?"	4 = Strongly in favor; 3 = Somewhat in favor; 2 = Somewhat against; 1 = Strongly against	OIP2001 Q36a5
6	"Are you in favor of the transfer of all the power and means of the state to the regions regarding the choice of high school creation?"	4 = Strongly in favor; 3 = Somewhat in favor; 2 = Somewhat against; 1 = Strongly against	OIP2001 Q36a6
7	"Are you in favor of the transfer of all the power and means of the state to the regions regarding environment policies like water policy?"	4 = Strongly in favor; 3 = Somewhat in favor; 2 = Somewhat against; 1 = Strongly against	OIP2001 Q36a7
8	"Are you in favor of the transfer of all the power and means of the state to the regions regarding cultural policies like heritage conservation?"	4 = Strongly in favor; 3 = Somewhat in favor; 2 = Somewhat against; 1 = Strongly against	OIP2001 Q36a8
9	"Are you in favor of the transfer of all the power and means of the state to the regions regarding sport policies?"	4 = Strongly in favor; 3 = Somewhat in favor; 2 = Somewhat against; 1 = Strongly against	OIP2001 Q36a9
10	"Are you in favor of the transfer of all the power and means of the state to the regions regarding the support of social housing?"	4 = Strongly in favor; 3 = Somewhat in favor; 2 = Somewhat against; 1 = Strongly against	OIP2001 Q36a10

Notes: Description of survey questions from the Observatoire Interrégional du Politique (OIP) 2001. The values of the categories are reversed compared to the original question categories. Questions were originally in French and have been translated.

Table A14: Survey questions (iii.)

Variable	Question	Categories/Scale	Source
Autonomy_Region	**"Could you tell me whether reforms empowering the regional councils are a very good thing, a rather good thing, a rather bad thing or a very bad thing for the years to come?" (Average across 5 areas)**	Value between 1 and 4. 1 = "It's a very bad thing." and 4 = "It's very good thing."	
1	"Here are a certain number of reforms that are under way or under discussion. Could you tell me, for each one of these, whether it is a very good thing, a rather good thing, a rather bad thing or a very bad thing for the years to come? - Authorizing the regional councils to adapt the national laws and regulations in their respective regions, under the control of the Parliament."	4 = A very good thing; 3 = A rather good thing; 2 = A rather bad thing; 1 = A very bad thing	OIP2001 Q35a1
2	"Here are a certain number of reforms that are under way or under discussion. Could you tell me, for each one of these, whether it is a very good thing, a rather good thing, a rather bad thing or a very bad thing for the years to come? - Authorizing the regional councils to negotiate and manage the European funding without state involvement."	4 = A very good thing; 3 = A rather good thing; 2 = A rather bad thing; 1 = A very bad thing	OIP2001 Q35a2
3	" Here are a certain number of reforms that are under way or under discussion. Could you tell me, for each one of these, whether it is a very good thing, a rather good thing, a rather bad thing or a very bad thing for the years to come? - Giving the regional councils more freedom in deciding over their financial resources without depending on the state."	4 = A very good thing; 3 = A rather good thing; 2 = A rather bad thing; 1 = A very bad thing	OIP2001 Q35a3
4	"Here are a certain number of reforms that are under way or under discussion. Could you tell me, for each one of these, whether it is a very good thing, a rather good thing, a rather bad thing or a very bad thing for the years to come? - Developing the study of regional languages at school."	4 = A very good thing; 3 = A rather good thing; 2 = A rather bad thing; 1 = A very bad thing	OIP2001 Q35a4
5	"Here are a certain number of reforms that are under way or under discussion. Could you tell me, for each one of these, whether it is a very good thing, a rather good thing, a rather bad thing or a very bad thing for the years to come? - Assigning new fields of competence to the regional councils."	4 = A very good thing; 3 = A rather good thing; 2 = A rather bad thing; 1 = A very bad thing	OIP2001 Q35a5

Notes: Description of survey questions from the Observatoire Interrégional du Politique (OIP) 2001. The values of the categories are reversed compared to the original question categories. Questions were originally in French and have been translated.

Table A15: Survey questions (iv.)

Variable	Question	Categories/Scale	Source
Education_Region	**"Are you in favor of the transfer of all the power and means of the state to the regions regarding education policy and standards?" (Average across 5 questions)**	Value between 1 and 4. 1 = "Strongly against" and 4 = "Strongly in favor"	
1	"Are you in favor of the transfer of all the power and means of the state to the regions in the following field: - The choice in setting up high schools?"	4 = Strongly in favor; 3 = Somewhat in favor; 2 = Somewhat against; 1 = Strongly against	OIP2003 Q12a1
2	"Are you in favor of the transfer of all the power and means of the state to the regions in the following field: - The management of high school teachers?"	4 = Strongly in favor; 3 = Somewhat in favor; 2 = Somewhat against; 1 = Strongly against	OIP2003 Q12a2
3	"Are you in favor of the transfer of all the power and means of the state to the regions in the following field: - The management of administrative personnel in high schools?"	4 = Strongly in favor; 3 = Somewhat in favor; 2 = Somewhat against; 1 = Strongly against	OIP2003 Q12a3
4	"Are you in favor of the transfer of all the power and means of the state to the regions in the following field: - The definition of school programs and certificates?"	4 = Strongly in favor; 3 = Somewhat in favor; 2 = Somewhat against; 1 = Strongly against	OIP2003 Q12a4
5	"Are you in favor of the transfer of all the power and means of the state to the regions in the following field: - The choice in setting up university centers in the region?"	4 = Strongly in favor; 3 = Somewhat in favor; 2 = Somewhat against; 1 = Strongly against	OIP2003 Q12a5
Opinion on Democracy in EU	"And in the European Union, do you consider democracy to work very well, rather well, not very well or not well at all?"	4 = Very well; 3 = Rather well; 2 = Not very well; 1 = Not well at all	OIP 2000 Q10
Opinion on France in EU	"Generally, do you think that fact that France is part of the European Union is a good or a bad thing?"	1 = Good thing; 0 = Bad thing	PEF 2002 V2 Q242
Opinion on Regional Council	"Would you say that the project of the Regional Council of [respondent's region] is going more in the right or more in the wrong direction?"	1 =Right direction; 0 = Wrong direction	OIP 99/2001 Q9/Q10

Notes: Description of survey questions from International Social Survey Programme (ISSP) 2003, National Identity (II), and ISSP 2004, Citizenship, and the Observatoire Interrégional du Politique (OIP) 2003. The values of the categories are reversed compared to the original question categories. Questions were originally in French and have been translated.

H Additional Results by Outcome

H.1 Referendum 1969

In 1968 Charles de Gaulle observed widespread dissatisfaction with the political system and a growing demand for institutional change. In an attempt to satisfy this demand, he announced a constitutional referendum to be held in 1969. The main policy change proposed in the referendum was increasing the political power of regional governments. De Gaulle was convinced that increasing regions' autonomy to settle local affairs locally would restore political balance.[8] Moreover, he believed that the provinces were still close to the heart of the french people.[9] Figure A3 shows a sample of the newspaper we use the primary data source for the referendum outcome. Figure A3b shows samples of voting results disaggregated on the municipality level.

Figure A3: Sample from *L'Est Republicain* showing voting results

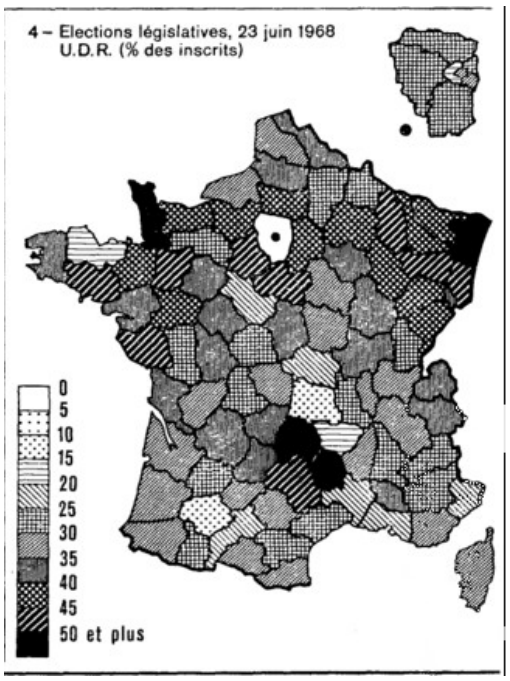
(a) *L'Est Republicain* title page

(b) Voting results on municipality level

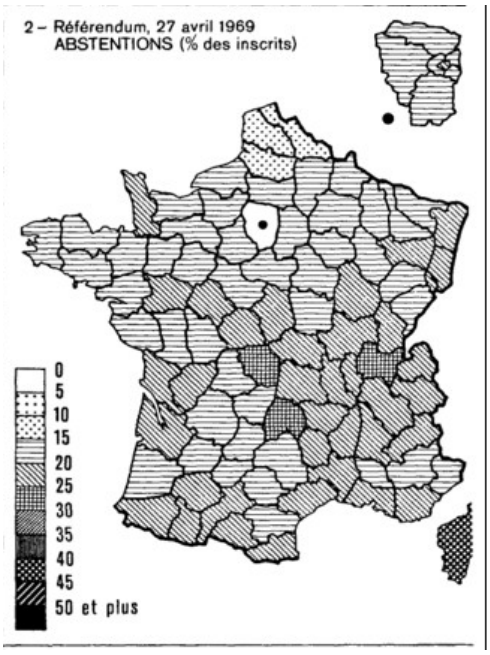
[8] *"Rien n'est plus important pour l'équilibre moral et social de la France que l'organisation, une organisation nouvelle, des contacts et de la coopération, entre ceux qui dirigent et ceux qui sont dirigés."* (De Gaulle, 1969)

[9] *"Et cependant, bien que les régions fussent officiellement ignorées depuis, les régions, je veux dire, les provinces, fussent officiellement ignorées depuis 179 ans. Elles n'ont jamais cessé d'exister dans l'esprit et dans le coeur des français"* (De Gaulle, 1969)

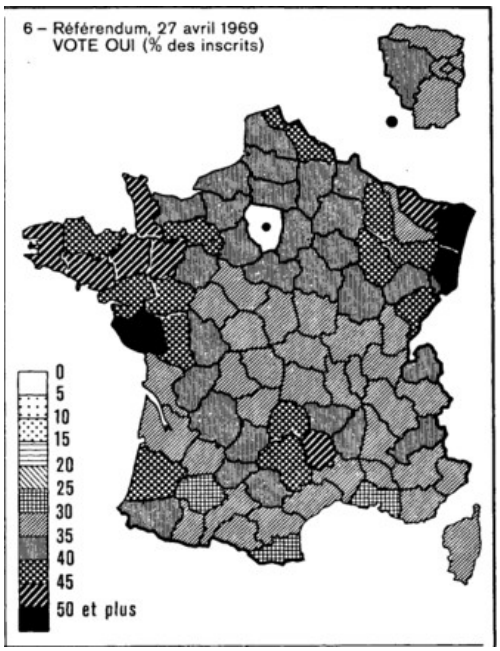
Figure A4: Election and referendum results, 1968 and 1969



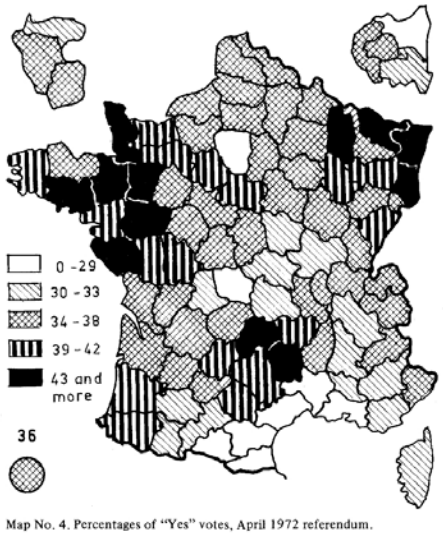
(a) Legislative election 1968



(b) Abstention 1969 referendum



(c) Share of yes votes in 1969 referendum



(d) Share of yes votes in 1972 referendum

Notes: Figure a) shows vote shares for the Gaullist right-wing party *Union for the Defense of the Republic* (U.D.R.) in the legislative elections of 1968. Figures b) and c) shows the share of absentees and share of yes votes (among all votes, including invalid/blank votes), respectively, in the 1969 constitutional referendum about decentralization and establishing the regions as an important political unit in the Constitution. Figure d) presents results for the 1972 referendum, which was about "The Treaty of Accession" the question was about whether Denmark, Ireland, Norway and the United Kingdom should be allowed to become members of the "European Communities", a predecessor of the European Union. There were no differences in vote shares for U.D.R or share of absentees between the Moselle (treated) and Meurthe-et-Moselle (non-treated), while the share of yes votes in both the 1969 and the 1972 referenda was higher in Moselle. Note that no data at the sub-department level exist; our data for 1969 are based on archival newspapers we could access thanks to the departmental archive in Lorraine.
Source: Figures a), b) and c) are from Lancelot and Lancelot (1970). Figure d) is from Leleu (1976).

Table A16: Discontinuities in turnout for 1969 referendum

Dep. Variable:	Turnout 1969			
	(1)	(2)	(3)	(4)[a]
Treatment	1.998	0.544	-0.408	1.369
	(1.145)	(1.124)	(1.121)	(1.026)
	[0.082]	[0.628]	[0.716]	[0.183]
Obs.	388	565	714	907
Bandwidth	10 km	15 km	20 km	26.82 km

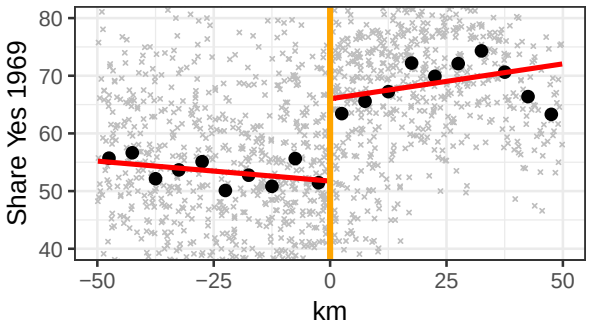
Notes: Discontinuity at the treatment border using municipalities in Lorraine. Outcome is turnout in the 1969 referendum. Included controls: distance to Germany (border), distance to Metz, distance to Strasbourg, distance to Nancy, and border segment fixed effects. Conley standard errors (10 kilometer bandwidth) in parentheses and p-values in brackets.
[a] Estimates from using the optimal IK bandwidth.

Table A17: Robustness Check for 1969 referendum: Clustering of standard errors at cantonal and departmental level

	Yes Share 1969			
	10 km Bandwidth		Optimal IK Bandwidth	
Cluster Level	Canton	Department	Canton	Department
Treatment	12.823	12.823	10.263	10.263
	(2.897)	(0.176)	(2.516)	(1.404)
	[0.000]	[0.000]	[0.000]	[0.000]
Obs	388	388	1087	1087
Dist	10.00 km	10.00 km	33.99 km	33.99 km

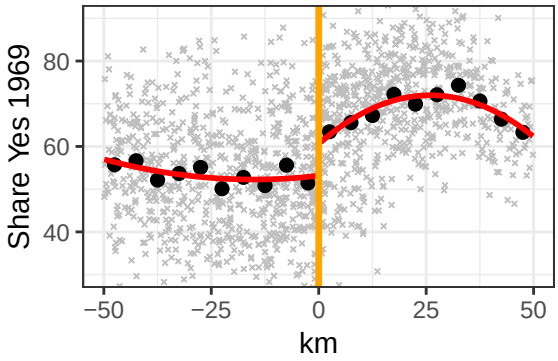
Notes: Discontinuity at the treatment border using municipalities in Lorraine. The outcome is the share of Yes votes in the 1969 referendum. Included controls: distance to Germany (border), distance to Metz, distance to Strasbourg, distance to Nancy, and border segment fixed effects. p-values in brackets. For each choice of bandwidth (10 kilometers or IK-optimal), regression design in the left column includes canton-level and in the right column department-level clusters

Figure A5: RD plots for 1969 referendum, (50 kilometers, 20km in paper), 1st degree polynomial



Notes: RD plots, using municipalities in Lorraine. Fitted line based on first degree polynomial. Black dots represent means using 5km bins.

Figure A6: RD plots for 1969 referendum (50 kilometers), 2nd degree polynomial



Notes: RD plots, using municipalities in Lorraine. Fitted line based on 2nd degree polynomial. Black dots represent means using 5km bins.

Figure A7: Estimation plots for 1969 referendum

(a) Share Yes 1969

(b) Share Yes 1969, no controls

Notes: Estimates of treatment effect, bandwidths varying between 10 to 50 kilometers, within Lorraine. 1st degree polynomial. Dashed vertical line at the optimal IK bandwidth. Solid vertical lines represent 90 percent confidence intervals (based on Conley standard errors, 10 kilometer bandwidth). (a) shows the results with controls, (b) without controls.

Figure A8: Estimation plots for 1969 referendum, controlling for longitude, latitude and their interaction

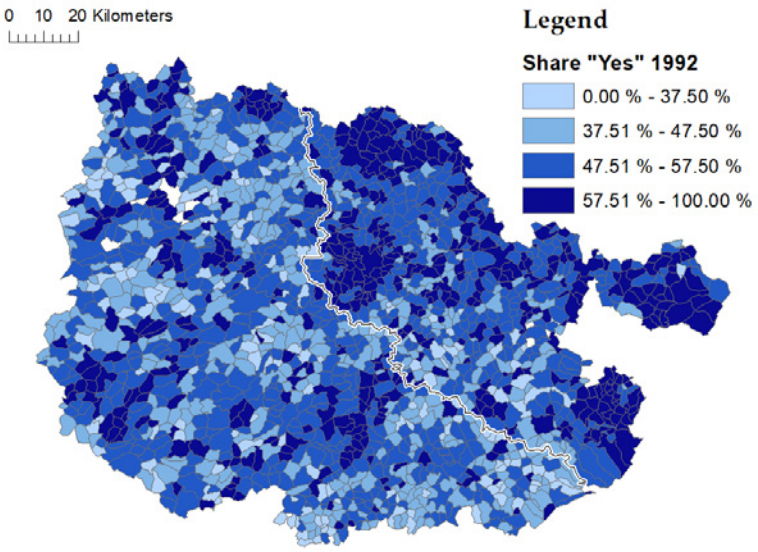
(a) Controlling for longitude and latitude

(b) Controlling for longitude and latitude, and interaction

Notes: Estimates of treatment effect, bandwidth of 10 to 50 kilometers, within Lorraine, controlling for longitude, latitude and their interaction. Dashed vertical line at the optimal IK bandwidth. Solid vertical lines represent 90 percent confidence intervals (based on Conley standard errors, 10 kilometer bandwidth). It is unclear whether controls should be included in these kind of regressions, but as the graphs show this does not affect our results.

H.2 Referendum 1992

Figure A9: Map of municipal level outcomes of referendum in 1992.



Notes: Share of yes votes in the referendum in 1992 on the Maastricht treaty. The treatment border is highlighted in white. Darker shades reflect higher values. Figure A36c shows no differences in turnout between the both areas.

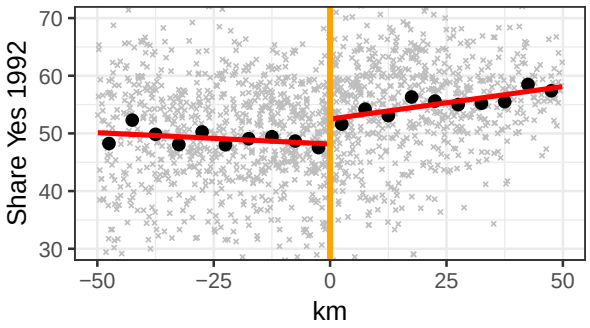
Table A18: RDD and OLS results for 1992 referendum

	Share Yes 1992				
	RDD				OLS
	(1)	(2)	(3)	(4)[a]	(5)
Treatment	3.655	5.276	4.949	6.330	5.594
	(2.192)	(1.967)	(1.769)	(1.448)	(1.007)
	[0.096]	[0.008]	[0.005]	[<0.001]	[<0.001]
Obs.	408	599	765	1512	1813
Bandwidth	10 km	15 km	20 km	50.19 km	-

Notes: Discontinuity at the treatment border using municipalities in Lorraine. The outcome is the share of Yes votes in the 1992 referendum. Included controls: distance to Germany (border), distance to Metz, distance to Strasbourg, distance to Nancy, and border segment fixed effects. Conley standard errors (10 kilometer bandwidth) are displayed in parentheses and p-values in brackets.

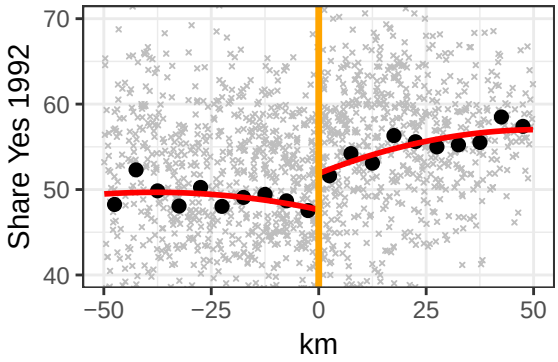
[a] Estimates from using the optimal IK bandwidth.

Figure A10: RD plots for 1992 referendum (50 kilometers, 20km in paper), 1st degree polynomial



Notes: RD plots, using municipalities in Lorraine. Fitted line based on first degree polynomial. Black dots represent means using 5km bins.

Figure A11: RD plots for 1992 referendum (50 kilometers), 2nd degree polynomial



Notes: RD plots, using municipalities in Lorraine. Fitted line based on 2nd degree polynomial. Black dots represent means using 5km bins.

Table A19: Discontinuities in turnout for 1992 referendum

Dep. Variable:	Turnout 1992			
	(1)	(2)	(3)	(4)[a]
Treatment	-0.993	-1.463	-2.171	-1.391
	(1.203)	(1.083)	(1.042)	(0.997)
	[0.410]	[0.177]	[0.038]	[0.163]
Obs.	408	599	765	899
Bandwidth	10 km	15 km	20 km	24.21 km

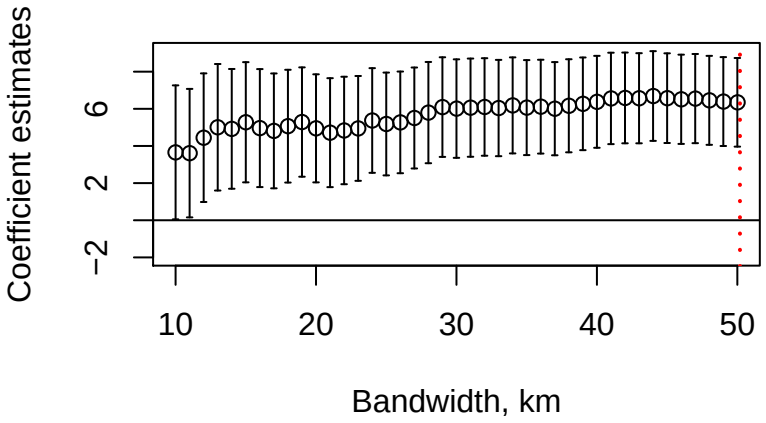
Notes: Discontinuity at the treatment border using municipalities in Lorraine. Outcomes are turnout in the 1992 referendum. Included controls: distance to Germany (border), distance to Metz, distance to Strasbourg, distance to Nancy, and border segment fixed effects. Conley standard errors (10 kilometer bandwidth) in parentheses and p-values in brackets.
[a] Estimates from using the optimal IK bandwidth.

Table A20: Robustness Check: Clustering of standard errors at cantonal and departmental level

	Yes Share 1992			
	10 km Bandwidth		Optimal IK Bandwidth	
Cluster Level	Canton	Department	Canton	Department
Treatment	3.714	3.714	6.271	6.271
	(1.801)	(0.173)	(1.582)	(1.549)
	[0.039]	[0.000]	[0.000]	[0.000]
Obs	407	407	1564	1564
Dist	10.00 km	10.00 km	53.22 km	53.22 km

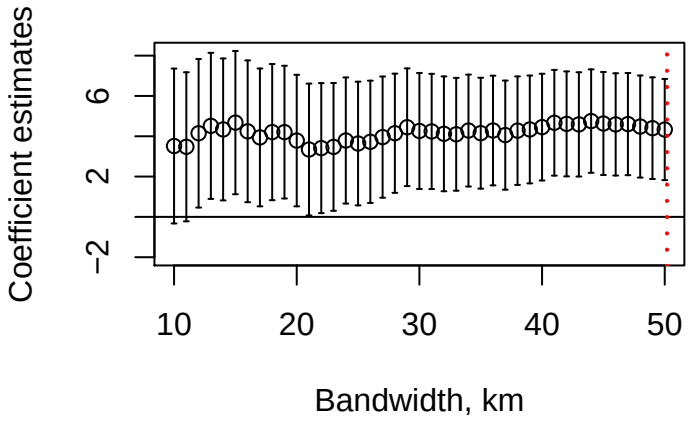
Notes: Discontinuity at the treatment border using municipalities in Lorraine. The outcome is the share of Yes votes in the 1992 referendum. Included controls: distance to Germany (border), distance to Metz, distance to Strasbourg, distance to Nancy, and border segment fixed effects. p-values in brackets. For each choice of bandwidth (10 kilometers or IK-optimal), regression design in the left column includes canton-level and in the right column department-level clusters

Figure A12: Estimation plots for 1992 referendum



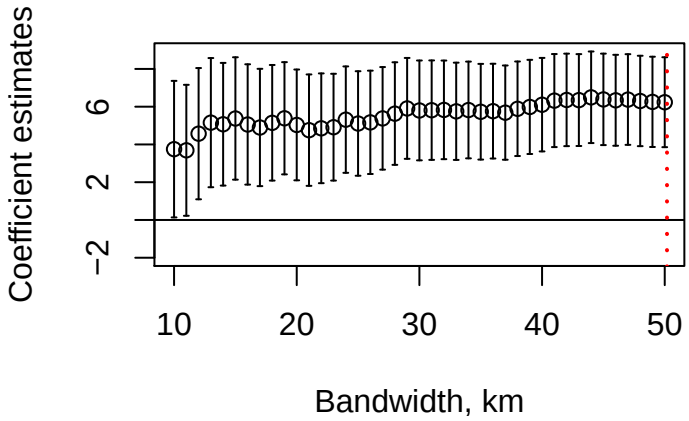
Notes: Estimates of treatment effect, bandwidths varying between 10 to 50 kilometers, within Lorraine. 1st degree polynomial. Dashed vertical line at the optimal IK bandwidth. Solid vertical lines represent 90 percent confidence intervals (based on Conley standard errors, 10 kilometer bandwidth).

Figure A13: Estimation plots for 1992 referendum, no controls



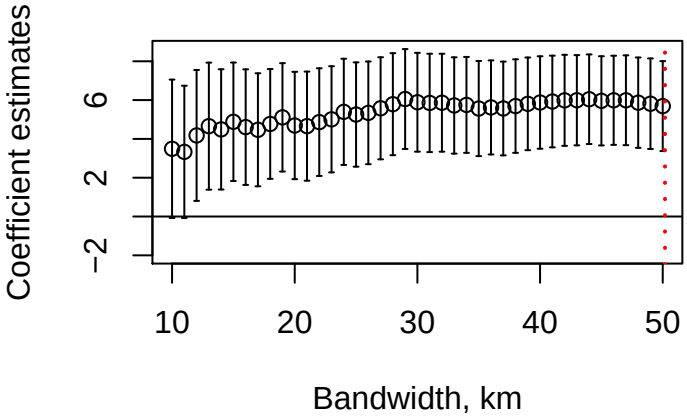
Notes: Estimates of treatment effect, bandwidth of 10 to 50 kilometers, within Lorraine. Local linear regressions, i.e. using a 1st degree polynomial. This specification is including no controls to show that these are not driving our main result. Dashed vertical line at the optimal IK bandwidth. Solid vertical lines represent 90 percent confidence intervals (based on Conley standard errors, 10 kilometer bandwidth).

Figure A14: Estimation plots for 1992 referendum, controlling for distance to language border



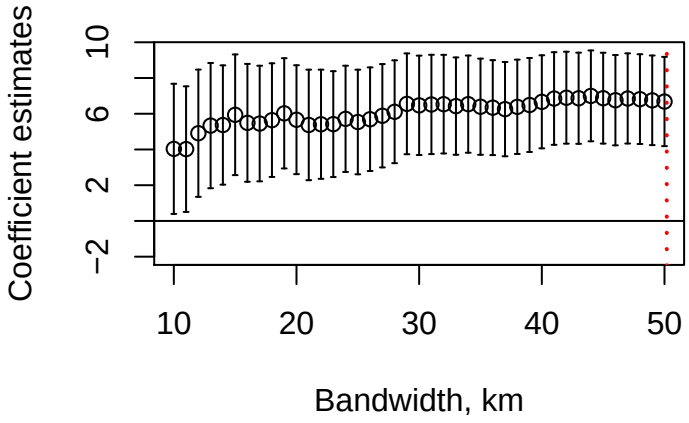
Notes: Estimates of treatment effect, bandwidth of 10 to 50 kilometers, within Lorraine, controlling for distance to the historical language border. Dashed vertical line at the optimal IK bandwidth. Solid vertical lines represent 90 percent confidence intervals (based on Conley standard errors, 10 kilometer bandwidth). In addition to omitting municipalities that were formerly German-speaking, this is an additional test that our results are not driven by language differences. It is also an indication that the border within Lorraine was truly exogenous to our outcome (and not endogenous to pre-existing language differences) as the coefficients are barely affected by including the distance.

Figure A15: Estimation plots for 1992 referendum, controlling for longitude, latitude and their interaction



Notes: Estimates of treatment effect, bandwidth of 10 to 50 kilometers, within Lorraine, controlling for longitude, latitude and their interaction. Dashed vertical line at the optimal IK bandwidth. Solid vertical lines represent 90 percent confidence intervals (based on Conley standard errors, 10 kilometer bandwidth). It is debated whether these controls should be included in these kind of regressions, but as the graphs clearly show our results are not depending on it.

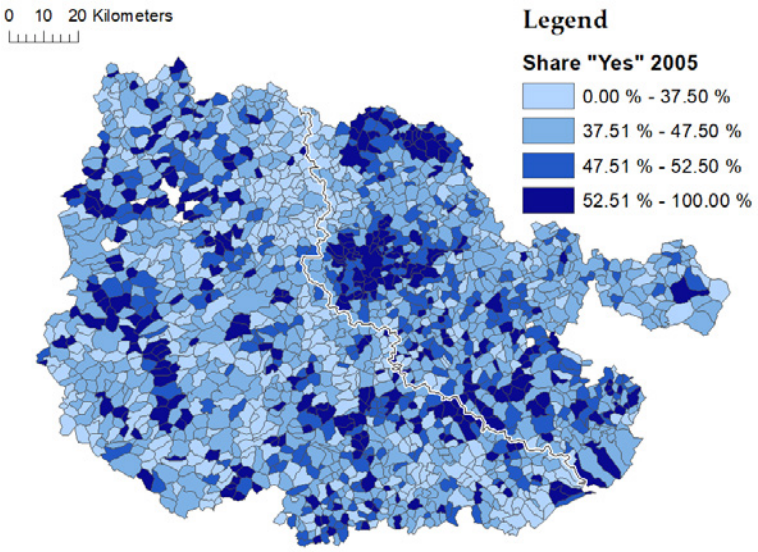
Figure A16: Estimation plots for 1992 referendum, controlling for border segments



(a) Referendum 1992

Notes: Estimates of treatment effect, bandwidth of 10 to 50 kilometers, within Lorraine, controlling for north, mid, and south border segments. Dashed vertical line at the optimal IK bandwidth. Solid vertical lines represent 90 percent confidence intervals (based on Conley standard errors, 10 kilometer bandwidth). It is debated whether these controls should be included in these kind of regressions, but as the graphs clearly show our results are not depending on it.

Figure A17: Map of municipal level outcomes of 2005 referendum.



Notes: Share of yes votes in the referendum in 2005 on the constitution for Europe. The treatment border is highlighted in white. Darker shades reflect higher values. Figure A36d shows no differences in turnout between the both areas.

H.3 Referendum 2005

Table A21: RDD and OLS results for 2005 referendum

	Share Yes 2005				
	RDD				OLS
	(1)	(2)	(3)	(4)[a]	(5)
Treatment	3.379	3.010	4.306	6.964	6.436
	(2.091)	(1.942)	(1.887)	(1.738)	(1.139)
	[0.107]	[0.122]	[0.023]	[<0.001]	[<0.001]
Obs.	408	599	765	1045	1818
Bandwidth	10 km	15 km	20 km	29.10 km	-

Notes: Discontinuity at the treatment border using municipalities in Lorraine. The outcomes are the share of Yes votes in the 1969 referendum, in the 1992 referendum, and in the 2005 referendum. Included controls: distance to Germany (border), distance to Metz, distance to Strasbourg, distance to Nancy, and border segment fixed effects. Conley standard errors (10 kilometer bandwidth) are displayed in parentheses and p-values in brackets.

[a] Estimates from using the optimal IK bandwidth.

Table A22: Discontinuities in turnout for 2005 referendum

Dep. Variable:	Turnout 2005			
	(1)	(2)	(3)	(4)[a]
Treatment	0.364	-1.040	-2.744	-1.750
	(1.381)	(1.318)	(1.351)	(1.032)
	[0.792]	[0.430]	[0.043]	[0.090]
Obs.	408	599	765	1332
Bandwidth	10 km	15 km	20 km	40.59 km

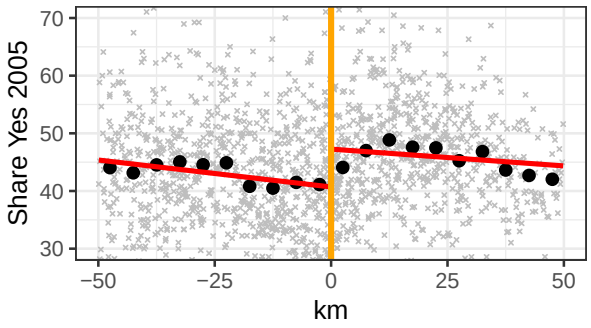
Notes: Discontinuity at the treatment border using municipalities in Lorraine. Outcome is turnout in the turnout in the 2005 referendum. Included controls: distance to Germany (border), distance to Metz, distance to Strasbourg, distance to Nancy, and border segment fixed effects. Conley standard errors (10 kilometer bandwidth) in parentheses and p-values in brackets.
[a] Estimates from using the optimal IK bandwidth.

Table A23: Robustness Check for 2005 referendum: Clustering of standard errors at cantonal and departmental level

	Yes Share 2005			
	10 km Bandwidth		Optimal IK Bandwidth	
Cluster Level	Canton	Department	Canton	Department
Treatment	3.288	3.288	6.975	6.975
	(2.498)	(0.080)	(2.038)	(0.597)
	[0.188]	[0.000]	[0.001]	[0.000]
Obs	407	407	1138	1138
Dist	10.00 km	10.00 km	32.86 km	32.86 km

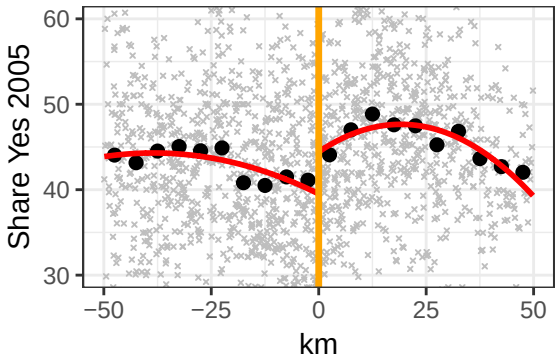
Notes: Discontinuity at the treatment border using municipalities in Lorraine. The outcome is the share of Yes votes in the 2005 referendum. Included controls: distance to Germany (border), distance to Metz, distance to Strasbourg, distance to Nancy, and border segment fixed effects. p-values in brackets. For each choice of bandwidth (10 kilometers or IK-optimal), regression design in the left column includes canton-level and in the right column department-level clusters

Figure A18: RD plots for 2005 referendum (50 kilometers, 20km in paper), 1st degree polynomial



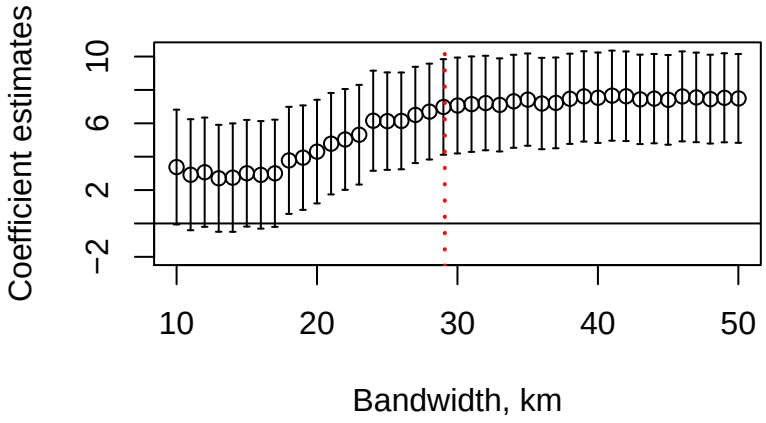
Notes: RD plots, using municipalities in Lorraine. Fitted line based on first degree polynomial. Black dots represent means using 5km bins.

Figure A19: RD plots for 2005 referendum (50 kilometers), 2nd degree polynomial



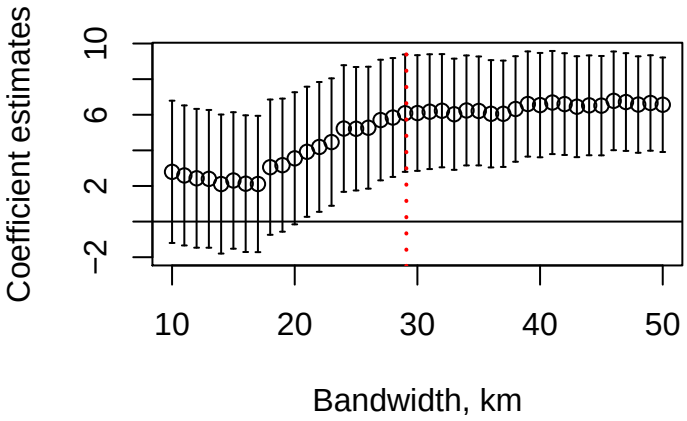
Notes: RD plots, using municipalities in Lorraine. Fitted line based on 2nd degree polynomial. Black dots represent means using 5km bins.

Figure A20: Estimation plots for 2005 referendum



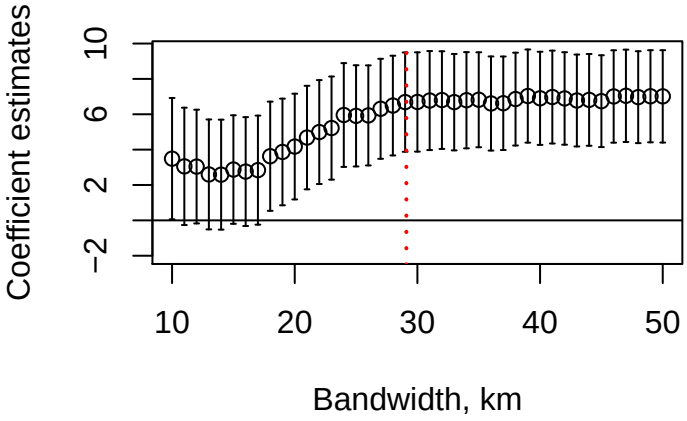
Notes: Estimates of treatment effect, bandwidths varying between 10 to 50 kilometers, within Lorraine. 1st degree polynomial. Dashed vertical line at the optimal IK bandwidth. Solid vertical lines represent 90 percent confidence intervals (based on Conley standard errors, 10 kilometer bandwidth).

Figure A21: Estimation plots for 2005 referendum, no controls



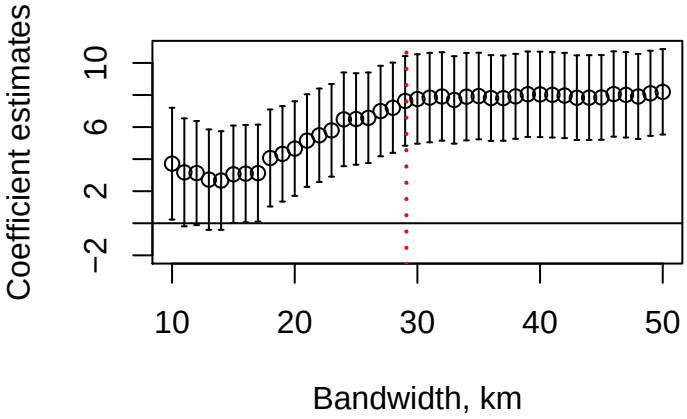
Notes: Estimates of treatment effect, bandwidth of 10 to 50 kilometers, within Lorraine. Local linear regressions, i.e. using a 1st degree polynomial. This specification is including no controls to show that these are not driving our main result. Dashed vertical line at the optimal IK bandwidth. Solid vertical lines represent 90 percent confidence intervals (based on Conley standard errors, 10 kilometer bandwidth).

Figure A22: Estimation plots for 2005 referendum, controlling for longitude and latitude



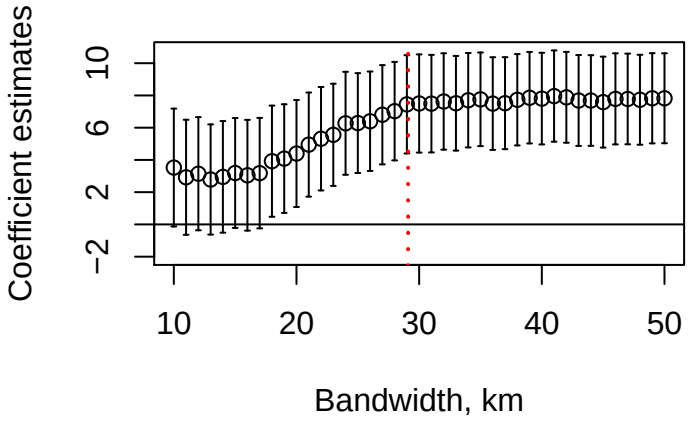
Notes: Estimates of treatment effect, bandwidth of 10 to 50 kilometers, within Lorraine. These specifications are in addition controlling for longitude and latitude. Dashed vertical line at the optimal IK bandwidth. Solid vertical lines represent 90 percent confidence intervals (based on Conley standard errors, 10 kilometer bandwidth). As the graphs clearly show that the results are not substantially altered by the inclusion.

Figure A23: Estimation plots for 2005 referendum, controlling for longitude, latitude and their interaction



Notes: Estimates of treatment effect, bandwidth of 10 to 50 kilometers, within Lorraine, controlling for longitude, latitude and their interaction. Dashed vertical line at the optimal IK bandwidth. Solid vertical lines represent 90 percent confidence intervals (based on Conley standard errors, 10 kilometer bandwidth). It is debated whether these controls should be included in these kind of regressions, but as the graphs clearly show our results are not depending on it.

Figure A24: Estimation plots for 2005 referendum, controlling for border segments



(a) Referendum 2005

Notes: Estimates of treatment effect, bandwidth of 10 to 50 kilometers, within Lorraine, controlling for north, mid, and south border segments. Dashed vertical line at the optimal IK bandwidth. Solid vertical lines represent 90 percent confidence intervals (based on Conley standard errors, 10 kilometer bandwidth). It is debated whether these controls should be included in these kind of regressions, but as the graphs clearly show our results are not depending on it.

Table A24: Discontinuities in referenda controlling for historical migration

Dep. Variable:	Share Yes 1969		Share Yes 1992		Share Yes 2005	
	(1)	(2)[a]	(3)	(4)[a]	(5)	(6)[a]
Treatment	12.058	9.215	3.571	6.335	3.170	6.778
	(2.569)	(2.003)	(2.161)	(1.419)	(2.074)	(1.645)
	[<0.001]	[<0.001]	[0.099]	[<0.001]	[0.127]	[<0.001]
Obs.	387	1117	407	1503	407	1039
Bandwidth	10 km	35.54 km	10 km	50.19 km	10 km	29.10 km

Notes: Discontinuity at the treatment border using municipalities in Lorraine, controlling for migration between 1916 and 1946 (changes in population between 1916 and 1926, between 1936 and 1946, and between 1916 and 1946). Outcomes are share of Yes votes in the 1969 referendum, share of Yes votes in the 1992 referendum, and share of Yes votes in the 2005 referendum. Included controls: distance to Germany (border), distance to Metz, distance to Strasbourg, distance to Nancy, and border segment fixed effects. Conley standard errors (10 kilometer bandwidth) in parentheses and p-values in brackets.
[a] Estimates from using the optimal IK bandwidth.

H.4 Newspapers & regionalist parties

Table A25: Newspaper subscription shares: excluding Metz, and discontinuity at language border

		Panel **A**: Excluding Metz		
Variable	(1)	(2)	(3)	(4)[a]
Treatment	7.980	7.667	6.927	6.891
	(1.527)	(1.361)	(1.315)	(1.317)
	[<0.001]	[<0.001]	[<0.001]	[<0.001]
Obs.	259	365	455	450
Dist	10 km	15 km	20 km	19.71 km
		Panel **B**: Effect at the language border		
Variable	(1)	(2)	(3)	(4)[a]
Treatment	-0.611	0.252	0.138	0.315
	(0.809)	(0.749)	(0.835)	(0.839)
	[0.451]	[0.736]	[0.869]	[0.707]
Obs.	344	474	585	551
Bandwidth	10 km	15 km	20 km	18.28 km
		Panel **C**: Excluding German-speaking municipalities		
Variable	(1)	(2)	(3)	(4)[a]
Treatment	10.377	10.161	9.957	10.365
	(1.981)	(1.874)	(1.784)	(1.699)
	[<0.001]	[<0.001]	[<0.001]	[<0.001]
Obs.	399	569	705	981
Bandwidth	10 km	15 km	20 km	34.98 km

Notes: Discontinuity in newspaper subscription shares at the treatment border using municipalities in Lorraine (Moselle, Meurthe et Moselle, and Meuse), and at the language border using municipalities in Moselle. Panel **A** excludes all municipalities in the Metz agglomeration, panel **B** tests for discontinuities at the language border, and panel **C** excludes all German-speaking municipalities. Included controls: distance to Germany (border), distance to Metz, distance to Strasbourg, distance to Nancy, and border segment fixed effects. Conley standard errors (10 kilometer bandwidth) in parentheses and p-values in brackets.

[a] Estimates from using the optimal IK bandwidth.

Table A26: RD results: Regional newspaper subscription shares, and regionalist parties

	Panel A: Share households with subscription of "Le Republicain Lorraine", Lorraine			
Variable	(1)	(2)	(3)	(4)[a]
Treatment	10.466	10.419	10.013	11.124
	(1.980)	(1.871)	(1.792)	(1.567)
	[<0.001]	[<0.001]	[<0.001]	[<0.001]
Obs.	408	599	765	1412
Bandwidth	10 km	15 km	20 km	44.66 km
	Panel B: Regionalist parties, Lorraine			
Variable	(1)	(2)	(3)	(4)[a]
Treatment	0.082	0.347	0.315	0.399
	(0.266)	(0.242)	(0.228)	(0.200)
	[0.758]	[0.153]	[0.168]	[0.046]
Obs.	408	599	765	1259
Bandwidth	10 km	15 km	20 km	37.63 km

Notes: Discontinuity at the treatment border. The outcome in Panel **A** is the share of households subscribing to the Lorrainian regional newspaper "Le Republician Lorraine" in 2014. We could not gain access to a newspaper from Alsace. The vote share for regionalist parties is the outcome in both Panel **B** and **C** for the regional elections 2015. The former uses municipalities only in Lorraine, while the latter uses all municipalities in Alsace and Lorraine. Included controls: distance to Germany (border), distance to Metz, distance to Strasbourg, distance to Nancy, and border segment fixed effects. Conley standard errors (10 kilometer bandwidth) in parentheses and p-values in brackets.

[a] Estimates from using the optimal IK bandwidth.

Table A27: RD results: Subscription shares of regional newspaper, controlling for the number of sales points

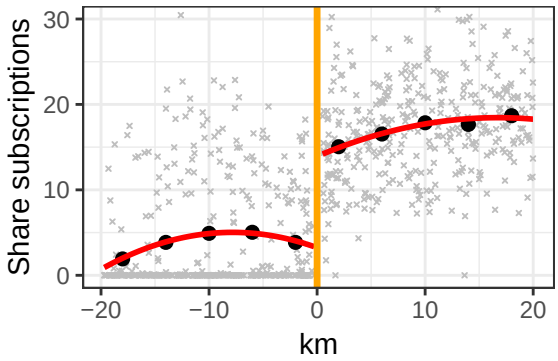
	Share households with subscription of "Le Republicain Lorraine"			
Variable	(1)	(2)	(3)	(4)[a]
Treatment	10.022	9.808	9.215	11.192
	(1.661)	(1.612)	(1.609)	(1.532)
	[<0.001]	[<0.001]	[<0.001]	[<0.001]
Obs.	408	599	765	1412
Bandwidth	10 km	15 km	20 km	44.66 km

Notes: RD estimates using bandwidths of 10, 15, and 20 kilometers from the border between Alsace and Lorraine, and the rest of France. Included controls: distance to Germany (border), distance to Metz, distance to Strasbourg, distance to Nancy, border segment fixed effects, and number of sales points where the newspaper can be bought locally. Conley standard errors (10 kilometer bandwidth) in parentheses and p-values in brackets.

[a] Estimates from using the optimal IK bandwidth.

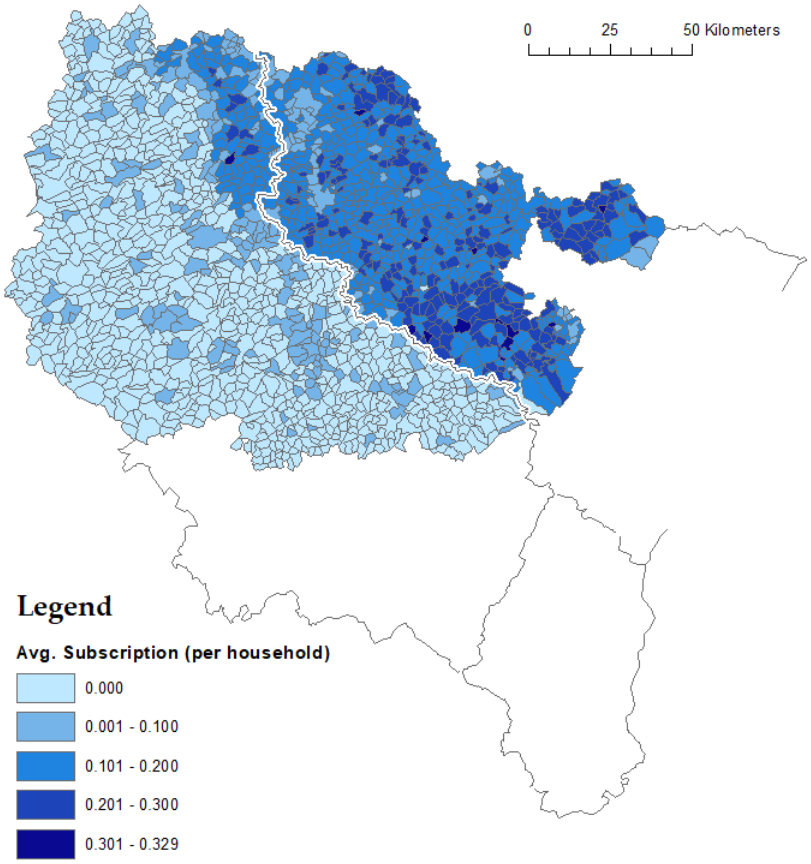
RD Plots and maps for regional newspaper subscription

Figure A25: RD plot, share of households with subscription of "Le Republicain Lorraine", 2nd degree polynomial



Notes: RD plots using only municipalities in Lorraine. Fitted line based on 2st degree polynomial.

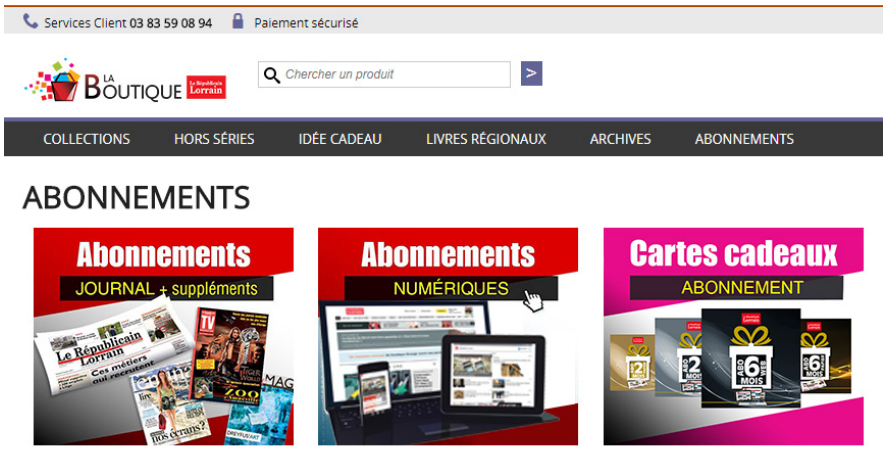
Figure A26: Newspaper subscription shares



Notes: Municipal level averages share of newspapers subscribers to *Le Republicain Lorraine within Lorraine*. The white solid line indicates the treatment border that divided the region. The treated area is on the right hand side of the white line. White municipality polygons indicate missing data. Darker colors reflect higher shares, and indicate a higher regional identity.

Le Republicain Lorraine

Figure A27: Subscription page Le Republicain Lorraine (1)

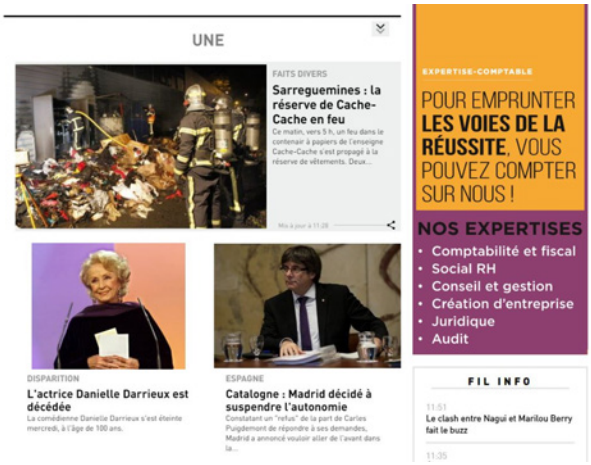


Notes: This is from the subscription page of the newspaper. We use the number of all subscriptions, but our source suggested that almost all subscriptions were still print subscriptions in 2014.

Figure A28: Subscription page Le Republicain Lorraine (2)

Notes: This is from the subscription page of the newspaper. We use the number of all subscriptions, but our source suggested that almost all subscriptions were still print subscriptions in 2014.

Figure A29: Homepage (main) Le Republicain Lorraine



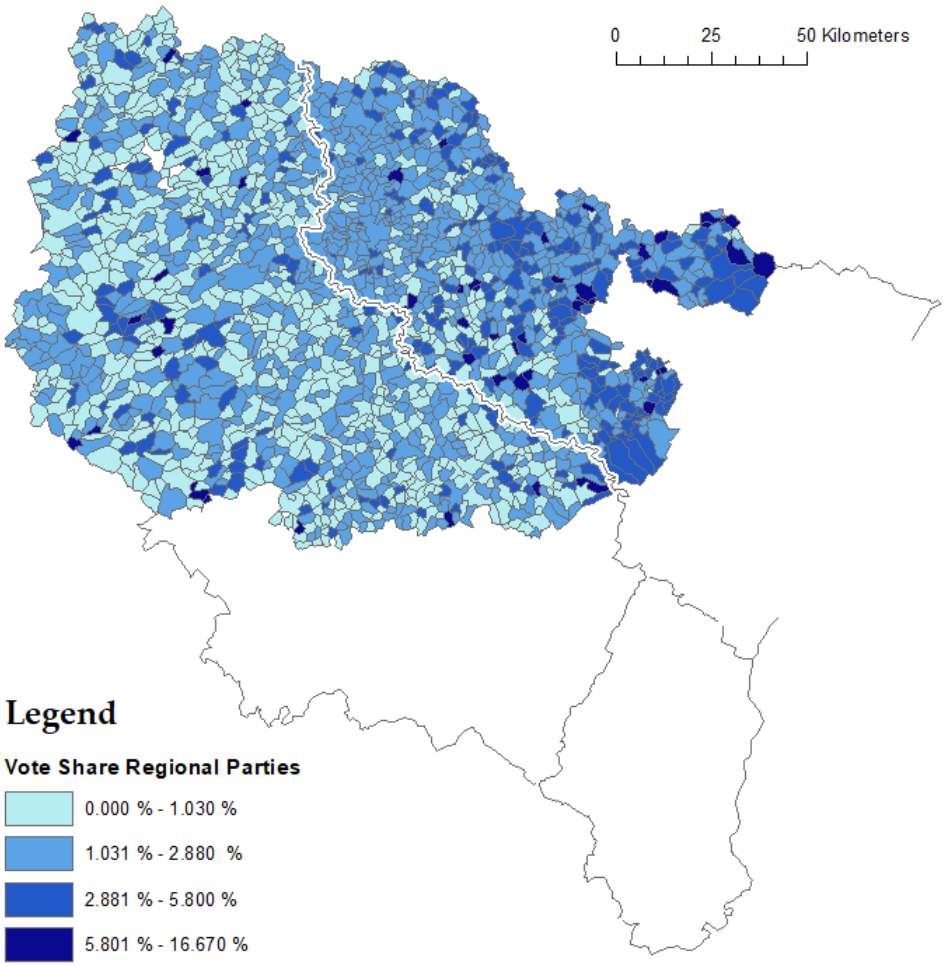
Notes: This screenshot shows a random example of the main news contained in the newspaper (Date: 2017.19.10).

Figure A30: Homepage (regional) Le Republicain Lorraine

Notes: This screenshot shows an example of the regional news contained in the newspaper (Date: 19.10.2017).

Map for Regionalist parties

Figure A31: Vote shares of regionalist parties (only Lorraine)



Notes: Municipal level vote shares for the list "Non à l'ACAL, Oui à nos régions!" in the 2015 regional elections with Lorraine. The list comprised of the parties "Unser Land", "Parti des Mosellans", and "Parti Lorrain". The white solid line represents the treatment border formerly dividing the region. Darker colors reflect higher shares, and indicate a higher regional identity.

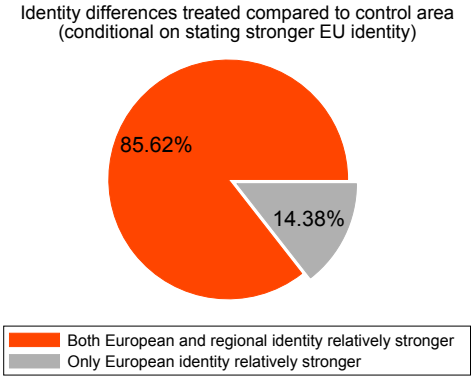
H.5 Identity and Policy Preferences

Table A28: OIP Survey results, 1999 and 2001: Correlation between European and regional attachments

Dep. Var: Attachment: Europe	Lorraine		All of France	
Variable	(1)	(2)	(3)	(4)
Attachement: Region	0.186***	0.185***	0.097***	0.097***
	(0.030)	(0.031)	(0.007)	(0.007)
Obs.	1388	1388	25602	25602
Controls	No	Yes	No	Yes

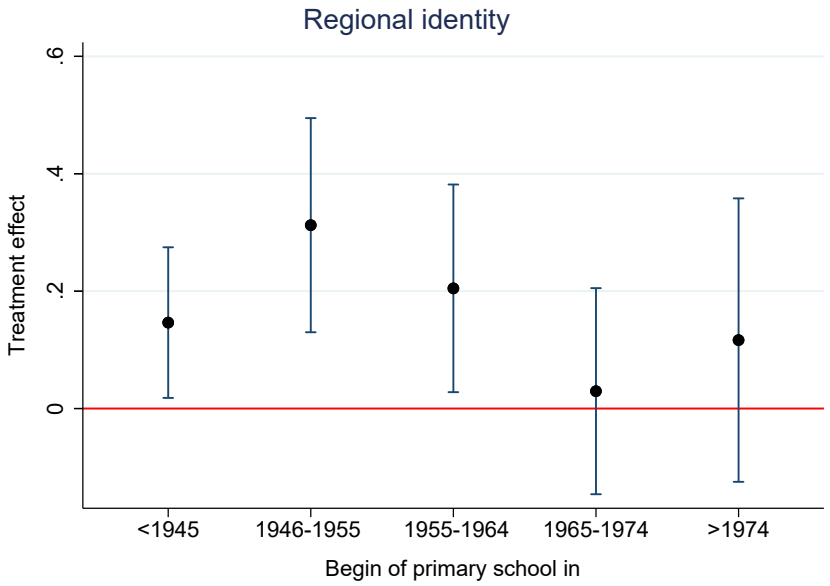
Notes: Observatoire Interrégional du Politique (OIP) survey results from 1999 and 2001, asking question on how strong respondents attachment is to Europe, and respondent's Region. Attachment is based on a 1-4 scale, with 1 corresponds to *Disagree strongly*, and 4 corresponds to *Strongly agree*. Controls are age, sex, employment status, and survey year. ***, ** and * indicate statistical significance at 1%, 5% and 10% levels, based on heteroscedasticity-consistent standard errors. *Interpretation*: In the 1992 and 2005 referenda regional and European identity are significantly positively correlated.

Table A29: Overlap strength of regional and European identity in treated and control areas (A+L)



Notes: Higher (lower) means that an individual in the treated area exhibited a higher (lower) ratio of Regional to National or European to National identity compared to the mean ratios in the untreated area. Higher is mathematically defined as larger or equal. Very few observations are exactly equal to the mean. We are mostly interested in the overlap of the two, but also the overall sum. The overlap is also visualized in the pie chart on the right. The red area indicates the share of persons which answered with both higher or equal European identity and Regional identity. Data is from the OIP 1999, 2001, and 2003, using respondents in all of Alsace and Lorraine.

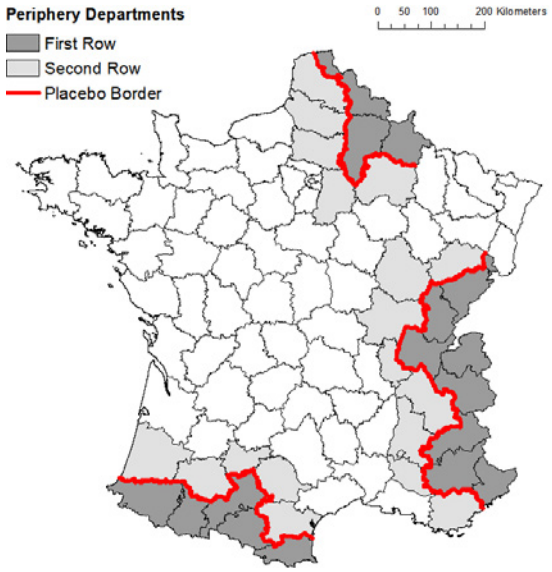
Figure A32: Identity differences by age cohort



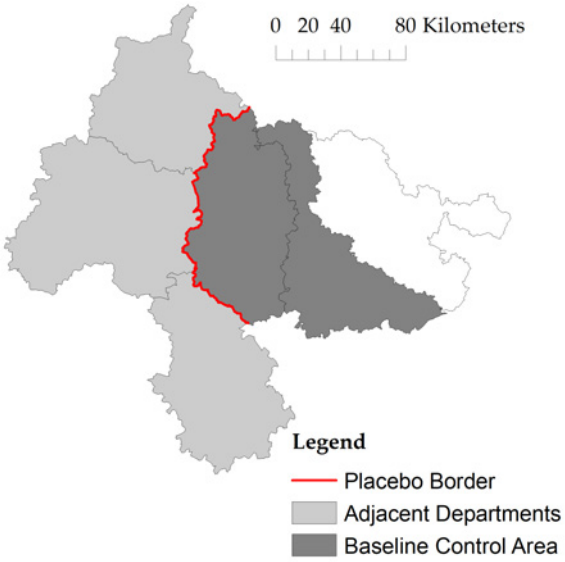
Notes: The treatment effects refer to the parameter Δ in the equation:
$y_{ig} = \pi + \sum_g \Delta_g \times Age_g \times Treatment_{ig} + \Gamma_i'\lambda + \eta_{ig}$, where
$Treatment_{ig} = \mathbf{1}$[individual in treated region] and Γ comprises controls for (reported) age, employment status and sex. g indicates to which age cohort an individual belongs, the group of untreated participants act as the baseline category. Age cohorts are selected such that the second group started schooling after the end of treatment and the end of WWII. A positive Δ indicates that people in the treated region exhibit a higher value compared to the control area. Sources are the Observatoire Interrégional du Politique (OIP) 1999 and 2001.

H.6 Placebo regressions

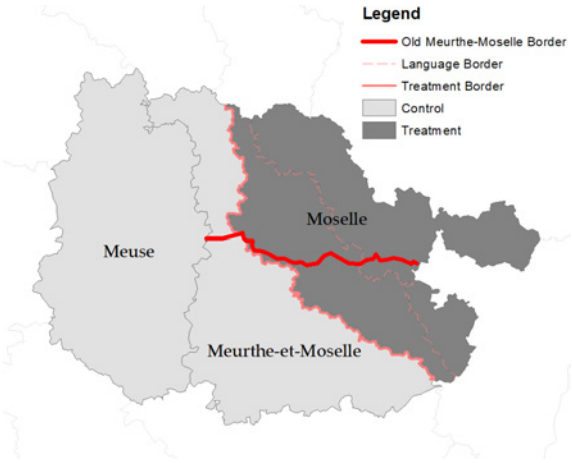
Figure A33



(a) Departments at the French Border

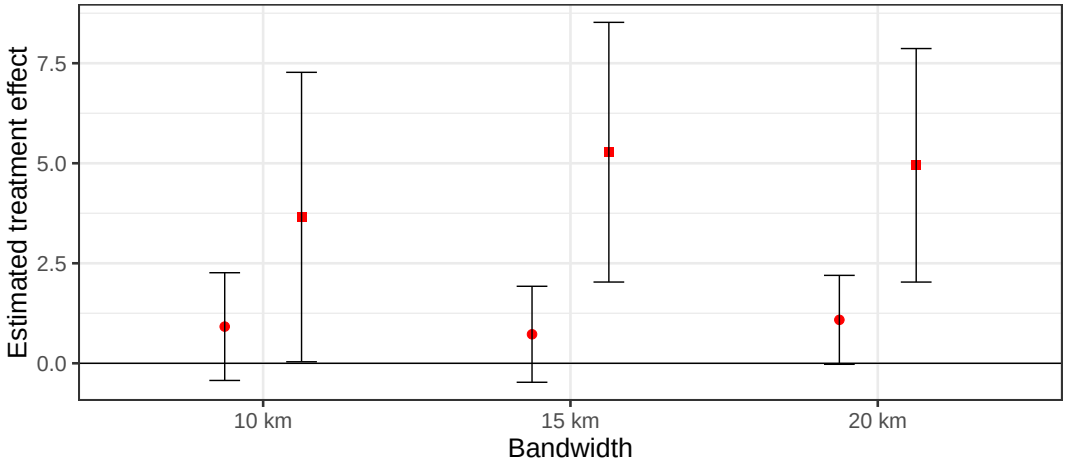


(b) Control vs. Rest of France Border

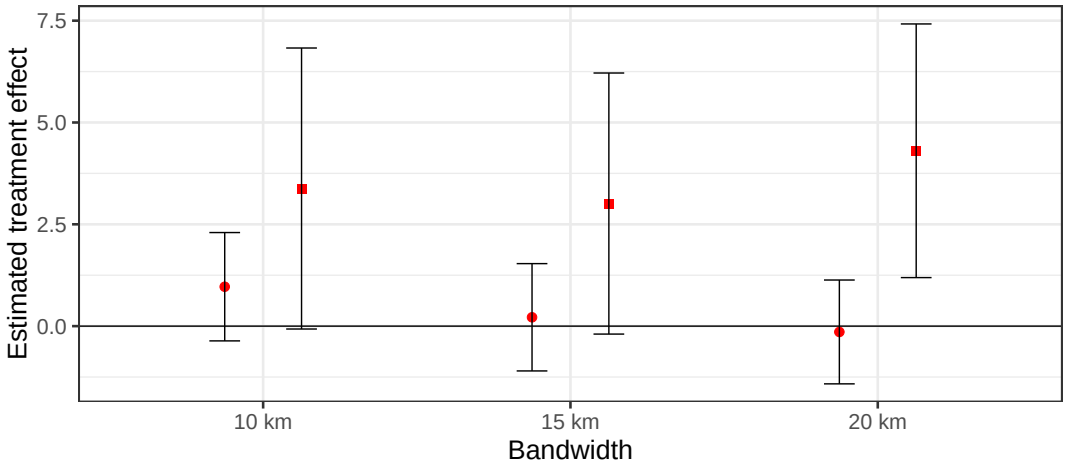


(c) Old Meurthe-Moselle Border

Figure A34: Placebo test (a) Comparing treatment effects in Lorraine with discontinuity between border regions and their adjacent neighbors



(a) Share Yes 1992



(b) Share Yes 2005

Notes: These graphs compare the estimated treatment effects within Lorraine reported in the main table (red squares) with estimated discontinuities at the border dividing all border départements from their adjacent neighbors (red dots). 90 percent confidence intervals, based on Conley standard errors (10 kilometer bandwidth) show that in most cases, the confidence intervals overlap. However, only in a few cases do the confidence intervals for the estimated treatment effect overlap the estimates of the discontinuity at the border départements.

Table A30: Placebo test (b): Border between all of Alsace and Lorraine (treated and untreated), and the rest of France

		Panel **A**: Share Yes 1992		
Variable	(1)	(2)	(3)	(4)[a]
Treatment	-0.376	1.476	1.745	3.173
	(2.347)	(2.051)	(1.802)	(1.075)
	[0.873]	[0.472]	[0.333]	[0.003]
Obs.	449	677	898	13213
Bandwidth	10 km	15 km	20 km	240.94 km
		Panel **B**: Share Yes 2005		
Variable	(1)	(2)	(3)	(4)[a]
Treatment	-0.105	0.450	1.265	0.523
	(2.103)	(1.845)	(1.653)	(1.046)
	[0.960]	[0.807]	[0.444]	[0.617]
Obs.	450	680	901	11539
Bandwidth	10 km	15 km	20 km	214.33 km

Notes: RD estimates using bandwidths of 10, 15, and 20 kilometers from the border between Lorraine, and the rest of France. Included controls: distance to Germany (border), distance to Metz, distance to Strasbourg, and distance to Nancy. Conley standard errors (10 kilometer bandwidth) in parentheses and p-values in brackets.

[a] Estimates from using the optimal IK bandwidth.

Table A31: Placebo test (c): RD estimates at the old pre-1870 border between historical Moselle and Meurthe

	Panel **A**: Share Yes 69 at old border within Moselle and Meurthe-et-Moselle							
	Old border within current Moselle				Old border within Meurthe-et-Moselle			
Variable	(1)	(2)	(3)	(4)[a]	(5)	(6)	(7)	(8)[a]
Treatment	1.185	-2.383	-3.833	-3.923	-1.512	7.934	6.108	-6.839
	(2.558)	(2.226)	(2.081)	(2.002)	(6.570)	(6.059)	(5.789)	(4.120)
	[0.644]	[0.285]	[0.066]	[0.051]	[0.819]	[0.195]	[0.294]	[0.098]
Obs.	188	270	361	424	47	75	108	525
Dist	10 km	15 km	20 km	23.86 km	10 km	15 km	20 km	70.74 km
	Panel **B**: 1992 and 2005 at old border within current Moselle							
	Share Yes 92				Share Yes 05			
Variable	(1)	(2)	(3)	(4)[a]	(5)	(6)	(7)	(8)[a]
Treatment	1.044	1.261	2.773	2.334	-0.680	0.132	1.515	-0.262
	(2.012)	(1.916)	(1.795)	(1.399)	(2.215)	(1.885)	(1.774)	(1.457)
	[0.604]	[0.511]	[0.123]	[0.095]	[0.759]	[0.944]	[0.394]	[0.857]
Obs.	264	402	552	1536	267	405	555	1388
Bandwidth	10 km	15 km	20 km	52.98 km	10 km	15 km	20 km	47.70 km
	Panel **C**: 1992 and 2005 at old border within current Meurthe-et-Moselle							
	Share Yes 92				Share Yes 05			
Variable	(1)	(2)	(3)	(4)[a]	(5)	(6)	(7)	(8)[a]
Treatment	-1.408	-5.760	-4.901	-0.876	-10.594	0.555	6.167	4.102
	(8.659)	(5.265)	(4.474)	(3.057)	(4.365)	(6.228)	(6.082)	(3.300)
	[0.872]	[0.277]	[0.276]	[0.775]	[0.019]	[0.929]	[0.313]	[0.215]
Obs.	52	85	119	594	52	85	119	272
Dist	10 km	15 km	20 km	74.35 km	10 km	15 km	20 km	36.31 km

Notes: RD estimates at pre-1871 border between the départements Moselle and Meurthe. Panel A uses municipalities within modern Moselle while Panel B uses municipalities within modern Meurthe-et-Moselle. Controls added. Conley standard errors (10 kilometer bandwidth) in parentheses and p-values in brackets.

[a] Estimates from using the optimal IK bandwidth.

Interpretation: The historical border within current Moselle provides a good placebo test, as it does mostly not follow the current borders. Note that the estimates within current Meurthe-et-Moselle have different signs and switch signs for the *Share Yes 05* estimations.

I Including Alsace

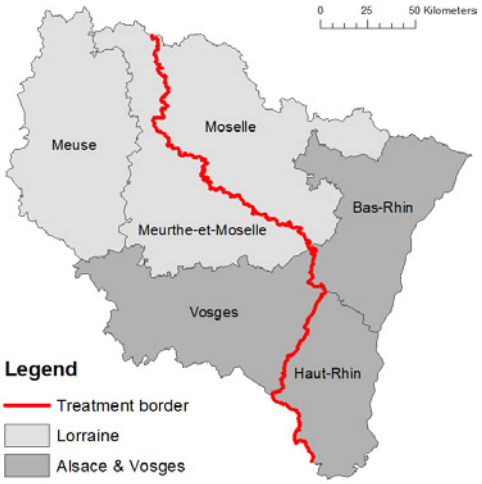
I.1 Pre-Treatment Variables

Table A32: Pre-treatment variables balance test, whole border

Dep. variable	Ruggedness		Elevation		Std. elevation	
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	2.231	9.963	-5.435	5.936	-1.801	3.600
	(14.811)	(10.603)	(11.540)	(12.037)	(5.171)	(4.558)
	[0.880]	[0.348]	[0.638]	[0.622]	[0.728]	[0.430]
Obs.	408	1044	408	1217	408	949
Bandwidth	10 km	29.03 km	10 km	35.94 km	10 km	25.75 km
Dep. variable	Wheat		Potato		Barley	
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	-0.629	0.017	0.827	-1.266	1.271	-0.994
	(0.392)	(0.346)	(2.089)	(1.910)	(3.227)	(3.011)
	[0.110]	[0.962]	[0.692]	[0.508]	[0.694]	[0.741]
Obs.	408	1467	403	1780	403	1786
Bandwidth	10 km	47.49 km	10 km	76.22 km	10 km	77.07 km

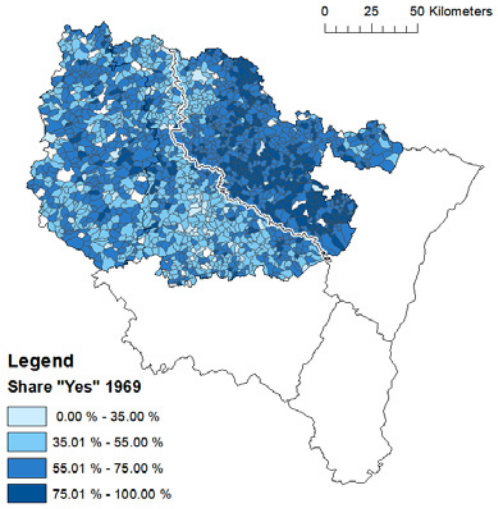
Notes: Tests for discontinuities in pre-treatment variables for the whole border. *Ruggedness* is the mean index of the variation in elevation, while *Elevation* is the mean elevation. *Potato*, *Wheat*, and *Barley* refer to the soil suitability for potato, wheat, and barley production, respectively. Details and sources are provided in the Online Appendix. Included controls: distance to Germany (border), distance to Metz, distance to Strasbourg, distance to Nancy, and border segment fixed effects. Conley standard errors (10 kilometer bandwidth) in parentheses and p-values in brackets.

Figure A35: Maps of municipal level vote share 'Yes' in referenda in 1969, 1992 and 2005



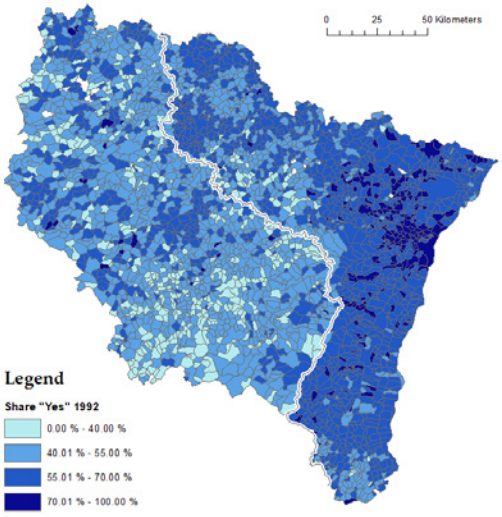
Notes (a): The light grey area is the comparison within the historical region of Lorraine, where the border is clearly exogenous. The dark grey area includes Alsace and Vosges as its comparison, where the border partly coincides with the historical language border.

(a) Within-Lorraine and Alsace



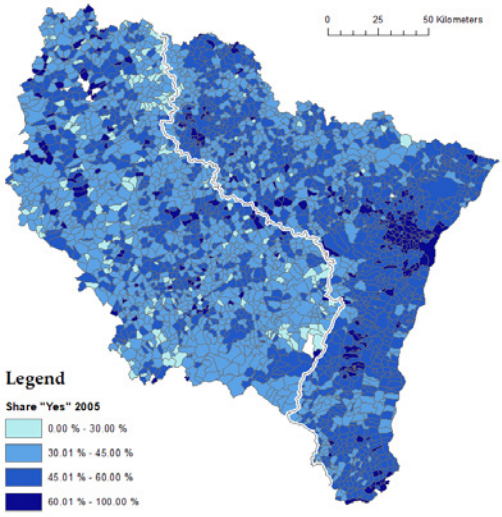
Notes (b): Vote Share 'Yes' n the constitutional referendum in 1969. Areas where data is not available are left blank. Data is available for the départments of Meuse, Meurthe-et-Moselle and Moselle. The treatment border formerly dividing the area is highlighted in white. Darker shades reflect higher values.

(b) Turnout 1969, no Alsace data



Notes (c): Vote Share 'Yes' in the referendum in 1992. The treatment border formerly dividing the area is highlighted in white. Darker shades reflect higher values.

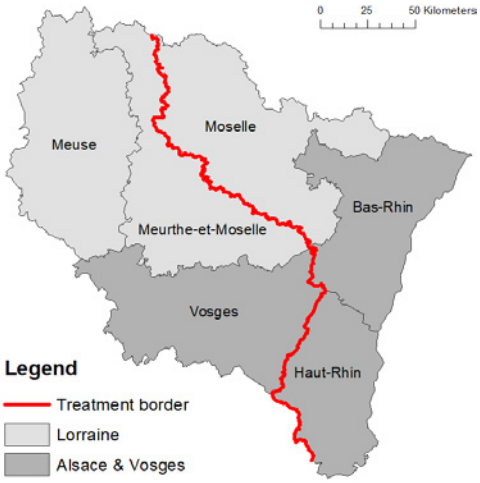
(c) Turnout 1992



Notes (d): Vote Share 'Yes' in the referendum in 2005. The treatment border formerly dividing the area is highlighted in white. Darker shades reflect higher values.

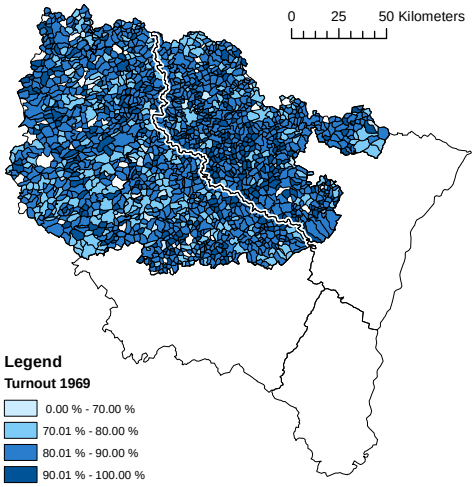
(d) Turnout 2005

Figure A36: Maps of municipal level turnout in referenda in 1969, 1992 and 2005



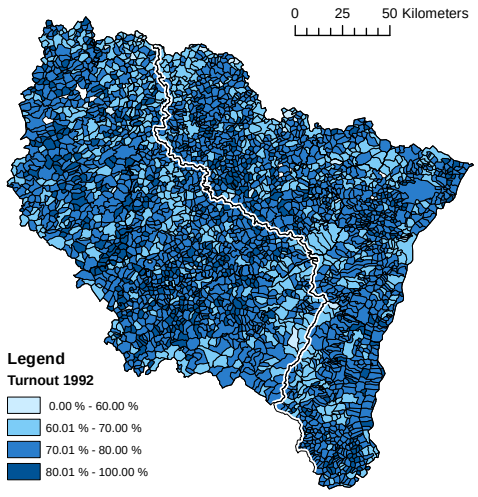
Notes (a): The light gray area is the comparison within the historical region of Lorraine, where the border is clearly exogenous. The dark gray area includes Alsace and Vosges as its comparison, where the border partly coincides with the historical language border.

(a) Within-Lorraine and Alsace



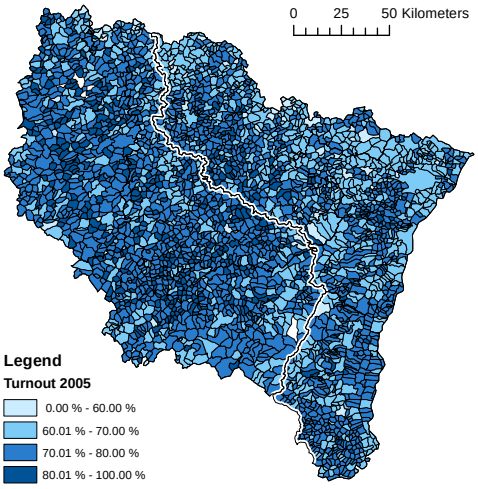
Notes (b): Turnout in the constitutional referendum in 1969. Areas where data is not available are left blank. Data is available for the départments of Meuse, Meurthe-et-Moselle and Moselle. The treatment border formerly dividing the area is highlighted in white. Darker shades reflect higher values.

(b) Turnout 1969, no Alsace data



Notes (c): Turnout in the referendum in 1992. The treatment border formerly dividing the area is highlighted in white. Darker shades reflect higher values.

(c) Turnout 1992



Notes (d): Turnout in the referendum in 2005. The treatment border formerly dividing the area is highlighted in white. Darker shades reflect higher values.

(d) Turnout 2005

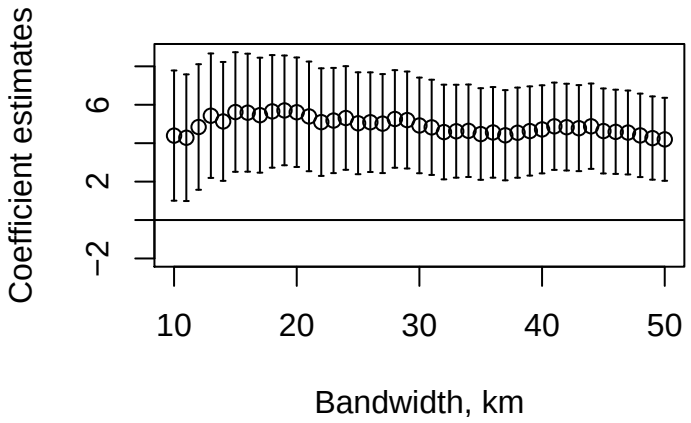
I.2 Referendum 1992

Table A33: OLS estimates using all municipalities in Alsace and Lorraine

	C: Share Yes 1992		**D**: Turnout 1992	
Variable	(1)	(2)	(3)	(4)
Treatment	11.941	4.865	-0.652	2.081
	(0.473)	(0.789)	(0.262)	(0.470)
	[<0.001]	[<0.001]	[0.013]	[<0.001]
Obs.	3137	3137	3137	3137
Controls	No	No	No	No

Notes: OLS estimates using whole sample of municipalities in all départements in Alsace and Lorraine. Included controls: distance to Germany (border), distance to Metz, distance to Strasbourg, distance to Nancy. Conley standard errors (10 kilometer bandwidth) in parentheses and p-values in brackets. For *Share Yes 1992*, the coefficient indicate a higher regional identity in the treated region. Although the interpretation of the regression coefficient for the treatment variable is the average difference in percentage points between treated and untreated municipalities, it is important to relate them to the average vote share of the whole region.

Figure A37: RDD Estimation plots for 1992 referendum, whole border



Notes: Estimates of treatment effect, bandwidths varying between 10 to 50 kilometers, for the whole border. Local linear regressions, i.e. using a 1st degree polynomial. Dashed vertical line at the optimal IK bandwidth. Solid vertical lines represent 90 percent confidence intervals (based on Conley standard errors, 10 kilometer bandwidth).

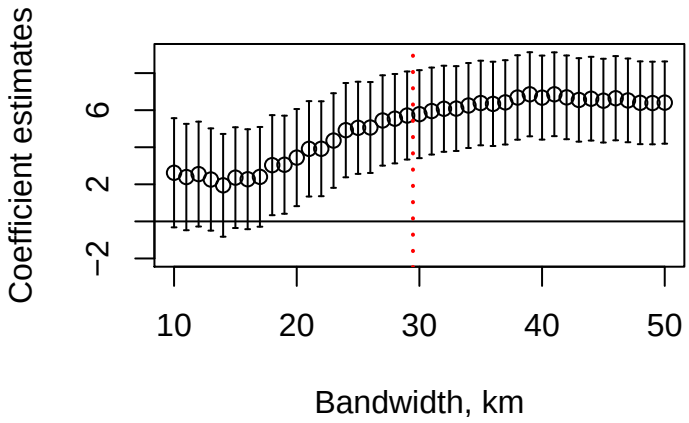
I.3 Referendum 2005

Table A34: OLS estimates using all municipalities in Alsace and Lorraine

	E: Share Yes 2005		**F**: Turnout 2005	
Variable	(1)	(2)	(3)	(4)
Treatment	6.990	6.185	-3.115	-0.023
	(0.434)	(0.855)	(0.276)	(0.470)
	[<0.001]	[<0.001]	[<0.001]	[0.960]
Obs.	3141	3141	3141	3141
Controls	No	No	No	No

Notes: OLS estimates using whole sample of municipalities in all départements in Alsace and Lorraine. Included controls: distance to Germany (border), distance to Metz, distance to Strasbourg, distance to Nancy. Conley standard errors (10 kilometer bandwidth) in parentheses and p-values in brackets. For *Share Yes 2005*, the coefficient indicate a higher regional identity in the treated region. Although the interpretation of the regression coefficient for the treatment variable is the average difference in percentage points between treated and untreated municipalities, it is important to relate them to the average vote share of the whole region.

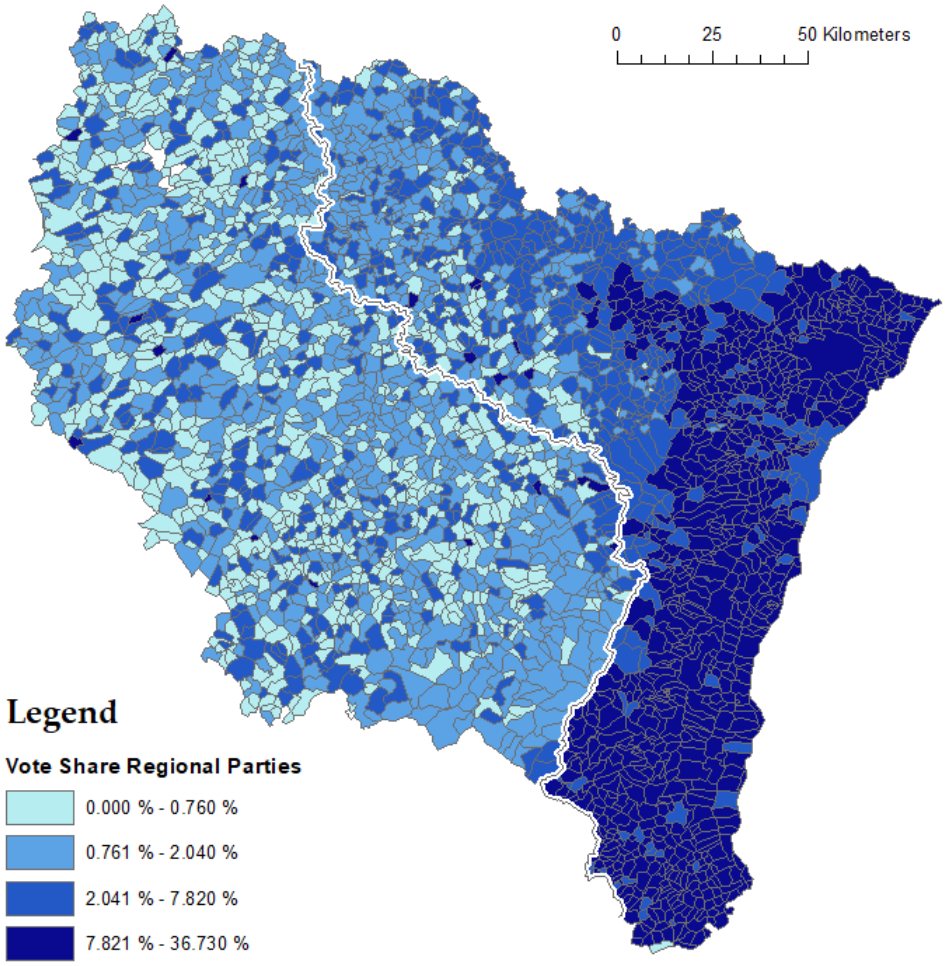
Figure A38: RDD Estimation plots for 2005 referendum, whole border



Notes: Estimates of treatment effect, bandwidths varying between 10 to 50 kilometers, for the whole border. Local linear regressions, i.e. using a 1st degree polynomial. Dashed vertical line at the optimal IK bandwidth. Solid vertical lines represent 90 percent confidence intervals (based on Conley standard errors, 10 kilometer bandwidth).

I.4 Regionalist Parties

Figure A39: Vote shares of regionalist parties



Notes: Municipal level vote shares for the list "Non à l'ACAL, Oui à nos régions!" in the 2015 regional elections. The list comprised of the parties "Unser Land", "Parti des Mosellans", and "Parti Lorrain". The white solid line represents the treatment border formerly dividing the region. Darker colors reflect higher shares, and indicate a higher regional identity.

I.5 Mechanisms

Table A35: Survey results identity, Alsace and Lorraine

Survey question	Mean, control	Δ	P-value	No. obs.
Feel close to region (Regional identity)	3.362	0.209	<0.001	2617
Feel close to nation (National identity)	3.635	-0.003	0.906	2617
Regional identity/National identity (standardized)	-0.138	0.226	<0.001	2614

Notes: Sources are the Observatoire Interrégional du Politique (OIP) 1999, 2001, and 2003, using respondents in all of Alsace and Lorraine, on département level. Identity is measures on a 4-point Likert-scale. The parameter Δ comes from the equation: $y_i = \pi + \Delta Treatment_i + \Gamma_i'\lambda + \eta_i$, where $Treatment_i = \mathbf{1}$[individual in treated region] and Γ comprises of controls for (reported) age, employment status and sex. A positive Δ indicates that people in the treated region agree more with the statement.

Table A36: Survey results: policy preferences (Alsace and Lorraine, département level)

Survey question	Mean, control	Δ	P-value	No. obs.
Democracy works well in France	2.536	-0.035	0.324	2606
Democracy works well within region	2.630	0.188	<0.001	2575
Well informed about regional policies	2.704	0.172	<0.001	2604
In favor: transfer policy competence to region (avg. 10)	3.031	0.078	0.002	1218
In favor: allow more autonomy at reg. level (avg. 5)	2.134	0.132	<0.001	2619
Educ. policy should be set at reg. level (avg. 5)	2.855	0.124	0.002	1204
Concerned reg. admin. would increase interreg. inequality	3.208	-0.314	<0.001	1204

Notes: Sources are the Observatoire Interrégional du Politique (OIP) 1999, 2001, and 2003, using respondents Alsace and Lorraine, on the département level. The paper shows the same results restricted to Lorraine. The parameter Δ comes from the equation: $y_i = \pi + \Delta Treatment_i + \Gamma_i'\lambda + \eta_i$, where $Treatment_i = \mathbf{1}$[individual in treated region] and Γ comprises of controls for (reported) age, employment status and sex. A positive Δ indicates that people in the treated region agree more with the statement. Avg. "x" indicates that the factor is composed of "x" underlying survey items.

Table A37: Socio-economics and public good provision: 25 categories

Variable	$\widehat{\beta}_{10km}$	$\widehat{\beta}_{IK}$ [a]	Dep. var: Yes 92	Dep. var: Yes 05
Occupation				
Workers, 2006	0.014	0.014	-10.149	-10.126
	[0.608]	[0.493]	[< 0.001]	[< 0.001]
Farmers, 2006	0.002	-0.010	-23.526	27.282
	[0.884]	[0.287]	[< 0.001]	[< 0.001]
Artisans, 2006	-0.005	-0.003	-4.113	3.539
	[0.531]	[0.370]	[0.066]	[0.066]
Executives, 2006	-0.021	0.005	27.615	53.664
	[0.059]	[0.462]	[< 0.001]	[< 0.001]
Intermediate prof., 2006	-0.019	-0.016	8.621	9.719
	[0.157]	[0.132]	[< 0.001]	[< 0.001]
Economic activity				
Companies, 2011	-7.859	-0.293	0.018	0.037
	[0.132]	[0.927]	[0.062]	[0.062]
Commercial est., 2011	-4.625	5.983	-0.005	0.014
	[0.335]	[0.017]	[0.454]	[0.454]
Industrial est., 2011	-3.671	-2.990	0.017	0.018
	[0.051]	[0.002]	[0.121]	[0.121]
Building est., 2011	0.664	-0.693	-0.039	-0.091
	[0.743]	[0.539]	[0.002]	[0.002]
Public est., 2011	-1.457	0.143	0.051	0.011
	[0.288]	[0.846]	[0.001]	[0.001]
Public goods				
Theatre rooms	-0.005	-0.001	-0.331	-0.098
	[0.295]	[0.795]	[0.308]	[0.308]
Athletic centers	0.051	0.014	0.174	0.019
	[0.367]	[0.725]	[0.234]	[0.234]
Multisport fac.	-0.931	-0.971	0.376	0.144
	[0.174]	[0.020]	[< 0.001]	[< 0.001]
Swimming fac.	-0.008	0.049	0.011	-0.058
	[0.644]	[0.348]	[0.896]	[0.896]
Psychiatric est.	0.000	0.007	1.467	0.947
	[0.992]	[0.353]	[0.071]	[0.071]
Service houses	0.002	-0.016	-0.232	0.064
	[0.630]	[0.049]	[0.340]	[0.340]
Healthcare (short)	-0.015	0.001	0.400	0.149
	[0.076]	[0.735]	[0.734]	[0.734]
Healthcare (medium)	0.007	0.003	0.689	0.997
	[0.723]	[0.859]	[0.007]	[0.007]
Healthcare (long)	0.009	-0.002	2.243	1.603
	[0.658]	[0.918]	[0.046]	[0.046]
Post offices	0.059	0.036	0.446	-0.975
	[0.454]	[0.342]	[< 0.001]	[< 0.001]
Elementary schols	-0.035	-0.129	0.835	0.386
	[0.925]	[0.374]	[< 0.001]	[< 0.001]
Highschools	-0.026	0.010	2.380	1.551
	[0.088]	[0.204]	[0.006]	[0.006]
Vocational training	-0.013	-0.003	2.171	0.468
	[0.311]	[0.677]	[< 0.001]	[< 0.001]
Tech. vocational training	-0.005	0.004	0.289	0.931
	[0.323]	[0.271]	[0.176]	[0.176]
Demographics				
Population density	-134.289	105.508	0.001	0.001
	[0.201]	[0.164]	[< 0.001]	[< 0.001]

Notes: This table demonstrates the balancing in our respective samples using all départements in Alsace and Lorraine, for different bandwidths. The time period chosen are partly determined by data availability. The different public goods and population density are all measured in the year 2011. All estimations include the same distance controls as our main specification. p-values in brackets. There are on average no systematic differences. The third and fourth column shows estimated slope coefficients from OLS when the share of Yes votes in the 1992 and 2005 referenda are regressed on all 25 covariates, including data on all French municipalities. In the cases where we find a difference in some specifications, it would bias us against our main result as the third and fourth column show.

J Historical maps

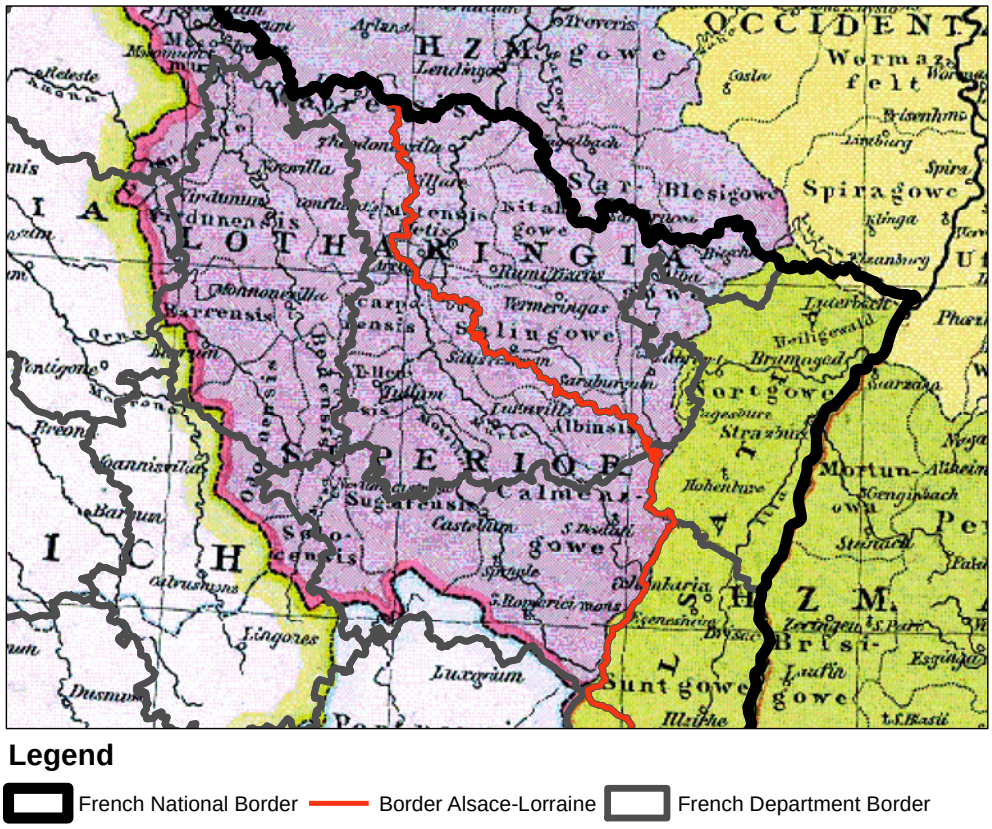
Figure A40: Map of Lotharingia around 1000 A.D.

Notes: Map depicting the former Duchy of Lotharingia, around 1000: Pink= Lower Lorraine, Purple = Upper Lorraine, Orange = Frisia (effectively detached from Lotharingia). This map is used in the *Allgemeiner historischer Handatlas* by Gustav Droysen in 1886. Alsace was a part of the duchy of Swabia at that time.

Figure A41: Historical Map of Language Border

Notes: Historical map of Alsace-Lorraine including the language border (red)

Figure A42: Map of Lotharingia around 1000 A.D., zoomed in with 1870 border



Notes: Map depicting the former Duchy of Lotharingia, around 1000: Pink= Lower Lorraine, Purple = Upper Lorraine, Orange = Frisia (effectively detached from Lotharingia). This map is used in the *Allgemeiner historischer Handatlas* by Gustav Droysen in 1886. Alsace was a part of the duchy of Swabia at that time.

Figure A43: Map of Lorraine in the 1378 century

Notes: Map of Lorraine in the 14th century. This is a modified extract from the map *Deutschland beim Tode Karl IV.* by Karl Wolf in Meyers Lexikon 6. Auflage. The red line shows the border from the Franco-Prussian war, clearly not following the pre-existing borders and cutting through historical entities. Created from authors' own version of the map.

Figure A44: Map of Lorraine in the 17th century

Notes: Map of Lorraine in 1790. The map is an extract from *Carte de la Lorraine, du Barrois et des Trois Evêchés de Metz, Toul et Verdun. Divisée par Baillages, Dans laquelle se trouve Comprise la Généralité de Metz* created by Robert de Vaugondy, Didier (1723-1786) Dezauche, Jean-Claude (1745-1824) in 1756. The original is in the *Bibliothèque nationale de France, département des Cartes et plans, GE C-9972*. A scanned online version is accessible at http://gallica.bnf.fr/ark:/12148/btv1b7710337x. It shows the duchy of Lorraine as well as the area of the partly independent enclaves Metz, Verdun and Toul. Although it is admittedly hard to distinguish which area us belongs to which (another version is available at http://gallica.bnf.fr/ark:/12148/btv1b53099747j/f1.item.zoom), it is apparent that the borders do not coincide with the border drawn after the Franco-Prussian war. It is also apparent that partly independent enclaves existed on both sides of the border which we use to distinguish in a treatment and control area.

Additonal References

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