The origins of common identity: Division, homogenization policies and identity formation in Alsace-Lorraine*

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Abstract:
We exploit the fact that disagreements in the German leadership after the Franco-Prussian War in 1870 led to a quasi-exogenous division of Alsace and Lorraine to provide rare evidence of group identity formation within historically homogeneous regions. In line with the rejection-identification hypothesis, people in the treated area which experienced a change in nation-status and were exposed to repressive homogenization policies express a stronger regional identity and support more regional autonomy today. On average, subjects with a stronger regional also express a stronger European identity, which we exploit in a regression discontinuity design at the municipal level to reveal whether these identity differences are causal. We find that support for the European Union is significantly stronger in two crucial referenda, a result that is robust across different specifications and bandwidths, and not driven by language differences, large agglomerations or distance to foreign countries. The effect seems to be the strongest for the first two age cohorts after World War II and diminishes for later generations.

Keywords: Group identity, Identity formation, Homogenization policies, Assimilation, Rejection-identification hypothesis, Persistence of preferences, Alsace-Lorraine

JEL: D91, H70, H80, N40, Z19

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1 Introduction

The formation of a common group identity at the regional or country level is a highly important, yet poorly understood aspect of human behavior. One reason for the difficulty to understand and disentangle the factors influencing the identity formation process is that laboratory experiments can only study groups of limited size and rely on artificial manipulations to some degree. Observational studies almost always struggle with distinguishing the effect of certain policies or shocks from other factors which are specific to a certain region or country. This paper aims to provide causal evidence by using a natural experiment that divided historically homogeneous regions in a quasi-exogenous way to study how the associated differences in exposure to repressive policies influenced identity formation.

The emergence of separatist movements all over the world, and the negative consequences associated with a lack of common identity, for instance in Africa, clearly demonstrate how important a better understanding of identity formation is. Insufficient alignment of identities and stronger regional than national identity fuels separatism in regions like Catalonia, Belgium, and Scotland. Arbitrarily determined national borders are associated with ethnic identities being strong and common national identity weak in Africa, often leading to violent struggles for autonomy and inferior development in Africa or the Middle East (e.g., Besley and Reynal-Querol, 2014; Michalopoulos and Papaioannou, 2016).[1] At the same time, there are culturally seemingly heterogeneous countries like Switzerland or the United States, which exhibit a strong sense of common identity.

Secessionism and separatist conflict can be driven by economic factors (e.g., Gehring and Schneider, 2016) and cultural factors (e.g., modeled as preference heterogeneity in **?** and Alesina and Spolaore, 1997). This paper relates to the latter explanation, aiming to better understand the sources of these cultural differences, more specifically the perceived (mis-)alignment of preferences exemplified in (the lack of) a common identity. We model common identity as the degree to which an individual perceives her preferences, values and norms to be aligned with her region, nation, or other groups. We then study how the division of the border regions Alsace and Lorraine between France and Germany following the Franco-Prussian War in 1870-71, and the associated exposure to a very different set of policies, affected the formation of identity in the occupied (treated) area over the long term.

It is widely believed that historical shocks and state policies are crucial in explaining identity formation, but conclusive causal evidence is lacking. Tilly (1975) thought of war and conflict as a source of state formation, but focused on the cooperation between leaders and capital to form a state. While group identity and its strength is thought to be influenced by shared history and shared ethnic or social traits, these are neither necessary nor sufficient to form a stable group identity. Recent evidence shows that heterogeneity within groups is on average much larger than heterogeneity between groups (Desmet et al., 2015). Social psychology argues for the importance of group members having the collective perception of belonging to a joint group (Turner, 1982),

[1] See, for example, Jega (2000) for the importance of identities in explaining the legitimacy problems many African states face when trying to establish and maintain economic and political institutions.

created by emphasizing factors that are common to the group. Accordingly, we build on Shayo (2009) and model common identity as the perceived average distance to the other members of a group. When the treated area referred to as Alsace-Lorraine became a part of Germany after 1871, people had to adapt their identity to the new circumstances.

We use a simple model to describe how a temporary historical shock can lead to persistent differences in regional identity, but not necessarily in national identity. This is in line with prior evidence showing that policies threatening the cultural identity of a group or perceived as discriminatory can lead to a "backlash" (Fouka, 2016). In the case of Alsace-Lorraine, anecdotal evidence supports that the historical shock strengthened the (common) regional identity of those in the treated area. Historical evidence suggests that this was plausibly a reaction to the intrusive homogenization policies enforced by the German and later the French government, which are well documented (Carrol and Zanoun, 2011; Höpel, 2012; Rothenberger, 1975). Although historians highlight the role of homogenization policies, other features of the shock (change in nation-status, occupation, repression,...) could also contribute to its effect on identity. Our only assumption is that all these shocks were perceived as a threat to group identity, leading to an "alienation" (Goodfellow, 1993, p.454) and a potential "backlash". Such a reaction is hypothesized by the rejection-identification hypothesis in social psychology (Branscombe et al., 1999), but also relates to the theory of "oppositional identities" (Benjamin et al., 2010) in economics.

Using detailed survey evidence, we document this change in identity and its persistence up to today. People in the treated area state an overall higher regional identity, as well as a stronger regional relative to national identity. This is also exemplified in clear shifts in policy preferences. The treated subjects are on average more in favor of shifting policy competences to the regional government, giving more autonomy to the regional government and determining education policies at the regional level. At the same time, they also express a higher identification with the European Union (EU): the same subjects who express a higher regional identity in most cases state a stronger European identity as well. This is in line with arguments in political science (Jolly, 2007; Chacha, 2013) that stronger regional compared to national identity makes EU-integration more desirable as the associated costs of delegating competences from the nation state to a superordinate institution are relatively lower. Moreover, and perhaps more importantly, in the 1990s and 2000s, when our outcomes were measured, the EU was regarded as increasing the policy competences and representation of regions (Marks et al., 1996). The fact that "regionalist political parties are consistently pro-EU across time, space, and issue area" (Jolly, 2007, p.1) supports this view. It is also interesting in itself and could be a side effect of having experienced all the negative consequences of the power struggles between Nations that were common for most of Europe's history.

We exploit this relationship and use municipal level voting outcomes in two crucial referenda on the EU to measure whether these differences in identities are causal. To test whether the historical shock also led to a causal difference in attachment to France, potentially due to adapting a German identity, we use the vote share for the presidential candidate of the *Front National* (National Front), Jean-Marie Le Pen, as a proxy for nationalist tendencies. Moreover, we test for discontinuities in

Figure 1: Map of treated and untreated area and surroundings



Notes: The treated area is shaded in light grey, and the untreated control area in dark grey.

voter turnout to examine whether political participation differs between treated and control area as a potentially biasing factor.

Our identification strategy relies on a spatial regression discontinuity design (RDD). Alsace and Lorraine were integrated into France for more than a century when the peace treaty ending the Franco-Prussian War (July 19, 1870 - May 10, 1871) established the annexation of most of Alsace and parts of Lorraine by the victorious Germans. The annexed part of the region, to which we henceforth refer as Alsace-Lorraine (AL) or the treated area remained German for nearly 50 years, until it became French again after World War I (WWI). This occupied area was exposed to clearly more intrusive homogenization policies by both the German and French central state than the counterfactual non-annexed areas of the same regions.[2] Historical evidence clearly documents that both nations implemented harsh measures to homogenize and suppress regional or separatist tendencies.

It is crucial that historical evidence suggests that the exact location of the border is exogenous to our outcome. This enables us to isolate the effects of the historical shock on identity formation from possible pre-existing differences. The historical reasons for the rather arbitrary border demarcation were the opposing interests concerning the exact border location between the cautious German chancellor Bismarck on the one side and his more aggressive military leaders and *Kaiser* Wilhelm I. on the other side. Bismarck wanted to restrain territorial expansion to the German speaking parts of Alsace and Lorraine (Lipgens, 1964), while the majority of the military lead by the influential General Helmuth von Moltke wanted to extend the German territory as far beyond the German (Alemanic-dialect) speaking territories as possible.[3]

[2] These are very well historically documented (Carrol and Zanoun, 2011; Höpel, 2012; Rothenberger, 1975; Vajta, 2013). Important pillars of these policies were, among others, the denial of full democratic representation (Carrol, 2010), the continued use of an intrusive "dictatorship paragraph" (Carrol, 2010), the imposition of a *Frenchness Commission* after WWI (Harvey, 1999) and restrictions on the use of local dialects (Callender, 1927).

[3] The literature indicates that General von Moltke had from the onset of the war planned to march as far into France as possible and capture decisive strategic positions (Förster, 1990). The conflict continued when the conditions for the

These conflicting interests on the German side and the intense negotiations with the French leader Adolphe Thiers resulted in the compromise to split Lorraine rather arbitrarily (Förster, 1990; Lipgens, 1964; Messerschmidt, 1975; Ziekursch, 1930). As an example of the complex nature of these negotiations, Thiers succeeded in stretching the border a little further towards Germany by allowing the German military to hold a "victory parade through the streets of Paris".[4] The most important implication from studying the complex historical background and the negotiation process in detail is that the resulting border can plausibly be regarded as exogenous to our outcome variables, in particular within Lorraine.

The RDD results support the survey evidence and show about 4 percentage points higher support for the EU in the treated area compared to the counter-factual non-treated areas. This difference in the Yes-share is both sizable and economically significant as it would have changed the majority outcome in the region. The differences remain significant across different bandwidths for both referenda in 1992 and 2005, and remain virtually identical when we concentrate only on the within-Lorraine comparison and omit Alsace. Moreover, we find no significant differences with regard to voter turnout, which indicates that we indeed capture differences in identity. Given that more than 80% of citizens expressing a higher European identity also expressed a stronger regional identity, this supports the survey results. They are in line with the "rejection-identification" hypothesis, and indicate that the intrusive policies trying to suppress regional identity have in fact strengthened it.

The first obvious pitfall for a causal interpretation appears to be the possibility that Lorraine simply profits more from integration due to its geographical proximity to Germany, for instance concerning trade. This is unlikely, as our results hold when we reduce the bandwidth to 10km, i.e. when comparing municipalities which are direct neighbors and only differ by the set of homogenization policies they were exposed to. Moreover, we control for the distance to Germany and to major cities in the region. Another issue are potential overlaps between the former border and the historical language border which used to divide the German-dialect from the French speaking parts of the region. We address this second concern by geocoding the historical language border at the municipal level (Callender, 1927; Harp, 1998). Excluding all historically German-dialect speaking areas does not affect the estimates in either of the two referenda. We also find no support for other alternative explanations like Germanization, a permanent change in the socio-economic structure of

French defeat were negotiated and documented in the peace treaty on February 26, 1871. In line with certain German intellectuals, the military leadership tried to legitimize territorial gains with social-Darwinistic theories which regarded states as species struggling for space with other nations (Heffernan, 2001). Another motivation (for the standpoint) of the military was to capture more ground to weaken the arch-enemy in anticipation of the plausible next conflict. Bismarck on the other hand feared that excessive annexations might increase the risk of a new conflict.

[4] After elections in both French and German-occupied parts of France lead to the anti-war conservative party winning 500 out of 676 seats, their leader Adolphe Thiers negotiated with Bismarck for 5 days. The result was in its details unpredictable and the planned border changed frequently during the negotiation process. For example, France managed to keep Belfort by agreeing to the military parade and allowing the Germans to keep larger parts of Lorraine. Moreover, Bismarck was willing "save Metz for France", and considered keeping the French part of Lorraine altogether a "folly of the first order" (Wawro, 2005 p.206). Moltke and the Kaiser Wilhelm I. refused to return it however, as the military considered taking Metz one of their great achievements and a return a "national humiliation" (Wawro, 2005 p.206). The final result was a compromise between both positions and it is documented that, at least partly, "Bismarck, [...], quite uncharacteristically wilted under the pressure" (Wawro, 2005 p.305). The northern border thus rather arbitrarily divides the former duchy of Lorraine in two parts.

the population, or specific laws in the treated area. Thus, while other factors might have mattered to some extent, historical evidence suggests that the crucial difference between the treated and control area was the exposure to repressive policies, most evidently in the form of intrusive homogenization policies. These differences in exposure have shaped preferences in the treated region in a way that is still identifiable more than half a century later.

Our research adds and relates too different strands of literature. First, the literature on identity economics (e.g, Akerlof and Kranton, 2000; Kranton, 2016) and on the persistence and transmission of culture, identities and values (e.g, Algan et al., 2013; Abramitzky et al., 2016; Bisin and Verdier, 2000, 2010; Guiso et al., 2016 and Tabellini et al., 2008). Most of the existing models consider the case of two groups, a minority and majority group, and the choice whether to transmit certain values to the next generation via parental investment. The minority group in our setting is the treated area as opposed to first the German and then French majority, who both try to assimilate them by force. Bisin et al. (2011) explicitly model a mechanism that can explain how oppositional identities can persist and Fouka (2016) provides a model how both vertical (parental investment) and horizontal (schooling) socialization influence the strength and transmission of a group identity. Our results can be interpreted as in line with both mechanisms, as we also document how a "discriminated" group intensifies their identity as a response.

In addition, there is a large literature on identity in different disciplines of social science, ranging from political science to sociology and social psychology. It is widely accepted that a common identity needs not to be based on objectively aligned preferences, but that the collective perception of social unity can be sufficient to form a group (Turner, 1982). This is also the base of the identity definition in Shayo (2009), which we adapt. It can account for strong group identities despite large preference heterogeneity within groups (Desmet et al., 2015). In social psychology, the social identity model (Tajfel et al., 1971) argues that group identity "has primarily a perceptual or cognitive basis" and that "awareness of a common category membership" is a necessary and sufficient condition for individuals to act as a group. It seems plausible that the intrusive assimilation policies strengthened the awareness of Alsatians and Lorrainians of their cultural distinctiveness.

Leed (1981) argues that fighting together against a common enemy in a conflict leads people to form a common identity, by increasing the perceived importance of connecting experiences and traits. In the case of Alsace-Lorraine, a plausible explanation is that the exposure to intrusive and discriminating policies set an incentive for parents to invest in teaching regional culture to their children, which persistently increased the salience of attributes common to the inhabitants of the region. The idea that feeling rejected or suppressed by a majority increases group identification is also known as the rejection-identification hypothesis (Branscombe et al., 1999). It argues that the perceived common identity between an individual and a group can be changed not only by changing actual norms or preferences, but also by adapting the importance the individual assigns to different attributes.

We directly relate to an emerging literature in economics examining the use and effect of different policies on identity formation and nation building. Alesina et al. (2017) model when and which

assimilation policy is used to instill a common identity, creating the distinction between benevolent and intrusive ("odious") policies. Our results are in line with some existing evidence how intrusive policies have detrimental effects or lead to an increase in the affected group's identity. Dell and Querubin (2016) use exogenous variation in US bombing patterns in Vietnam, and document that more bombing increased communist military activities, lowered civic engagement and worsened attitudes towards the central government and the US. Carvalho (2013) suggests that banning veils on Muslim women can actually lead to higher religiosity, hence a stronger religious identity.

In addition, we relate to the literature studying schooling as a specific mechanism through which the state can influence identity formation (e.g., Bandiera et al., 2017; Lott, 1999 and Ortega and Tangerås, 2008). Carvalho and Koyama (2016) provide a model of how an education systems that marginalizes a certain identity can cause cultural resistance on part of the marginalized group. Regarding empirical papers, studies of compulsory language laws in schools are closely related in many respects. Aspachs-Bracons et al. (2008) and Clots-Figueras and Masella (2013) find that within Catalonia, the forced imposition of Catalan is related to an increase in Catalan identity measured by various proxies. Fouka (2016), in contrast, provides evidence on how the forced imposition of English on German pupils in US states after WWI is related to an increase in German identity and a decrease in common identity, as measured via volunteering rates in WWII.

A plausible explanation for these difference is that learning Catalan in schools in Catalonia was not perceived as oppositional to the identity of migrants to the region, whereas in the US case and in our setting the policy was clearly perceived as discriminatory. This is in line with explaining the below-average school performance of African Americans in the US with the perception of investments in as acting "white" and opposed to black group identity (Fryer Jr. and Torelli, 2010), while for Asian Americans no such effects are observed. One advantage of our research design is that the exogenous border creation within a region allows us to compare people who formerly possessed the same identity, providing us with a clearly identified and comparable counter-factual.

The long run persistence of the treatment effect over more than half a century in our setting is not unusual and in line with other papers documenting persistence in culture over periods stretching more than a century. These differences are, for instance, associated with outcomes like stated preferences regarding trust (Becker et al., 2015) and different proxies of civic capital (Guiso et al., 2016), but also with revealed preferences like cheating in a trust game (**?**), practicing traditional practices (Giuliano and Nunn, 2016), and differences in homicide rates among Scottish-Irish settlers in the US South (Grosjean, 2014). Our results provide both correlational evidence on stated preferences on regional and European identity and policy competence allocation, as well as causal evidence on preferences revealed in voting in the two referenda on the EU.

The paper is structured as follows. Section 2 explains the historical background of Alsace and Lorraine, puts the study in perspective to the existing literature, and presents our theoretical framework. Section 3 presents the data and identification strategy, and in Section 4, the results are presented. Section 5 discusses potential threats to identification and alternative explanations for our findings, and Section 7 concludes the paper.

2 Historical background, theoretical framework and survey evidence

2.1 Homogenization policies and the history of Alsace and Lorraine

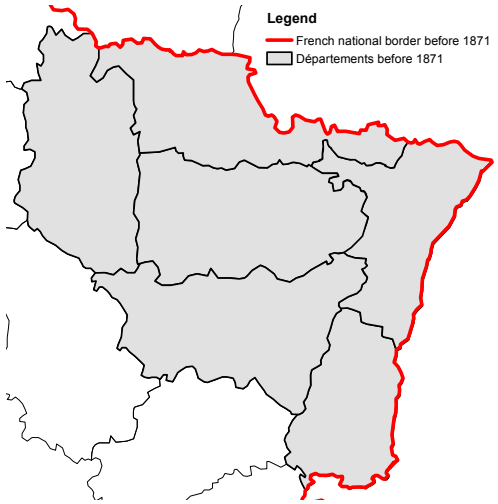
France is a particularly well-suited place to study homogenization policies and the formation of identity. It is nearly universally recognized to be the birthplace of nationalism and the first attempts of nation building (Conversi, 2008). Starting with French absolutism, the French revolution (see, e.g., Hobsbawm, 1990, 1994 and Connor, 2004) and Napoleon's systematic attempts to enforce a national identity, France serves as a prime example to examine the formation of identity. As John Stuart Mill stated, a certain degree of homogeneity is necessary as "unassimilated democratic states will tend to dissolve into as many democracies as there are nations within them" (cited by Connor, 2004, p.35). Gellner and Breuilly (2008) argue that in an industrial society, different ethnicities, cultures, and in particular languages act as barriers that reduce efficiency, as they increase the costs of communication and reaching agreement.

The use of homogenization policies by the central state to build a common identity is still a highly relevant topic in modern states, as Lott (1999) shows in a cross-country and the specific South-African context. Gellner and Breuilly (2008) seminal work emphasizes the importance of establishing an official language, which is spoken by every member of society. The idea of the central role of language in state formation in Europe can be traced back to Johan Gottfried Herder (1724-1804), who argued that language forms people's mind and is essential to create a common national identity. Besides language, homogenization policies can include more benevolent measures like lowering the costs of travel and exchange through institutions and improved infrastructure, but also the imposition of a state religion, the prohibition of regional cultures, and most violently through genocide and the extermination of certain groups (see for example Tilly, 1975). Conversi (2008, p.1289) describes the process of nation building as one where "a top-down process entailed assimilation and the forced erosion of cultural differences." This can give rise to existing ethnic and regional identities being perceived as oppositional to national identity.

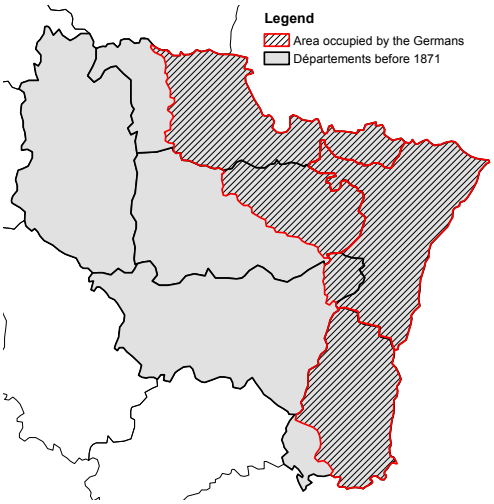
To put our natural experiment into perspective, it is helpful to discuss some important aspects of the history of Alsace and Lorraine. Both regions have been autonomous political entities as far back as the early 7th century during the Merovingian dynasty. When the son of Charlemange, Louis the Pious, died, the Treaty of Verdun divided the Carolingian Empire into three kingdoms, with Lorraine being a part of Middle Francia and Alsace of East Francia. Under Charles the Bald, all of modern Lorraine became a part of the Duchy of Lotharingia, while Alsace in 929 was incorporated into the Duchy of Swabia in East Francia.

Although many treaties divided Western Europe among sons of deceased kings, the separate duchies of Alsace and Lorraine then held a more or less permanent position as vassals to the Holy Roman Empire. From 1542 onwards, the actual administration was in the hands of dukes, counts or fiscal agents called *nuntii camerce*. Over the centuries, both regions thus developed strong common regional identities with specific traditions and norms.

Figure 2: Historical maps: before, during and after German occupation



(a) France before German occupation (1870)



(b) France after German occupation (1871)



(c) France after the occupied region was returned (1918)

Notes: Bas-Rhin and Haut-Rhin compose Alsace, and Moselle was the treated part of Lorraine. Meuse and Meurte-et-Moselle are the untreated part of Lorraine and Vosges serves as a counterfactual for Alsace.

After the Thirty Years' War (1618-1648) all of Alsace and the cities of Metz, Verdun and Toul were ceded to France in the Treaty of Westphalia. The rest of Lorraine was given to the French Crown through the Treaty of Vienna (1738) and effectively became French after the Duke of Lorraine, Stanislas Leczinski, died in 1767. Older maps from previous centuries also show that there was no apparent overlap between historical borders and the new border (see online appendix). At the time of the Franco-Prussian War in 1870/71, Alsace and Lorraine had thus been a part of France for more than a century and were exposed to the same policies by Napoleon and other central French leaders.

The peace treaty of Versailles (1871) then stipulated that most of Alsace and an eastern part of Lorraine were ceded to the newly created German state. The southern part of the new national border between France and Germany mostly followed the western border of the former Duchy of Alsace, while the northern part divided Lorraine in two parts. As described above, disagreements between Bismarck and his military leaders and the Kaiser, and the complex negotiation process with France resulted in a quasi-random final border demarcation (see Figure 2b).[5]

The annexed area was incorporated into the German Empire as the *Reichsland Elsass-Lothringen*. In Alsace, the départements already in place during French rule were converted into the German districts of *Oberelsass* and *Unterelsass*, corresponding to the former (and existing) départements Haut-Rhin and Bas-Rhin, respectively. In Lorraine, the district *Lothringen* was created from parts of the former départements *Moselle* and *Meurthe*, and corresponds to todays département *Moselle* (see Figure 2). The treated region was never recognized as an integrated part of the German Empire – instead it was an imperial territory under the direct authority of Kaiser Wilhelm I. and had, for instance, no representatives in the *Bundesrat* or the *Reichstag* (Vajta, 2013). As part of the "Kulturkampf" government regulations restricted particular types of education and parts of the press, mostly directed against the catholic majority (Silverman, 1966). Generally, "restrictions on the press were not lifted until 1898 and the government kept the French dictatorship paragraph of 1849 in force, despite its abolition in the Third French Republic after 1870" (Carrol, 2010, p.60). In terms of public education policy, Strasbourg University was reopened as "Kaiser-Wilhelm-Universität" with the specific aim to promote and spread German culture.

France regained control of the lost provinces after the Treaty of Versailles (1919), which it kept with the exemption of World War II (WWII), where both areas like other parts of France were occupied by Germany. The process of reintegration into France is sometimes described as even more repressive than the German occupation. The Germanic dialect which was the mother tongue of a majority of the population was no longer allowed to be taught in school, and German was removed as an official language (German as a second language was not taught in schools until the early 1950s). A special commission, called *Commissions de Triage*, was formed to ascertain the *Frenchness* of the population in the re-annexed area (Carrol and Zanoun, 2011). Municipal names, street names and family names were changed to French. Between 1926 and 1930, several newspapers promoting the regional cause were forbidden, and members of regionalist parties were put into jail. Moreover, France replaced bureaucrats and local teachers with people sent from other French regions who were not familiar with the local circumstances and traditions. WWII was a final phase of repressive policies, which some argue again affected the treated area stronger than the control area.

[5] There were strategic considerations involved, mostly regarding certain fortresses or positions like Belfort. The strategic importance of locations could be related to geological features, but, as we show, there are no indications that they are linked to prior differences in national identity and no discontinuities in ruggedness or elevation.

2.2 Theoretical framework and survey evidence

This section introduces a simple model of cultural transmission with multiple identities. Most existing models describe a setting where people have to choose between different, potentially oppositional, identities, but cannot hold more than one identity. Our setting requires a model where everyone possesses multiple identities, for instance, as a citizen of her municipality, region, country or the European Union. An important feature of these multiple identities is that they are not necessarily substitutes, at least not perfect substitutes. Our model is related to Bisin et al. (2011) to the extent that children's identity is influenced by both parents and other outside factors (in their case, peer effects, in our case, public schooling). We do not aim to incorporate all potentially relevant influencing factors, but focus on public schooling as one plausible mechanism of identity transmission (cf. Lott, 1999) and its effect on regional and national identity.

The model will help to explain how an exogenous shock to how public schooling teaches identity can lead to persistent differences in identities. Every individual is a member of two groups, the region and the nation. People gain utility from feeling closer to their region, which is their closest reference group, but also from a common national identity with the other regions, which lowers transaction costs. Identity formation is affected by public schooling, which is modeled as an exogenous decision imposed by the nation state, and by parental investment. Public schooling can also more generally be thought of as representing the set of state policies that influence identity formation, but cannot be influenced by parents. Parents maximize their utility when determining parental investment in their children, which weighs the benefits of common identities against the costs of teaching common traditions and norms. We model these costs as a one-time fixed cost. The model could be extended to also include a variable costs component for the time spent on teaching or to cover more general functional forms, but this would add another layer of complexity and is not necessary to understand the main mechanisms. The game then unfolds in three stages.

Stage 1 (until 1870/71): Both areas are exposed to the same public schooling policy. Because they belong to one homogeneous region, there is no reason to expect differences in parental decisions on how much to invest in transmitting traditions and norms to their children.

Stage 2 (1871 – ∼1950): People in the treated area are exposed to intrusive policies and repression, exemplified by a public schooling policy that does not teach regional culture sufficiently. If their utility from regional identity is high enough, they choose to pay the fixed costs of learning how to transmit regional culture to their children themselves.

Stage 3 (after ∼1950): The temporary shock is over and public schooling teaches regional and national culture at similar levels in both areas. However, the optimal level of transmitting regional culture through direct parental investment will be higher in the treated area if parents chose to invest the fixed costs during the treatment period and transmit that skill to their children.

Our approach relates to the literature on the size of nations, which models common identity or the lack of it as preference heterogeneity, as well as to the literature on identity formation (Akerlof and Kranton, 2000) and oppositional identities (Bisin et al., 2011). We want to emphasize a definition of a common identity that builds on Shayo (2009), and relies on the *perceived* heterogeneity or distance to other members of a group. Hence, 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. In our specific case, one item could be thought of as preferences about beverages: in the treated area, there supposedly is a stronger preference for drinking beer, and in the area that always remained French, wine is preferred. 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.

These weights are an important distinction compared to standard models in the size of nations literature. Desmet et al. (2015) have shown using the World Value Surveys that within-group variation in values and preferences, which they term "culture", is larger than between-group differences. 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. The intuition of this approach is easy to understand. People from a region differ in their shared history, in the spoken dialect, local cuisine or music from other regions in the country. The degree to which this affects common national identity, however, depends on how much people emphasize these differences compared to other regions. We make some simplifying assumptions in the following, but this formula links our model and its implications directly to this important literature.

Individuals benefit from a strong common regional identity, as it helps them to feel socially compatible with fellow group members in their region of residence. A higher perceived distance to the average group member of the region lowers individuals' regional identity and can make them feel "isolated". The cost associated with isolation is not only psychological: a lack of social compatibility can also hurt business and/or employment opportunities. The same holds for a common national identity. For instance, if someone does not know how to comply with national traditions, it will be more difficult to find a job in the regional public administration (if that is controlled by the central state) or to trade with other regions.

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 flambe". 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.[6] 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, think for instance of 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.[7]

When deciding how to invest in the education of their children, parents maximize the expected utility their children derive from a joint regional and national identity. We choose a specific 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 representative parent based on the weights of their child as

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

with $0 < \alpha < \frac{1}{2}$. This means parents assign positive utility to their children sharing their regional identity (ω_R), but they also take into account the potential benefits the children will have from alignment with the rest of the nation (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 parents to actively be involved in influencing their children's identities. This cost is given by C.

The transmission of weights (ω_R and ω_N) is influenced by parental investment and public schooling. Hence, the ω_j of a child is a function of the traditions the parents chose to transmit and the traditions transmitted via public schooling. Just like parents, public schooling can spend time on teaching both regional and national culture, as well as of course on other subjects unrelated to

[6] 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.

[7] 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.

identity. The weights of the child 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 time invested by parents and public schooling. 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 parents, we assume $t_R^P + t_N^P = 1$ for simplicity if the benefits from teaching regional or national culture exceeds the costs, as discussed below. The total amount of teaching decides the magnitude of the sum of the weights ω_R and ω_N, which translates into the weights children will put on these sets of attributes and the strength of their identities.[8]

When parents 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. One central but, as we think, plausible assumption is that children who repeatedly experienced a tradition within their own family inherit the ability to teach it to their own children. Accordingly, $\tau_j = 0$ if parents were themselves exposed to $t_j^P > 0$.[9]

The (fixed) cost of teaching for parents are 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, teaching one culture also creates opportunity costs reflecting less time spent on transmitting other traditions. With the public schooling parameter exogenously given, plugging in the expressions for the weights into the utility function maximized by the parents 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 teaching. The optimal choice of parents 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 parental investment of ${t^P}^*_R = \left(\frac{1 + t_N^S - t_R^S}{2} \right)$, conditional on being incentive-compatible, i.e. if the utility from teaching the optimal level exceeds the utility from not teaching 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

[8] 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 $\omega_o = 1 - \omega_R - \omega_N$.

[9] 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 teach j culture. We assume that engaging in a joint tradition as a family has a different effect than being told about a tradition in school. Observing parents and copying behavior arguably has a large influence on education style, notwithstanding exceptions where children deliberately deviate from their parents behavior.

here and in the following refers to regional traditions, and the second number to national traditions. Consider four different cases:

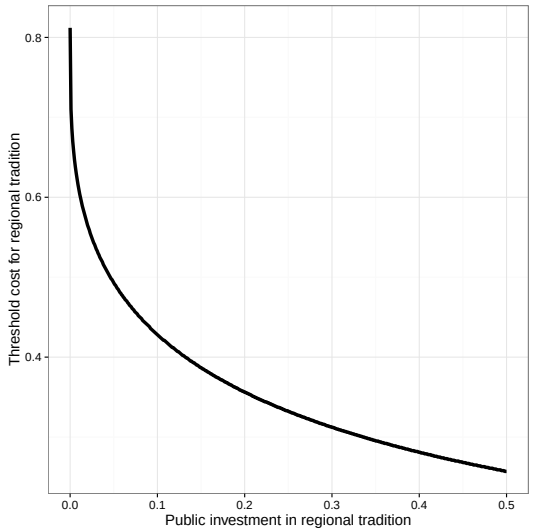
Case 1 If $\tilde{B}(t^{P*}_R, 1 - t^{P*}_R) \geq C(t^{P*}_R, 1 - t^{P*}_R)$, then $t^P_R = t^{P*}_R = \left(\frac{1+t^S_N - t^S_R}{2}\right)$ and $t^P_N = t^{P*}_N = 1 - \left(\frac{1+t^S_N - t^S_R}{2}\right)$. This means the parents will invest time in learning how to teach and transmit both **regional** and **national** traditions.

Case 2 If $\tilde{B}(t^{P*}_R, 1 - t^{P*}_R) < C(t^{P*}_R, 1 - t^{P*}_R)$ and $U(1,0) > U(0,1)$, and $\tilde{B}(1,0) \geq C(1,0)$, then $t^P_R = 1$ and $t^P_N = 0$. This means the parents will only invest time in learning how to teach and then transmit **regional** traditions.

Case 3 If $\tilde{B}(t^{P*}_R, 1 - t^{P*}_R) < C(t^{P*}_R, 1 - t^{P*}_R)$ and $U(1,0) < U(0,1)$, and $\tilde{B}(0,1) \geq C(0,1)$, then $t^P_R = 0$ and $t^P_N = 1$. This means the parents will only invest time in learning how to teach and then transmit **national** traditions.

Case 4 If $U(0,0) = \max U(t^P_R, 1 - t^P_R)$, then $t^P_R = t^P_N = 0$. This means the parents will not invest time in learning how to teach and then transmit any traditions.

Figure 3: Threshold costs for teaching regional tradition



Notes: For the area respectively all costs C^P_R below the curve, parents choose to invest themselves in teaching regional traditions. The lower the level of regional tradition taught in public schools, the higher the costs parents are willing to pay to maintain regional culture and traditions. All else equal, decreasing public investment makes private investment more likely.

Figure 3 shows the distribution of costs for which it is optimal for parents to invest time in teaching regional traditions and culture. A decrease in t^S_R makes teaching regional traditions the best choice for parents along a larger range of parameter values. We can now use this framework to analyze the natural experiment, which can best be described in the three stages introduced above.

Stage 1

In the first stage, public schooling policy is identical in both areas. Parents decide to teach either regional or national traditions, both traditions, or none of them. The optimal choice of teaching depends on *i)* the public investment in teaching regional and national traditions, and *ii)* the cost of learning to teach regional and national traditions. For public investments $t^S_{R,stage1}$, $t^S_{N,stage1}$, there exist costs $C^P_R > \bar{C}^P_{R,stage1}$ and $C^P_N > \bar{C}^P_{N,stage1}$ such that parents decide not to invest in teaching any traditions. Parents invest time if the costs of doing so are lower than 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 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, parents decide to spend all their time teaching regional traditions and $t^P_{R,stage2} = 1 > 0$.

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 public investment in regional traditions becomes high enough, for instance comparable to stage 1, parents in the untreated area are not willing to bear the cost 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, parents in the area do not have to bear the fixed costs ($\tau_j = 0$) and they choose ${t^P}^*_R > 0$. 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 $t^P_j > \tilde{t}_j > 0$, i.e. parents put enough value and time on regional culture so that their children acquire and imitate this behavior.

In the first years, homogenization policies remained focused on eliminating and suppressing regional culture. Nevertheless, after some years, public schooling policy was adapted and allowed the teaching of regional culture and dialect again. We assume that at some point, ω^S_R and ω^S_N became comparable again between the treated and untreated area. As soon as the former treated area Alsace-Lorraine was fully accepted as a part of France, it received the same curriculum and public schooling as the rest of France.[10] That means, children in both areas are taught the same level of French national identity via the public schooling system. It would be misleading to pick a precise date, but it is plausible that the differences disappeared in the period after WWII in the early 1950s.

[10] The one remaining difference are classes in religion. Students in the treated area still receive a few hours of religious classes in school today. We will demonstrate later that this is orthogonal to our outcome variables.

It appears that France managed to minimize the extent to which French and regional identity are still perceived as oppositional over the years since adapting or stopping intrusive policies. Temporary differences in national identity should thus disappear over time, at least for the generations born after the treatment period (stage 2) ended. The equilibrium level of national and regional identity in both areas depends on the parameters values. There are parameter values and functional forms U and C^P for which it is optimal to give up regional culture altogether and it is possible that some parameters change over time. We focus on the difference between treated and untreated area caused by the shock, so what we need to assume is that changes after the shock affected both areas similarly. This is plausible as school curricula are set by the French central state, and changes are implemented in all of France. Moreover, our identification strategy assumes that prior to the shock (stage 1) people in both the treated (T) and untreated (U) area had comparable identities.

2.2.1 Survey evidence

To get a sense of identity before 1871, we make use of the fact that Louis XVI., shortly before the French revolution, felt the need to assess the loyalty of his citizens. These data known as the "Cahiers de doléances" are not comparable to modern survey of course but provide some interesting information. They were aggregated and processed originally by Hyslop (1968) and have recently been used to assess the effect of state capacity on identity formation (Johnson, 2015). Although this does not fulfill the same criteria we would apply to current surveys, they allow us to examine potential differences in common French identity within Lorraine. Following Johnson, we exclude the clergy, which was more driven by religious policy, and include the second (nobility), third (other citizens) estate and the category unified orders. The average response for all four departments within Lorraine is exactly or very close to 2, and there is no statistically significant difference between Moselle and the rest of Lorraine (see Online Appendix Table A16 for details).

We hypothesized that the historical shock(s) and the associated intrusive and discriminatory policies (we will use the terms homogenization and assimilation policies interchangeably) led to an increase in regional identity. Historians have document many examples of these intrusive policies. Under German rule the region was never recognized as an integrated part of the German Empire – it was an imperial territory under the direct authority of Kaiser Wilhelm I. due to the suspicious stance towards the loyalty of the new citizens (Carrol and Zanoun, 2011) The Germans used a "dictatorship paragraph" that allowed house searches and prohibition of political organizations, constricting the formation of local political parties (Carrol, 2010). In order to stamp out any attachments to France, political organizations and publications were banned in the Reichsland, and the German central state reserved the right to conduct house searches and to expel agitators. The intrusive policies also included compulsory education taught in German at all schools, while French was strictly forbidden in elementary school. The university in Strasbourg was reinvented as "Kaiser-Wilhelm-Universität", with the aim of promoting and spreading a new common identity, and assimilating the annexed region into the state (Höpel, 2012).

When France regained control of the lost provinces after the Treaty of Versailles in 1919, it

implemented its own intrusive policies in an attempt to realign the preferences and values of the lost citizens. The families of the about 200.000 Germans who had settled in the region after 1871 were deported in order to "remove any trace of German influence" (Carrol and Zanoun, 2011, p.469). In addition, the German language was no longer allowed to be taught in school, German was removed as an official language with all journals written in a foreign language being banned (German as a second language was not taught in schools until the early 1950s). A special commission, called *Commissions de Triage*, was formed to ascertain the *Frenchness* of the population in the re-annexed area (Carrol and Zanoun, 2011). Assimilation policies conducted by the French are by some historians considered even harsher than those implemented by the Germans (Anderson, 1972). Thus, the treated area was not only once, but twice subject to more intrusive homogenization policies than the non-annexed parts of Alsace and Lorraine.

Because people felt that German policies were, at least partly, oppositional to their own interests, local parties addressing the issue of autonomy emerged during German rule. After re-annexation, these parties were still active, although in slightly different constellations, and their strength increased rapidly again when people were exposed to the intrusive French homogenization policies. However, the autonomist movement lost ground in the 1930s and the build-up to WWII, due to their (partly/to some degree spuriously) supposed association with Germany. After WWII, the French adapted their policies and mostly stopped the intrusive approach to suppress regional culture in the treated area.

To assess the long run effects of the shock(s), we can rely on detailed large scale survey evidence from the "Observatoire Interégional du Politique" surveys carried out in 1999, 2001 and 2003. First, we are interested in the perceived common identities of the average individual in the treated area compared to the untreated area. First, we are interested in the perceived common identities of the average individual in the treated area compared to the untreated area. We compute these comparisons for the whole region of Alsace and Lorraine, as well as for Lorraine individually, where the historical division was more clearly exogenous. In almost all items, the sign and significance of the differences is identical for both comparisons. We condition on age, gender, employment status and education in all comparisons..

Looking at Panel A of Table 1, common regional identity is clearly and significantly expressed as higher in the treated areas. In contrast, there is no difference in common French identity. We also compute the ratio of regional relative to national identity, and standardize this variable. People in the treated areas of Alsace and Lorraine exhibit a ratio that is 24% of a standard deviation higher than in the control areas.

In addition to the stated identity, we can also use these very detailed surveys to analyze the consequences of these stated differences in depth. It is possible that the differences are negligible in their impact. Nevertheless, studies and models on secessionism suggest that besides economic concerns (Gehring and Schneider, 2016), (perceived) preference heterogeneity is the major factor influencing preferences for union or secession. There is clear evidence that the differences in identity in Alsace-Lorraine are also associated with different policy preferences.

Table 1: Survey results

Panel **A**: Identity					
Survey question	Mean, control	Δ	P-value	No. obs.	Source
Feel close to region (Regional identity)	3.362	0.209	<0.001	2617	OIP 99/01
Feel close to nation (National identity)	3.635	-0.003	0.906	2617	OIP 99/01
Feel close to EU (European identity)	2.722	0.286	<0.001	2586	OIP 99/01
Regional identity/National identity (standardized)	-0.138	0.226	<0.001	2614	OIP 99/01
European identity/National identity (standardized)	-0.225	0.259	<0.001	2585	OIP 99/01
Panel **B**: Democracy and level of political decision-making					
Survey question	Mean, control	Δ	P-value	No. obs.	Source
Democracy works well in France	2.536	-0.035	0.324	2606	OIP 99/01
Democracy works well within region	2.630	0.188	<0.001	2575	OIP 99/01
Well informed about regional policies	2.704	0.172	<0.001	2604	OIP 99/01
In favor of transfering policy competence to region (avg. 10)	3.031	0.078	0.002	1218	OIP 99/01
In favor of allowing more autonomy at regional level (avg. 5)	2.134	0.132	<0.001	2619	OIP 99/01
Educ. policy and standards should be set at regional level (avg. 5)	2.855	0.124	0.002	1204	OIP 03
Concerned regional admin. would increase interregional inequality	3.208	-0.314	<0.001	1204	OIP 03

Notes: Sources are the Observatoire Interrgional du Politique (OIP) 1999, 2001, and 2003, using respondents in all of Alsace and Lorraine. The Online Appendix shows similar results for within-Lorraine only. 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.

On the one hand, people in the treated area on average are less satisfied with the way democracy works in France. On the other hand, they feel better informed about regional policies and have a more positive perception how well regional democracy works. Asked whether they would be concerned that more regional autonomy would increase inequality between regions, a significantly lower share of people agrees. Finally, we created three proxy variables regarding the transfer of policy competences to the regional level, more regional autonomy and the allocation of responsibility for education policy. Each proxy is the average of several survey items in the OIP survey, to make sure differences are not caused by different understandings of one particular question. The Online Appendix lists the individual questions in each sub-category.

The average individual in the treated area favors transferring policy competences from the national to the regional level more often, a difference that is highly significant at conventional statistical levels. Similarly, the opinion towards more regional autonomy are significantly more favorable as well. Education policy is particularly interesting, as common state education is a major mechanism to instill and retain an identity. Again, treated subject express clearly more favorable views towards setting educational policy and standards at the regional level.

Another interesting result that we will also exploit to verify the causal interpretation of these findings is the difference in European identity. In line with the results for regional identity, subjects in the treated area also express a significantly higher identification with other Europeans. Again expressed in the ratio of European relative to French national identity, it is 21% of a standard deviation higher, almost identical to the difference for regional identity. One plausible explanation is that the exposure to the repressive policies and wars conducted by nation states increases the salience of the peace-keeping dimension of the EU. In this regard, it is important to remember that the European Union in its beginning was, as much as it was an economic project, created to stop the century-old wars between different nations in Europe.

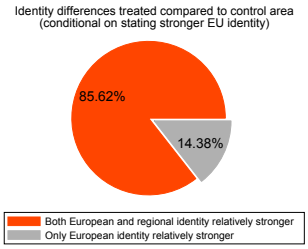
Clearly, the historical shock did not directly evoke a preference for the EU itself, which did not exist at that time. Besides a higher salience of maintaining peace, there are other potential explanations. The most important one seems to be that Europe and the EU are perceived to protect and foster the region, its identity and specificities. In this regard, exhibiting a stronger stated preference for Europe is to some degree instrumental and a result of the strengthened regional identity. Table 2 computes the share of people in the treated area that express a higher regional or European identity than the mean in the control area. It shows that more than 80% of the people express a stronger regional identity, compared to a small majority which expresses a stronger European identity. Moreover, out of those expressing a stronger European identity, about 85% also express a stronger regional identity.

It is evident that people in the treated area perceive regional and European identity as more aligned. However, we cannot clearly distinguish whether this is mostly for instrumental reasons, i.e. whether the EU is perceived as helping the regional cause, or whether the shock had two distinct effects fostering both identities. One argument speaks in favor of a more instrumental interpretation of European identity. Moving policy competences from the nation to the region and allowing more

regional autonomy is to some degree at odds with European integration which in the opinion of most requires more centralization. For the following sections, it is sufficient to know that differences in identity between treatment and control area in both identities are largely aligned.

Table 2: Relative strength of Regional and European identity in treated compared to control areas

		Regional identity / *National identity* Lower	Higher	Sum
European identity / *National identity*	Lower	11.08%	36.99%	48.07%
	Higher	7.47%	44.46%	51.93%
	Sum	18.55%	81.45%	100%



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.

This alignment is in line with arguments by political scientists that citizens in a region where regional identity is strong relative to national identity are more likely to support EU integration. Initially, the EU was in the beginning also perceived as helping the aims of regions and giving them a higher visibility and political representation in the 1990s and 2000s (Marks et al., 1996). This is also clearly visible in the fact that regionalist parties were strong supporters of the EU at that time (Jolly, 2007). A second argument is that when (perceived) differences between the region and the nation are already more large, a delegation of competences away from the nation to the European Union is relatively less costly (Chacha, 2013). Again, we do not rely specifically on one of these explanations, but merely on the fact that the two identities overlap to a high degree in our sample.

The next section proceeds with municipal level data on agreement in two referenda about the EU in 1992 and 2005 in France to overcome the two shortcomings in our results so far. First, we so far rely on stated instead of revealed preferences. Second, even though the demarcation line was exogenous, omitted factors like the distance to Germany or other factors related to location could bias our results. The alignment between both identities allows us to use differences in agreement in the two referenda as a measure of differences in European identity, which is interesting in itself, and as a measure of differences in regional identity. This is an important assumption, as the next sections will focus on deriving these causal differences in agreement, until we return back to the stated preferences on regional and European identity in the last section.

In addition, we use the strength of the extreme right-wing populist *Front National* (National Front) at an election close to our two main outcome variables as a proxy variable to verify whether there really are no differences in national identity. Clearly, a stronger national identity does not necessarily lead to higher support for a right-wing party. Nevertheless, for it to be an informative proxy requires only that voters with a stronger national identity are, all else equal, more likely to vote for the nationalistic *Front National*. Finally, we use data on voter turnout to examine whether potential discontinuities are biased by differences in turnout.

3 Municipal level data and identification strategy

3.1 Data

This section describes the empirical strategy and the sources of the data used to test the proposed hypotheses derived above causally. France is divided into 22 regions, which consist of 96 départments. The départments are further divided into 323 arrondisements and 1995 cantons. These two sub-units are of lesser importance, however, and do not possess the status of a legal entity. We focus on the smallest unit, which is the municipality level. Out of the 3320 municipalities in Alsace and Lorraine, we have data on 3143 obtained from *www.data.gouv.fr*. From the *National Institute of Statistics and Economic Studies* (INSEE), we use data on municipality characteristics like the age composition and education. Electoral data, such as voter turnout and referenda results, are obtained from the *Center for Socio-Political Data* (CDSP). Table 3 shows summary statistics for our variables of interest in the full sample of municipalities in Alsace and Lorraine. Table A1 in the Online Appendix shows definitions and sources, as well as descriptive statistics for all variables.

Table 3: Descriptive statistics for outcome variables and treatment

Variable	Mean	Std. dev.	Min.	Max.
Treatment	0.52	0.50	0.00	1.00
Yes 92	53.91	11.39	0.00	86.25
Yes 05	45.51	9.96	6.67	81.01
Le Pen 07	15.98	5.36	0.00	55.56
Turnout 92	74.40	6.04	52.44	100.00
Turnout 05	73.28	6.40	50.79	100.00
Turnout 07	86.29	4.16	63.38	100.00

Notes: Descriptive statistics for the binary treatment variable, *Share Yes 1992* and *Share Yes 2005*, in the respective referenda, and *Share Le Pen 2007* is the share of voters voting in favour of Jean-Marie Le Pen in the 2007 presidential election (first round), whereas *Turnout 1992, 2005*, and *2007*, refers to turnout in the respective year.

3.2 Identification strategy

We consider a municipality as treated if it is located in the region that was exposed to the repeated change in nation status and the associated more intrusive homogenization policies. This treatment variable is a deterministic function of the geographical location of a municipality, with a discontinuity in treatment at the threshold defined by the former border dividing Alsace and Lorraine. The causal interpretation draws on studying municipalities close to the former border using a regression discontinuity approach. Formally, we estimate the coefficients from the following regression model:

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

where y_i is the outcome variable of interest for municipality c, $Treatment_c$ is a dummy taking the value 1 for municipalities in the formerly occupied region, and $\boldsymbol{z}_c$ is a vector comprising the distances from municipality c to the city of Metz, city of Strasbourg, city of Nancy, and to the

current French-German border. The linear term measures the direct distance from the municipality centroid to the former national border. However, given the two-dimensional nature of the spatial data, two municipalities could be on the same side and have the same distance to the border, while being on different latitudinal lines. We include the three distances to the most important cities in the region, and the distance to the French-German border to take these spatial differences into account.[11]

$p(\cdot)$ is a function of the distance to the border for each municipality. As suggested by Gelman and Imbens (2014), we include a linear term for the distance, allowing its coefficient to vary on either side of the border. In practice, this means that we estimate a local linear regression model according to (1) close to the former border, using a uniform kernel density function, for different bandwidths. Online Appendix Figures A8 through A12 present estimates across different bandwidths, and also when using higher order polynomials and other alternative specifications.[12] All results are in line with those presented here.

The treatment effect in (1), β is given by

$$\beta = \lim_{x_c \to 0^+} \mathbf{E}\left[y_c \,|x_c\right] - \lim_{x_c \to 0^-} \mathbf{E}\left[y_c \,|x_c\right], \tag{2}$$

where x_c is the distance to the border normalized at 0, meaning that the distance for municipalities in the treated region is equal to the actual distance, while it is equal to the actual distance multiplied by minus one for municipalities in the untreated region. Under the assumption of the conditional expectation function, $\mathbf{E}\left[y_c \,|x_c\right]$, being continuous, the treatment effect is equal to the difference in outcome at the border between municipalities in the treated and untreated region. Assuming that all other factors relevant in explaining the outcome are continuous at the historical French-German border, the untreated municipalities reasonably close to the border can be treated as counterfactuals for the treated municipalities. We address this potential concern by formally testing for discontinuities in covariates at the border.

In addition, causal identification of the treatment effect assumes that the treatment is orthogonal to potential outcomes. The historical evidence concerning the decision-process in defining the border between the France and the newly created German Empire following the Franco-Prussian War gives us reason to believe that this assumption is justified. However, it is desirable to empirically test

[11] Large agglomeration might also be more open towards European integration for various reasons. Historically, these cities were imperial or free cities. One argument is that the associated enhanced trade opportunities leads to citizens becoming generally more open towards outgroup members. Another argument is that these cities exhibited more democratic features like (in some cases) electing the guild leaderships or governing council. This could affect the outcome, albeit it is not clear in which direction. We find no discontinuities at the threshold for any of these distance measures, suggesting that they are orthogonal to our treatment variable. Excluding them from the regression model does not change our estimates notably, but decreases estimation efficiency (see Figure A7 in the Online Appendix). Dell (2010) also includes a function of the geographical location of the unit of observation, combined with latitude and longitude as main effects and their interaction. Including these in our specification does not alter our estimates substantially (Figures A9 and A10 in the Online Appendix.)

[12] Dell (2010) discusses why a semi-parametric approach could be superior when the geospatial data is not precise in terms of geographical location. In our case, we do not have data on individuals and, for instance, their addresses. Instead, our outcome variables measure the municipality level aggregate of individual actions, and we approximate their location in relation to the former border by the distance from the municipality centroid.

whether the determination of the border coincides with pre-treatment characteristics, which would signal potential problems. Similar to Dell (2010) and Dell et al. (2015), we test for discontinuities in geographic factors, which are plausibly not affected by the treatment and thus capture potential pre-treatment imbalances. Specifically, we use the mean of terrain ruggedness, elevation, and soil suitability for production of potatoes and wheat. The data on terrain ruggedness is the same that was used in Nunn and Puga (2012), although we use it on a more disaggregated level.[13] We calculate the average ruggedness index for every municipality. While ruggedness refers to the variance in elevation, we also use raw elevation data from the NASA Shuttle Radat Topography Mission (SRTM) data set.[14]

Data on potato and soil suitability, which we choose as the two crops which are likely to be the most important ones, comes from the Global Agro-Ecological Zones database (GAEZ), provided by the International Institute for Applied Systems Analysis (IIASA) in collaboration with the Food and Agriculture Organization of the United Nations (FAO) (IIASA/FAO, 2012). To best approximate pre-"Green Revolution" growing conditions in 19th and early 20th-century Europe we choose a medium input intensity and irrigation.[15] There is no discontinuity for any of these variables at the border/threshold, as shown in Table 4.

Table 4: Pretreatment variables balance test

	Ruggedness		Elevation	
Variable	(1)	(2)[a]	(3)	(4)[a]
Treatment	-0.063	0.001	-31.008	-12.694
	(0.174)	(0.149)	(24.888)	(20.052)
Obs.	604	899	604	1071
Dist.	10 km	15.21 km	10 km	18.37 km
	Potato		Wheat	
Variable	(1)	(2)[a]	(3)	(4)[a]
Treatment	39.470	0.743	57.079	7.260
	(72.005)	(52.593)	(110.804)	(77.642)
Obs.	604	1394	604	1450
Dist.	10 km	24.64 km	10 km	25.68 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* and *Wheat* refer to the soil suitability for potato and wheat production, respectively. Details and sources are provided in the online appendix. Controls included are: distance to Germany (border), distance to Metz, distance to Strasbourg, and distance to Nancy. ***, ** and * indicate statistical significance at 1%, 5% and 10% levels, based on Conley standard errors.

[a] Estimates from using one half of the optimal IK bandwidth.

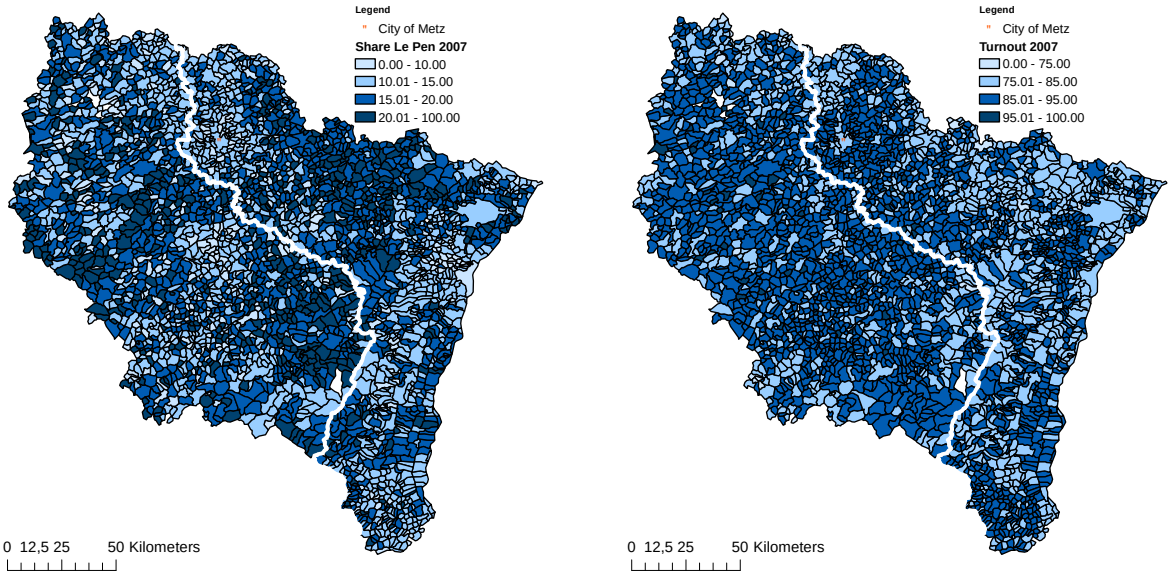
We then begin by estimating differences in our outcomes between the whole treated and untreated region to get a first feel for the data, to later compare the coefficients with the causal RD specifications, and to assess the external validity of RD estimates. Table A9 shows ordinary least squares estimates of β from (1), without and with controls. For *Share Le Pen 2007*, and *Share Yes 1992* and *Share Yes 2005*, the coefficients indicate both lower levels of national identity and

[13] The data set and a detailed documentation are available at http://diegopuga.org/data/rugged/.

[14] These data may be accessed at the web page of ESRI.

[15] These data can be accessed at http://www.fao.org/nr/gaez/en/.

Figure 4: Maps of outcomes, 2007 presidential election



(a) Share Le Pen 2007

(b) Turnout 2007

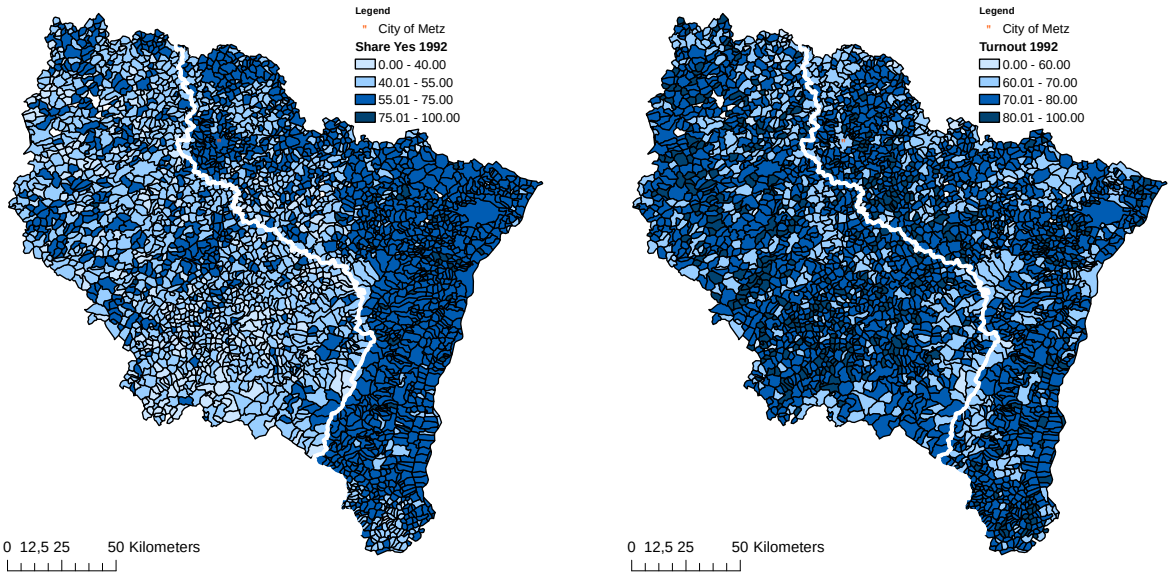
Notes: Municipal level averages for share of votes for Le Pen and turnout in 2007. The white solid line indicates the former border dividing the region. Darker shades reflect higher values in the outcomes.

higher European and regional identity. 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. To put things into perspective, the coefficient of *Share Yes 1992* is 4.865 percentage points, which equates to almost 10% of the average share of yes votes in the whole region (Panel C, specification (2)). For *Share Yes 2005*, it is approximately 15% of the average chair%(Panel C, specification (2)). *Share Le Pen 2007* is 6% lower in the treated region than the average vote share, according to Panel A, specification (2).The small differences in turnout in 2005 and 2007 become insignificant when we add controls (Panel B, D, and E). The coefficient for *Turnout 1992* changes signs when controls are added.

Figures 4, 5 and 6 illustrate the election and referenda results as well as turnout in 1992, 2005, and 2007. There is no clear pattern for neither turnout in the 2007 presidential election (Figure 4b), nor support for Front National in 2007 (Figure 4a). In Figure 5a and 6a, However, it is clearly visible that *Share Yes 1992* and *Share Yes 2005* seem to be higher in the treated region, which is to the right side of the former French-German border. For turnout in these two referenda, there does not seem to be much of a difference (Figures 5b and 6b).

The next section presents these estimates from the RD specifications to allow a causal interpretation, together with tests for differences in potential confounders. We start out by considering the whole former border dividing Alsace and Lorraine, and then focus on the border segment within Lorraine.

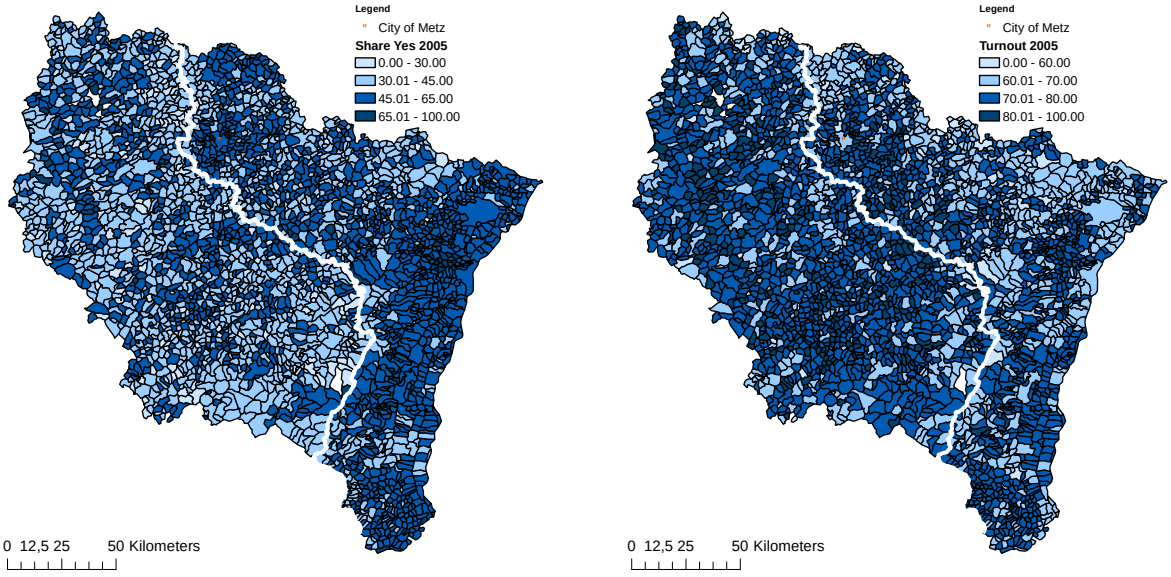
Figure 5: Maps of outcomes, 1992 referendum



(a) Share Share Yes 1992 (b) Turnout 1992

Notes: Municipal level averages for share of yes votes and turnout in 1992 and 2005. The white solid line indicates the former border dividing the region. Darker shades reflect higher values in the outcomes, and indicate a lower common national identity.

Figure 6: Maps of outcomes, 2005 referendum



(a) Share Yes 2005 (b) Turnout 2005

Notes: Municipal level averages for share of yes votes and turnout in 1992 and 2005. The white solid line the former border dividing the region. Darker colors reflect higher values in the outcomes, and indicate a lower common national identity.

4 Main results

Our baseline RD estimation shows estimated treatment effects on all six outcome variables for bandwidths at 10, 15 and 20 kilometers from the former French-German border. In addition, we include one specification using one half of the optimal IK bandwidth, as explained by Imbens and Kalyanaraman (2011). For all outcomes, this is still larger than 20 kilometers, suggesting that smaller bandwidths are rather conservative. The closest choice of 10 kilometers basically compares only municipalities directly at the border with their direct neighbors on the other side of the former border. This should eliminate all concerns regarding comparability, as distance to a specific country or city is virtually identical.

Table 5 shows that the estimated treatment effect is positive and statistically significant for *Share Yes 1992* and *Share Yes 2005* across all bandwidths (Panel C and E). It ranges from 4.4 percentage points to 5.4 percentage points in 1992, and 3 to 3.9 percentage points in 2005. Thus, being temporarily subjected to more intrusive homogenization policies that try to suppress regional culture has resulted in persistently higher regional and European identity. Figure 7 (a, b) shows the discontinuities graphically when fitting a second order polynomial for the whole border. The jump at the border is clearly visible. It is also interesting to observe that the coefficient in 1992 is very similar to the OLS estimation, while the one in 2005 is somewhat smaller but in both cases positive and significant. The OLS estimation thus seems to have overestimated the actual effect, but not by much.

We find no evidence for differences in national identity. While there is a significant coefficient at half the optimal IK bandwidth, the difference in the vote share of Jean-Marie Le Pen in the 2007 presidential election disappears both in magnitude and significance as we move closer to the border (Panel A). As the bandwidth choice always balances bias vs. efficiency, this shows how important it is to also consider the results closer to the border as we do with the 10-20 km bandwidths. This non-finding is reassuring, as it supports our assumption in the model of no differences in the strength of national identity, so that we are confident to really measure differences in European and regional identity. Moreover, we find no differences in the turnout variables (Panel B, D and F). This demonstrates that the significant differences for *Share Yes 1992* and *2005* are not caused by voters systematically abstaining from voting. For the rest of the paper, we concentrate on the support in the two referenda as our proxy for an increase in the strength of regional identity in the treated areas.

As mentioned above, the causal interpretation of the coefficients rests on the assumption that untreated municipalities can be viewed as counterfactuals for the treated communes. One potential concern is that Alsace is, for historical reasons, different from Vosges. In addition, the border between Alsace and Vosges mostly coincides with the historical language border dividing French- from German-dialect speakers. Based on the literature on the determinants of voter preferences and turnout (e.g., Franklin, 2004), we examine potential discontinuities in income, age, education, and occupation, which could plausibly be related to these differences and our outcomes. Note that this is not a test of *pre-treatment differences*. All variables might be affected by the treatment, and act

Table 5: RD results: whole border

	Panel **A**: Share Le Pen 2007				Panel **B**: Turnout 2007.			
Variable	(1)	(2)	(3)	(4)[a]	(5)	(6)	(7)	(8)[a]
Treatment	-0.236	-0.232	-0.288	-0.267	0.446	0.089	0.232	0.481
	(0.852)	(0.692)	(0.644)	(0.686)	(0.701)	(0.611)	(0.544)	(0.453)
Obs.	603	886	1149	897	603	886	1149	1637
Dist.	10 km	15 km	20 km	15.18 km	10 km	15 km	20 km	29.17 km
	Panel **C**: Share Yes 1992				Panel **D**: Turnout 1992			
Variable	(1)	(2)	(3)	(4)[a]	(5)	(6)	(7)	(8)[a]
Treatment	4.353**	5.546***	5.384***	4.794***	-0.529	-0.288	-0.458	-0.243
	(1.748)	(1.506)	(1.322)	(1.098)	(1.077)	(0.889)	(0.793)	(0.981)
Obs.	604	887	1150	1706	604	887	1150	719
Dist.	10 km	15 km	20 km	30.44 km	10 km	15 km	20 km	12.13 km
	Panel **E**: Share Yes 2005				Panel **F**: Turnout 2005			
Variable	(1)	(2)	(3)	(4)[a]	(5)	(6)	(7)	(8)[a]
Treatment	2.957*	2.956**	3.895***	2.796*	0.219	-0.573	-1.238	-0.475
	(1.742)	(1.478)	(1.348)	(1.438)	(0.994)	(0.874)	(0.801)	(0.732)
Obs.	603	886	1149	970	603	886	1149	1368
Dist.	10 km	15 km	20 km	16.69 km	10 km	15 km	20 km	24.33 km

Notes: RD estimates using bandwidths of 10, 15, and 20 kilometers from the former French-German border. Included controls: distance to Germany (border), distance to Metz, distance to Strasbourg, and distance to Nancy. ***, ** and * indicate statistical significance at 1%, 5% and 10% levels, based on Conley standard errors.

[a] Estimates from using one half of the optimal IK bandwidth.

as channels via which the treatment affects the outcome. Nonetheless, we could rule out potential channels in case of non-significant differences.

Table 6 shows results for yearly median income, mean age, as well as differences in education and occupation. For the latter two, we display the results for the most plausible proxy variables, but the Online Appendix demonstrates that alternative measures yield very similar insights. We use two main comparisons: one focusing on the southern border between Haut-Rhin and Bas-Rhin as parts of Alsace, and Vosges (Panel A), and one for the within-Lorraine comparison with Moselle on one side, and Meurthe et Moselle and Meuse on the other (Panel B). None of the measures exhibit a discontinuity when using the entire border (Online Appendix A12). However, when comparing Alsace with Vosges (Panel A) there are large and statistically significant differences in median income, and relatively small, but statistically significant differences for mean age. Since these factors potentially affect voting, the concern is whether the conditional expectation of our outcomes as a function of distance to the former French-German border might not be continuous at the border.

Thus we focus on the comparisons within Lorraine for the remaining part of the analysis. In this case, there are no discontinuities at the border for other variables for any bandwidths as can be seen in Panel B, Table 6. This means that any effects we measure are not driven by a different composition of the electorate, possibly due to the treatment, but rather by a direct persistent effect of the more intrusive policies on attitudes and preferences.[16] As we can see from Figure 7 (c, d) the RD plot suggests a clear discontinuity when applying a linear or second-order polynomial and looking only at within-Lorraine.

Panel A in Table 7 presents the estimated treatment effects on *Share Yes 1992* and *Share Yes 2005* when focusing only on the within-Lorraine comparison. It is interesting to observe that the coefficient estimates do not change much in size compared to Table 5. For 1992, it changes for the 10km bandwidth from 4.353 to 3.752 , and for 2005 from 2.957 to 3.810 . In both cases they remain significant at the five, respectively 10% level. Note that when using the still conservative half IK-bandwidth the null-hypotheses of no differences is rejected more clearly at the 1% and 5% level. Putting this into relation to the average share of yes votes in the whole country, this equates to an increase of about 7 % and 8 % in the yes votes. This would have been sufficient to change the average vote from disapproval to approval in the area close to the border.[17] Thus, this is strong support for the persistent negative effect of intrusive homogenization policies on national identity. The effect can still be found nearly a century after legally integrating the department into France, and exists within a formerly united region which shares a common history and culture.

[16] Note that when the sample is restricted to include municipalities only in Moselle, Meurthe et Moselle and Meuse, we do still not find any statistically significant effects on the vote share for Jean-Marie Le Pen or turnout in 1992, 2005, and 2007 (see Online Appendix Table A13.)

[17] The average percent of yes votes in 1992 in the non-treated area within 10 kilometers from the border is approx. 49 . This means the estimated treatment effect would have shifted the balance in favor of more EU integration.

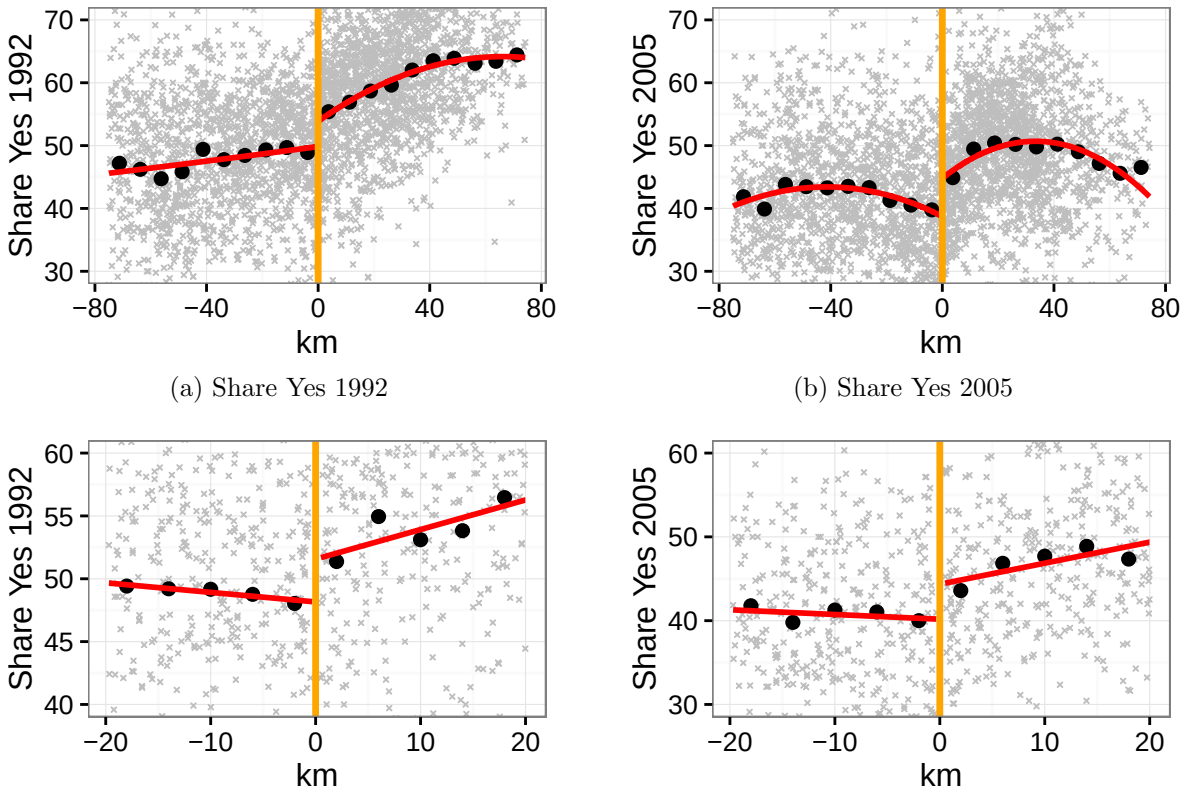
Table 6: Covariate balance test

	A: Alsace vs. Vosges							
	Median income 2008		Mean age 2006		Education 1999		Occupation 2006	
Variable	(1)	(2)[a]	(3)	(4)[a]	(5)	(6)[a]	(7)	(8)[a]
Treatment	4.627***	4.009***	-1.414*	-0.932*	0.010	0.018***	0.016	0.013
	(1.135)	(0.910)	(0.841)	(0.561)	(0.008)	(0.005)	(0.026)	(0.020)
Obs.	196	374	210	504	210	796	210	332
Dist.	10 km	19.3 km	10 km	24.77 km	10 km	36.03 km	10 km	16.59 km
	B: Within Lorraine							
	Median income 2008		Mean age 2006		Education 1999		Occupation 2006	
Variable	(1)	(2)[a]	(3)	(4)[a]	(5)	(6)[a]	(7)	(8)[a]
Treatment	0.236	0.086	0.059	0.022	0.002	0.004	0.009	0.002
	(1.015)	(0.990)	(0.641)	(0.486)	(0.006)	(0.004)	(0.016)	(0.014)
Obs.	311	387	394	752	394	1044	394	576
Dist.	10 km	12.56 km	10 km	20.23 km	10 km	30.04 km	10 km	14.8 km

Notes: Panel A tests for discontinuities in covariates using municipalities in Bas-Rhin, Haut-Rhin, and Vosges, and B using municipalities in Moselle, Meurthe et Moselle, and Meuse. Education refers to the share of people above 18 with a high school degree and occupation relative to the share of blue-collar workers in the total population (the Online Appendix provides alternative operationalizations). Included controls: distance to Germany (border), distance to Metz, distance to Strasbourg, and distance to Nancy. ***, ** and * indicate statistical significance at 1%, 5% and 10% levels, based on Conley standard errors.

[a] Estimates from using one half of the optimal IK bandwidth.

Figure 7: RD plots, whole border and within Lorraine



(a) Share Yes 1992

(b) Share Yes 2005

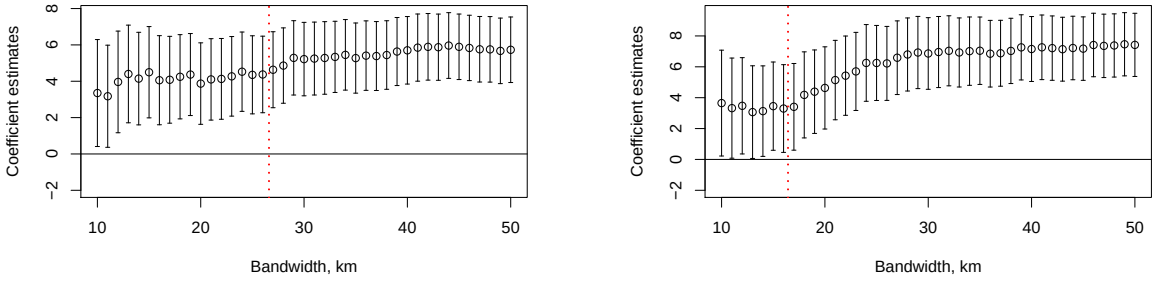
(c) Share Yes 1992

(d) Share Yes 2005

Notes: RD plots, a) and b) using all municipalities in Alsace and Lorraine, c) and d) using only municipalities within Lorraine. Fitted line based on 2nd degree polynomial. Black dots represent mean using 5km bins.

Figure 8 depicts the individual coefficients and confidence intervals across bandwidths ranging from 10 to 50 km. The effect size varies rather little and is always positive. As we would expect, the estimation becomes more precise as we increase the bandwidth, and the coefficient also becomes larger in size. While we do not want to stretch this too far, it is an indication that we need not be too concerned about the local nature of the estimated average treatment effect.

Figure 8: Treatment effect plots across varying bandwidths (within Lorraine)



(a) Referendum 1992

(b) Referendum 2005

Notes: Estimates of treatment effect, bandwidth of 10 to 50 kilometres, within Lorraine. 1st degree polynomial. Dashed vertical line at one half of the IK bandwidth. Solid vertical lines represent 90% confidence intervals (based on Conley standard errors).

Table 7: RD results: within Lorraine

				A: Former border				
	Share Yes 1992				Share Yes 2005			
Variable	(1)	(2)	(3)	(4)[a]	(5)	(6)	(7)	(8)[a]
Treatment	3.752**	5.026***	4.346***	4.742***	3.810*	3.757**	4.892***	3.664**
	(1.841)	(1.611)	(1.440)	(1.340)	(2.092)	(1.775)	(1.646)	(1.763)
Obs.	394	583	744	947	394	583	744	627
Dist.	10 km	15 km	20 km	26.61 km	10 km	15 km	20 km	16.43 km
				B: Language border (within Moselle)				
	Share Yes 1992				Share Yes 2005			
Variable	(1)	(2)	(3)	(4)[a]	(5)	(6)	(7)	(8)[a]
Treatment	2.636*	4.371***	5.858***	4.619***	3.950***	5.338***	5.474***	3.984***
	(1.512)	(1.236)	(1.114)	(1.223)	(1.285)	(1.152)	(1.081)	(1.330)
Obs.	584	809	1044	837	587	812	1047	490
Dist.	10 km	15 km	20 km	15.6 km	10 km	15 km	20 km	7.94 km
				C: Former border (exl. German-speaking communes)				
	Share Yes 1992				Share Yes 2005			
Variable	(1)	(2)	(3)	(4)[a]	(5)	(6)	(7)	(8)[a]
Treatment	4.126**	5.279***	4.574***	4.430***	3.830*	3.774**	4.817***	3.453*
	(1.850)	(1.617)	(1.436)	(1.298)	(2.117)	(1.774)	(1.644)	(2.018)
Obs.	385	553	684	886	385	553	684	410
Dist.	10 km	15 km	20 km	30.98 km	10 km	15 km	20 km	10.74 km

Notes: Panel A: Discontinuity at the former French-German border using municipalities in Moselle, Meurthe et Moselle, and Meuse. Panel B: discontinuity at language border within Moselle, Panel C: Discontinuity at the former French-German border using municipalities in Moselle, Meurthe et Moselle, and Meuse, excluding German-dialect speaking communes. ***, ** and * indicate statistical significance at 1%, 5% and 10% levels, based on Conley standard errors.

[a] Estimates from using one half of the optimal IK bandwidth.

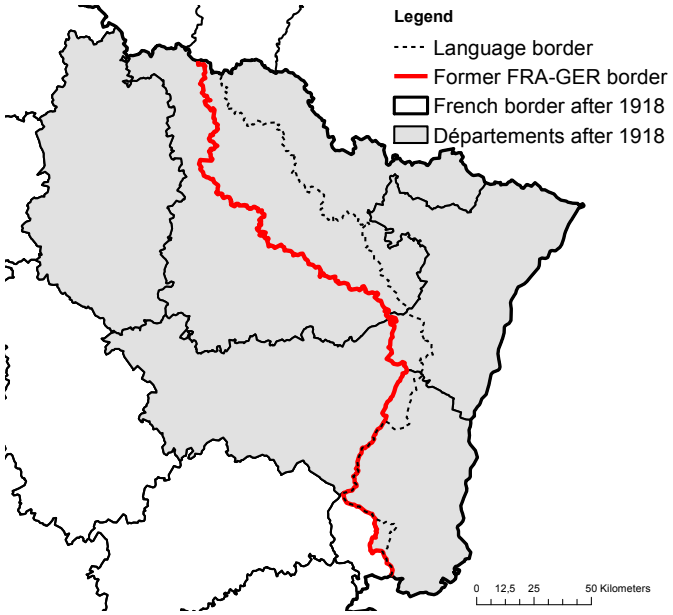
5 Alternative explanations

So far, we have found a clear causal link between being in the treated area and higher support for the EU in two crucial referenda. Based on our model, the existing political and historical literature, and the unambiguous survey evidence, the treatment of being exposed to a period of more repressive policies (including occupation, a change in nation status and intrusive homogenization policies) led to the formation of a stronger regional and European identity. Nonetheless, it is important to be aware of potential caveats and problems. This section discusses alternative explanations to this interpretation, including threats to identification and the interpretation of what constitutes the treatment.

5.1 Results are due to linguistic differences

As outlined above all available historical evidence indicates that the exact location of the former border was exogenous to our outcome. Nevertheless, one concern regarding the interpretation of our results is whether the border coincides with differences between German and French dialect speakers. This would be a concern if German dialect speakers are more likely to develop a stronger regional identity due to the linguistic divide between them and the rest of France. German dialect (mostly Alsatian and Moselle Franconian) speakers might also be exposed to a larger extent to potentially more EU-friendly German media than their French-speaking compatriots in the non-treated region. Qualitatively, the use of the German Alemannic dialect has steadily decreased and is now mostly used by older generations (Vajta, 2013). Nonetheless, it would be reassuring if we could separate the treatment effect from linguistic differences.

Figure 9: Linguistic frontier



Notes: Map of Alsace and Lorraine with former French-German border and language border.

For that matter, we use GIS software to trace back the historical language border, which separates Romance speaking and Germanic dialect speaking people. It was formed in the 8th century and was barely moved until well into 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." First, it is apparent that for Bas-Rhin in Alsace these two borders mostly coincide. However, this is not the case for Haut-Rhin and Lorraine. We rely on Harp (1998) and overlay his map with the municipality boundaries to geocode the border along the French municipality boundaries (see also similar maps in Callender, 1927; Heffernan, 2001). Figure 9 shows the resulting language border.[18]

We begin by checking for significant differences at the language border within Lorraine. Panel B in Table 7 indeed shows a significant discontinuity in both 1992 and 2005, with voters in the German dialect region being more EU friendly.[19] This correlation between the spoken (or formerly spoken) dialect and EU support could contaminate the measured differences in national identity. To address this issue, we exclude all German-dialect speaking municipalities and re-estimate the treatment effect at the former border. These estimates in Panel C of Table 7 reinforce our hypothesis of persistently stronger regional and European identity. In 1992 the effect remains significant at the 5% and 1% level for the 10 and 20km bandwidth, and in 2005 at the 10% and 1% level, respectively. Accordingly, the results hold even when comparing only directly neighboring municipalities in the same historical region which have spoken the same dialect.

5.2 Support for 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. Moreover, cities today attract people from a diverse set of places, who could on average be more likely to support the EU. A visual inspection of the maps in Figures 5a and 6a suggests that the area surrounding Metz does in fact 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 (Online Appendix Table A14 uses 5 or 10 kilometers from Metz as an alternative cut-off). Depending on bandwidth

[18] While it is not obvious that the border should always trace municipality boundaries, we try to provide the best approximation of the border without dividing municipalities and creating any systematic errors. In case of a division, we choose the shortest path around the municipality. For another depiction of the language border see Dunlop (2013), which is very similar. While the distance between former legal and language border is usually larger within Lorraine, it narrows down to less than 10 kilometers at some locations (Figure 9). Thus, while unlikely, possible discontinuities in our outcome variables at the language border could contaminate even the results for the 10km bandwidth.

[19] The estimated coefficient is not necessarily an estimate of the treatment effect of belonging to the German dialect region, since other relevant factors could potentially be discontinuous at the language border. One interpretation could be that repressive policies by the French government were even harsher against those speaking Germanic dialect and hence created an even stronger "backlash". This is not implausible as several measures were targeted explicitly at prohibiting the use of German, and the prohibition of newspapers or party manifestoes that were written in German.

length, this means that between 30 and 38 municipalities are excluded. Table 8 presents the results for the analysis within Lorraine including German-dialect speaking municipalities (Panel A), and excluding them (Panel B). Compared to the results in Table 7, the point estimates are very similar and still statistically significant at least at the 5% level (Panel B).

Table 8: Excluding Metz

		Panel **A**: Share Yes 1992		
Variable	(1)	(2)	(3)	(4)[a]
Treatment	4.082**	4.928***	3.953***	3.458**
	(1.940)	(1.672)	(1.481)	(1.372)
Obs.	355	516	646	789
Dist.	10 km	15 km	20 km	26.89 km
		Panel **B**: Share Yes 2005		
Variable	(1)	(2)	(3)	(4)[a]
Treatment	4.283**	3.455**	4.409***	3.461*
	(2.087)	(1.723)	(1.596)	(1.811)
Obs.	355	516	646	453
Dist.	10 km	15 km	20 km	13.11 km

Notes: Excluding all municipalities in Metz agglomeration, comparing only within Lorraine and excluding German-dialect speaking communes. ***, ** and * indicate statistical significance at 1%, 5% and 10% levels, based on Conley standard errors.

[a] Estimates from using one half of the optimal IK bandwidth.

5.3 Placebo test - Alsace and Lorraine versus the rest of France

Historical accounts indicate that Alsace and Lorraine were comparably well integrated into France prior to the Franco-Prussian War. The distinction between the treated and control area is then based on differences in policy exposure between the occupied and non-occupied area within the same regions. We can use a "placebo test" at the border of the whole of Alsace and Lorraine compared to the rest of France to get an idea of the validity of this approach. This will also further indicate to what degree our results are driven by differences in the mere distance to the next country border. Moreover, comparing the untreated area with its Western neighbors is a further test of whether Alsace and Lorraine were equally well integrated into France prior to the treatment.

There is of course regional variation in the strengths of identity between departments, but it would be reassuring if these differences are not systematic (or at least not as strong). Table 9 shows that there are no significant differences at any bandwidth, neither in 1992, nor in 2005. In addition, the size of the point estimates is much smaller and the signs change between different bandwidths, indicating no stable relationship. Our main results are accordingly neither driven by being closer to the next national border nor by differences existing prior to the treatment.

Table 9: Border between Alsace and Lorraine, and the rest of France

		Panel **A**: Share Yes 1992		
Variable	(1)	(2)	(3)	(4)[a]
Treatment	-3.168	-0.649	0.058	-0.591
	(2.040)	(1.728)	(1.465)	(0.777)
Obs.	404	606	814	5340
Dist.	10 km	15 km	20 km	109.34 km
		Panel **B**: Share Yes 2005		
Variable	(1)	(2)	(3)	(4)[a]
Treatment	0.208	1.045	1.496	-1.103
	(2.006)	(1.666)	(1.453)	(0.788)
Obs.	405	608	816	5117
Dist.	10 km	15 km	20 km	104.85 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, and distance to Nancy. ***, ** and * indicate statistical significance at 1%, 5% and 10% levels, based on Conley standard errors.
[a] Estimates from using one half of the optimal IK bandwidth.

5.4 Differences in benefits from trade

One of the main benefits of more 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. 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 kms 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 other borders. Secondly, the point estimates of the treatment effect barely change when we increase the bandwidths and include more municipalities (Figure 8). 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 the differences in Table 9 are neither always positive, nor significant, differences in trade benefits do not seem to be problematic.

5.5 The role of World War II

It is not absolutely clear how to interpret the role of WWII. During WWII, the treated area was again incorporated into Germany. At the same time, the untreated area which functions as our control group was also occupied by Germany for most of the time. Moreover, while German policies were surely repressive, the suppression of regional identity and traditions was not the main objective. The suppression of French identity was to some degree felt in all occupied parts of France. Neither

the treated nor control area belonged to the self-governed Vichy part of France, which is good as the border between the Vichy-regime and the occupied zone is related to resistance activities (Ferwerda and Miller, 2014) that could have affected common identity. We are thus reluctant to emphasize the role of WWII even though it was clearly a drastic shock influencing the lives of many people.

One concern is that this influence 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.[20] 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, which helped to calm down the tensions and constitutes the end of the treatment.

Nevertheless, two potential concerns remain. Firstly, some of the soldiers might have developed a stronger sense of pacifism based on their war experiences. As the EU is also seen as a peace project that overcomes century-old conflict lines within Europe, this could contribute at least to the outcome we observe in the RDD. Based on the results in Vlachos (2016) using variation within Alsace, the only outcome correlated significantly with a higher share of war veterans is higher support for right-wing candidates of the National Front. As there is no difference in support for the right-wing candidate Le Pen there does not seem to be a problematic discontinuity with regard to WWII exposure at the border. A prior version of this paper also analyzed the answers to the question whether the subjects support military intervention by the UN (only available for a small sample). We would expect that higher pacifism in the treated region should be visible in the answers. This is not the case: The estimated difference of 0.07 was small and far from significant. Secondly, the composition of the population might have been affected very differently on both sides of the border. However, Table 6 shows that such a different is not visible at the border today.

5.6 The influence of Germanization

In addition to being exposed to occupation and more intrusive policies, people in the treated area where also exposed to a change in nation status. What we argue is that the persistent differences originate mostly from differences in the degree of exposure to repressive policies. Nevertheless, we should consider what the additional effect of changing nationality is. There is no reason to expect that feeling more German should lead to a stronger regional identity. However, it could be, that people with a stronger German identity have a higher likelihood to consume German media, which might be more EU friendly and contaminate the RDD results. In our model, German identity as

[20] 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.

well as French identity was transmitted through the schooling system. There was no incentive for parents to invest in learning how to teach these traditions to their kids as they were perceived as oppositional to their own identity (Höpel, 2012). As German occupation ended after WWI, there is no reason to expect a persistently stronger German identity, at least not based on the incentives described in our model. Nevertheless, it is not possible to rule out that being exposed to German ideas, newspapers and institutions for nearly fifty years might have resulted in a stronger German identity.

When we consider our definition of a common group identity as based on the perceived distance with the average group member, it is plausible to assume identities based on different levels (regional, national, European) need not to be substitutes. This is less clear for identities based on the same level, for instance two national identities might not be compatible with each other. Accordingly, we would expect that a stronger German identity would be related to a weaker French identity. We find no such difference in the survey results or the support for nationalist parties in the RDD. Moreover, a detailed review of the historical and sociological literature strongly speaks against a successful Germanization. While violent resistance declined in the late 19th century and 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 (2010, p.66) cites a government official stating that "Prussian methods had failed to instil alien national sentiments into the minds of a people who were proud of their history".[21] Moreover, a large share of people of German origin or alleged to Germany (administrators, professionals and politicians) had to leave the region after WWI to reduce any potential influence over the local population (Harvey, 1999).

5.7 Migration into and out of the treated area

Another potential concern is the role of migration into the treated area, and emigration of people from the treated area to other parts of France or destinations like the US. Migration mostly happened at two distinct points in time; when Germany annexed the area, and when France took it back. First, after 1870, the Germans imposed a requirement that everyone wanted to remain in the area has to give up her French nationality and opt for German citizenship. Earlier expectations of a large exodus of more than 130.00 people (Vajta, 2013) declined to less than 50.000 when it became clear that this would mean having to leave the region. In addition, Germans migrated or were sent to work in the area between 1970 and WWI. However, as mentioned above, a large share of those immigrants had to leave again after the French re-annexation (approx. 100,000) (Harvey, 1999). Nevertheless, a certain share of those Germans or their offspring remain in the area. Conceptually, this should bias against our results as German immigrants are less likely to exhibit a strong Alsatian

[21] 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.

or Lorrainian identity.

Second, there was a (smaller in magnitude) inflow of French people from other regions after WWI and the re-annexation, to some degree with a similar purpose, which was to take up posts in local administration and schools to replace regional traditions and influence with a strong national identity. Again, as these are French citizens from other regions, they should exhibit a weaker regional identity. Accordingly, this would also bias against our main results and is no concern with regard to the correct sign of the point estimates. Overall, we acknowledge that migration obviously took place and still does. Official statistics state that average population growth over the treatment period during peace was between 0.5% and 0.75%, while population fell during the two wars. In terms of migration affecting the composition of the treated and control group, it is reassuring to remember that there are no differences in the socio-economic structure of the population today.

5.8 Local laws and their effects

Both the treated area in Alsace and Lorraine enjoy, to a slight and diminishing degree, the freedom to deviate from certain rules that are usually imposed by the central state in France. These exceptions are known as the "local laws", and were first made permanent in 1924 as part of the French central government attempts to appease the hostile atmosphere after re-annexing the area. Another reason was the perception that certain forms of German law were superior to the existing French rules (Glenn, 1974). To some extent, French law then actually incorporated certain parts of the German system. More details are provided by Chemin and Wasmer (2009), who exploit the phasing-out of these differences in their research design.

There were and to some degree still are some remaining differences. This applies to a small number of welfare policies (including payments to sick employees), which are still more generous in Alsace-Lorraine, and there are two additional days of vacation. Other differences exist with regard to personal bankruptcy and voluntary associations. These local laws are both interesting and potentially worrying for our research design. Interesting, because the sheer existence of this set of local rules could work as a mechanism to maintain regional identity and remind people of existing differences with the other regions in France. In our model, it could be thought of as increasing the salience of items that all people in the treated area have in common. A potential concern would be that the local laws decisively influence a third factor which drives the measured differences in regional and European identity. This would speak against our interpretation that the persistent differences are mostly caused by exposure to repressive policies.

Overall, it is evident that the importance of these local laws is declining. Glenn (1974, p.772) stated already that "local doctrine is generally of declining importance. There are few, if any, local jurists remaining who received their training entirely in German faculties, and the local law is taught only in two or three optional courses at the Faculty of Law of the University of Strasbourg III." Moreover, French courts refused to make any reference to German jurisprudence and interpret local laws according to French standards and principles. Accordingly, the visibility of the laws and their potential influence on the salience of regional "uniqueness" was most likely much higher for

the first generations after WWII than for more recent generations.

To test the extent to which the remaining laws have led or may still lead to differences in the socio-economic environment, we run RD regressions on factors for which we have measures at the local level and that could plausibly be influenced by the local laws. This includes items in the categories occupation, economic activity, public goods, and population density. In a second step, we assess how these are correlated with our outcome in the RDD. Table A10 shows that for the about 25 tests of covariates, only one turns out to be significant when using the 10 km bandwidth: There seems to be a somewhat smaller number of industrial companies in the treated area. The next columns then show that industrial companies are positively correlated with agreement in the referenda; even significantly so in the year 1992. Accordingly, while the one significant difference might well be by chance only, it would bias against our main results.

5.9 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 department level for all of France to assess the relationship between religion and voting in the EU referendum. Table A15 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*, *Moslem* 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% 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.

5.10 End of treatment and measurement of main outcome

Based on the detailed historical evidence, it is plausible that the "treatment period" (where the treated area was exposed to more intrusive policies than the control area) ends some years after WWII. in the 1950s. The Bordeaux Trial in 1953 with the convictions of soldiers from Alsace-Lorraine who fought for the German side can be thought of as potentially reactivating memories of the past suppressive policies. Most historians agree that policies largely converged and there was no further specific suppression or discrimination against people in the treated area in the following years. The measurement of our main outcome, in contrast, is in 1992 and 2005. Although there is no historical evidence of it, other events taking place between the end of the treatment period and this measurement could bias our results.

While there are no earlier municipal-level data that allow us to draw causal inference, Figure A13 in the Online Appendix depicts départmental level results for the 1972 referendum on the European Economic Community enlargement (Leleu, 1976). Although the question asked in this referendum was about other countries joining the existing community, it should still correlate positively with a stronger European and accordingly regional identity. The figure clearly shows that the three treated departments exhibit higher support for the EU and its enlargement. It is reassuring that the differences we observe in our municipal-level data is already clearly visible in 1972, which is between the end of the treatment and our main measurement of the outcome.

It is also interesting to ask whether the persistent differences are a result of the complete treatment period, which would make them quite specific, or if shorter periods of intrusive policies are already sufficient to create a "backlash". There is some anecdotal evidence in favor of the latter hypothesis. First, during German occupation autonomist parties emerged and enjoyed great electoral success. This was in particular in the first years of very intrusive policies, but also after 1890 when it became apparent that the area would remain German for the foreseeable future with a vote share between 30% and 56% (Hiery, 1870). After the end of WWI, the local parliament proclaimed a sovereign state of Alsace-Lorraine on November 11, 1918, which was however not accepted by France.

Second, there was significant support for regionalist parties in the interwar period under French rule and policies. Historians and political scientists classify most of these parties as aiming for more regional autonomy, rather than for a return to Germany (Rothenberger, 1975). The contrast to the control area is apparent: There are no relevant autonomist parties there, but in Alsace-Lorraine

a significant share voters and parties on the left and right supported the regional cause. Zanoun (2009) suggests that "autonomists were present in the Moselle and like their Alsatian counterparts they demanded autonomy for Alsace-Lorraine". Overall, this evidence is of course not comparable in quality and precision to our main specification. Nonetheless, it clearly suggest that the degree of intrusiveness matters and that suppressive policies already contributed to the creation of a stronger regional identity prior to WWII. This is also in line with qualitative studies conducted in the interwar period, which already emphasize the emergence of a particular regional identity (Callender, 1927; Goodfellow, 1993; Harvey, 1999).

6 Mechanism and persistence

The previous sections have provided further evidence that the observed identity differences are indeed caused by the treatment. The treatment can be understood as the exposure to occupation and repression, with historical evidence suggesting that the suppression of regional identity and the intrusive homogenization policies by both the Germans and the French were the most obvious difference in comparison with the control areas. In the survey, more than 80% of those stating a stronger European identity also express a stronger regional identity, so that we can interpret the causal differences in the RDD as revealing both a difference in European as well as regional identity.

One fascinating aspect of this result is that the historical shock led to an increase in both of these identities. Qualitative evidence and personal experiences and exchanges with people from the affected area support this finding. Although we consider the effect on European identity in itself interesting, we put a stronger focus on the effect on regional group identity. One reason is that the well-documented intrusive policies were clearly aimed at suppressing regional identity, and the direct effect on this respective identity provides important insights from both a scientific and policy perspective. Secondly, there is good historical and qualitative evidence supporting the effect on regional identity, but no direct reference to European identity. This is not surprising, as the concept of a real European political union was probably beyond imagination during most of the treatment period. Accordingly, it seems plausible that the stronger preference for the EU is a combination of a stronger sense of pacifism and the perception of the EU as fostering the regional cause. This is also evident when considering that people in the treated region express a preference for more policymaking at the regional level, which is somewhat at odds with preferences in favor of more competences for the EU.

A second question concerns the mechanisms of persistence. In contrast to other studies assessing the effect of, for instance, differences in exposure to the rule of law (Lowes et al., 2015), we would not expect the differences in regional identity to result in strong differences in policy preferences except for issues regarding the allocation of decision-making authority. Moreover, we have documented that there are no visible differences at the border in the observable variables for which we possess detailed data. This leads to the question which mechanisms caused the differences to persist over time. One factor could be the local laws. Although we demonstrated that they are not clearly

associated with observable differences today, their existence can serve as a tool to distinguish the region from the rest of the country. Glenn (1974) describes an increasing alignment of regional and national legislation, which suggests that the importance of this mechanism should decline over time. The main channel that we postulated are differences in the educational investment of parents who were exposed to the shock. During the treatment period, potential parents build or receive the skills to teach their own children regional traditions themselves. After public schooling returns back to similar levels in both the control and the treated area, this should lead to a difference in regional identity, at least for those age cohorts whose parents experienced the treatment period.[22]

To understand this mechanism better, we return to the survey results from section 2.2.1. While these do not fulfill the same strict requirements regarding causality, the RDD provides no reason to expect a systematic bias in the results. We re-estimate regression models on regional and European identity (and both relative to national identity), but now interact the treatment effect with dummy variables for different age cohorts. The age cohorts are selected approximately so that the second group started primary schooling after the end of WWII. Accordingly, the second age cohort is the first for which public schooling is assumed to be comparable in control and treated area, but where parents should still possess the skills to teach regional identity themselves. Remember that the model makes no clear predictions regarding the resulting net difference during the treatment period (prior to 1945).

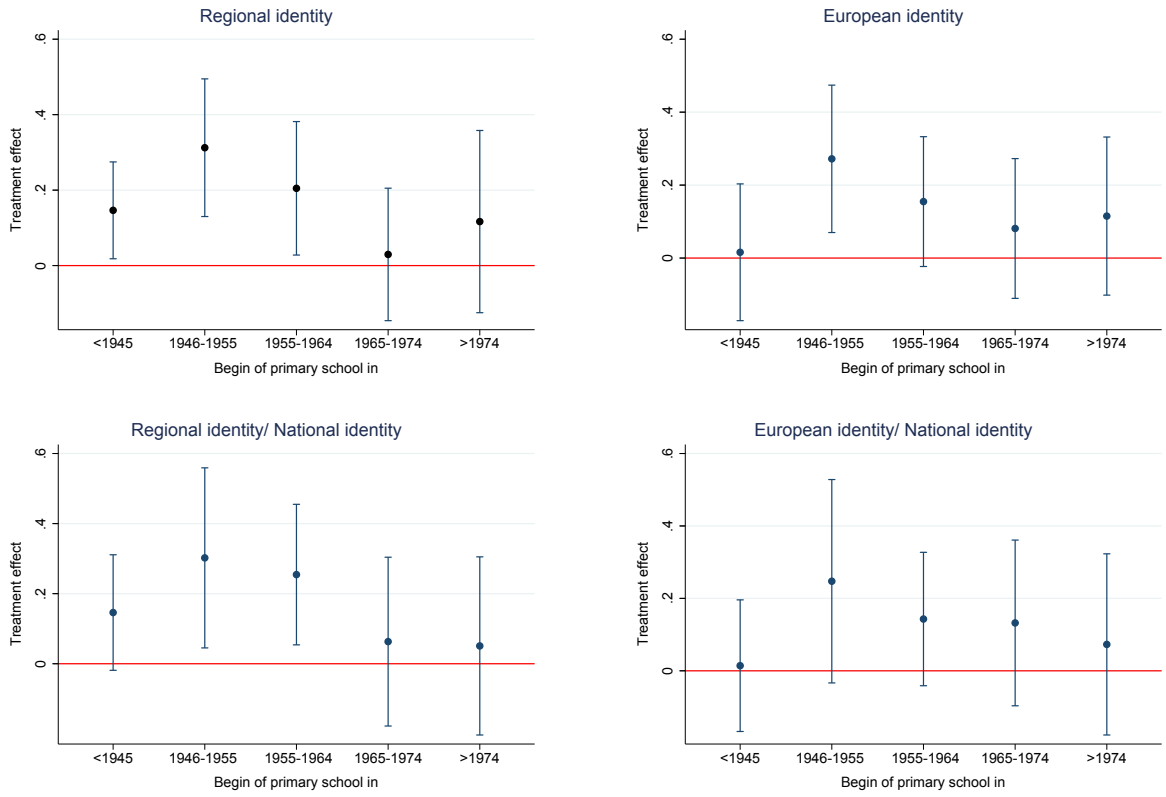
Figure 10 shows the results for different age cohorts. The left side of the figure displays that the treatment effects on regional identity for the group who began primary schooling prior to 1945, and thus clearly experienced repression themselves, are already positive. The effect is statistically significant at conventional levels for regional identity, but only borderline significant when set in relation to the strength of national identity. We further observe that the strongest and also statistically significant differences exist for the age cohorts who began attending primary school between 1946 and 1964. This is obviously no proof of the mechanism, but in accordance with the predictions of our model. For the second age cohort it is also possible that the events in 1953 reactivated the salience or memory of repressive policies. The graphs also allow us to make two more interesting observations. First, we observe that the effects on regional and European identity are similar in size and across age cohorts. Nevertheless, the effect on European identity clearly emerges only for those cohorts after the treatment has ended, and is only statistically significantly different from 0 for the first age cohort after.

Second, the treatment effect declines and becomes indistinguishable from zero for all age cohorts who began primary schooling after 1965. When using our model to analyze this, there are two potential explanations. If parents became satisfied with the extent to which regional identity was taught in public schools, it was no longer optimal to acquire and transmit the skills to their own children, and the differences between treated and control area would disappear. Teaching regional

[22] Moreover, a new line of research (Ochsner and Roesel, 2017) suggests that war memorials and statues also function as a technology to transmit a common history. There are some well-known statues and pieces of art which can be thought of as reactivating the memory of repressive policies, but in many cases these memorials are also related to WWI or WWII which makes it difficult to conduct a clear classification.

identity might also have become less attractive over time compared to national identity, for instance when a larger share of children move out of the region to study or compete on the national job market. In the model, this could be demonstrated by allowing different and time-varying α parameters for the two identities. This would mean that the degree to which returns from identities are diminishing varies over time and between different identities, which can plausibly happen as outside circumstances change. Based on these results by age cohort, it is possible that the differences we still observe today will disappear in the next generations.

Figure 10: Identity differences by age cohort



Notes: The treatment effects refer to the parameter Δ which is part of the equation: $y_i = \pi + \Delta_g \times Age_g \times Treatment_i + \Gamma_i' \lambda + \eta_i$, where $Treatment_i = \mathbf{1}$[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 age cohorts are selected so that the second group started schooling after the end of the 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, using respondents only in Lorraine.

7 Concluding remarks

Our paper shows how a shock, which exposed one part of a historically homogeneous region to policies that tried to suppress their group identity, has causally shaped the formation of identities in this region. Within Alsace-Lorraine, people who themselves or whose parents were exposed to occupation and repressive policies express a stronger regional identity today and stronger preferences for regional decision-making. At the same time, most of these people ($> 80\%$) also express a stronger European identity, most likely because the European Union is seen as a peace project and because it is perceived as fostering the regional cause. We exploit this overlap in a geographical regression discontinuity design, and use municipal level data on two referenda about the EU to revealing that these differences in identity are indeed causal.

This is evidence that the suppression of a group identity can achieve the opposite of what the policy is aimed at: Strengthening the common identity of the group. It is complementary to the only existing quantitative study on identity formation by Fouka (2016). Fouka documents the "backlash" against intrusive homogenization policies by groups of German immigrants in the United States, which is evident in naming patterns, less intergroup marriages and a lower likelihood to volunteer for the US Army. Similarly, we show that people in the area with exposure to more intrusive policies express a stronger regional identity, are more satisfied with democracy at the regional level and would like to delegate a large range of policies to regional decision-makers. These differences are evident in stated preferences in surveys, as well as when using a geographical RDD to measure the causal revealed differences.

What can we learn from these results for policies and future research? One implication we find plausible is the importance of taking into account whether identities are perceived as aligned, and to what degree they constitute substitutes. In our case, European identity is perceived as aligned with, or at least conducive for regional identity, which is evident by the fact that people with stronger regional identity also express a stronger European identity. At the same time, people with a stronger regional and European identity do not necessarily state a weaker national identity. We propose a new or adapted definition of common identity, which relies on the salience or weights put on attributes that an individual has in common with the rest of the group. That way, the definition can account for the fact that overall within group heterogeneity is found to be larger than between group differences, while we nonetheless observe strong group identities. Our simple theoretical model highlights a potential mechanism based on the fact that parents react to a lack of transmission by public schools with an investment in skills to teach and transmit identity and group traditions themselves.

While regional and European identity seem to be perceived as aligned in our sample, the imposition of a German and later French national identity was perceived as oppositional and as a threat to the existing regional identity. Accordingly, future studies about the effect of policies and historical shocks on identity formation should consider whether a certain policy by the majority was perceived as aligned or opposed to the identity of a minority group. This would connect studies on oppositional identities (e.g., Benjamin et al., 2010) and their documented effects to the theories

and evidence on cultural transmission and persistence. Our studies thus highlights the relevance of models as developed by Bisin et al. (2011) and Carvalho and Koyama (2016).

This distinction is also important as we show that people do not just carry one single identity, but multiple identities at the same time. Accordingly, whether the state or another institution can impose a new identity depends on the degree to which this new identity is perceived as oppositional to the existing identity. Intrusive policies that ignore the needs and preferences of the area that is to be integrated do not seem to be a good strategy for a successful alignment of preferences and values. This is a lesson that both the Germans and French had to learn the hard way. Both tried to forcefully homogenize the local population by all means, without grating them full citizen rights and taking their demands into account. In both cases, this backfired strongly. Regionalist candidates dominated the "Reichstag" elections in Alsace-Lorraine between 1870 and 1890, and there were periods of civil unrest and protests. Only after the German government revoked intrusive regulations, invested in public good provision and engaged with the mostly Catholic population and the clergy, the hostility slowly began to diminish (Höpel, 2012).

Similarly, it took the French government more than ten years, the relaxation of several particularly intrusive measures, improved public good provision and the unifying effect of WWII to finally dampen separatist movements (Carrol and Zanoun, 2011). While they had to give in to demands to allow teaching the local language in school, the French central government consistently implemented secular schools and established a common first language, which resulted in a nearly universal use of French in the current generations. In the light of prior evidence which indicates that a common language is crucial for successful identity formation (Aspachs-Bracons et al., 2008; Clots-Figueras and Masella, 2013), this might be one explanation why despite the persisting differences there are no relevant autonomist movements in the region today. It is most likely also the explanation as to why we do not observe strong differences in objective outcomes like economic development or democratic participation.

Nevertheless, it is important to stress that the strengthening of group identity is not a deterministic outcome or a natural reaction to suppressive policies. Our model provides some guidance in that respect. Whether parents or generally members of the suppressed groups are willing to invest in the skills to maintain their traditions, depends on the utility they derive from their group identity and the utility they derive from an overarching common national identity. It is certainly possible that, for instance, intrusive policies are so tough or that the disadvantages of not being a respected member of the larger group are so high, that existing identities disappear. Our results suggest that a joint identity embracing existing groups can also be built up without necessarily replacing existing identities, but obviously this requires the central authority to accept sub-identities and an institutional setup which allows for enough regional autonomy.

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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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Table A1: Variable description and sources

Variable	Definition	Source
Dependent Variables		
Share Yes 1992	Share of Yes votes in the 1992 referendum (Maastricht Treaty)	Centre de donnes socio-politiques (CDSP)
Share Yes 2005	Share of Yes votes in the 2005 referendum (European Constitution Treaty)	Centre de donnes socio-politiques (CDSP)
Share of Le Pen votes, 1992	Share of votes for Jean-Marine Le Pen in the 2007 presidential election (first round)	Centre de donnes socio-politiques (CDSP)
Turnout, 1992	Voter turnout in the 1992 referendum (Maastricht Treaty)	Centre de donnes socio-politiques (CDSP)
Turnout, 2005	Voter turnout in the 2005 referendum (European Constitution Treaty)	Centre de donnes socio-politiques (CDSP)
Turnout, 2007	Voter turnout in the 2007 presidential election (first round)	Centre de donnes socio-politiques (CDSP)
Pre-treatment variables		
Ruggedness	Index of variance of elevation in each commune	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
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 A2: 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 domaines 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 A3: 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. 1 = "Strongly in favor" and 4 = "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 programmes 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 evironmental 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 A4: 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 A5: 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 programmes 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
Proud of French history	"How proud are you of the History of France?"	1 = Very proud to 4 = Not proud at all	ISSP 2003 National Identity II
Proud of French sport achievements	"How proud are you of France's achievements in sports?"	1 = Very proud to 4 = Not proud at all	ISSP 2003 National Identity II
Proud of French science/technology	"How proud are you of France's scientific and technological achievements?"	1 = Very proud to 4 = Not proud at all	ISSP 2003 National Identity II
More power to UN	"Thinking about the United Nations, which comes closest to your view?"	1 = The UN has too much power to 3 = The UN has too little power	ISSP 2004, Citizenship
Intervention of the UN	"Which of these two statements comes closer to your view?"	1 = If a country seriously violates human rights, the UN should intervene, 2 = Even if human rights are seriously violated, the country's sovereignty must be respected, and the UN should not intervene	ISSP 2004, Citizenship

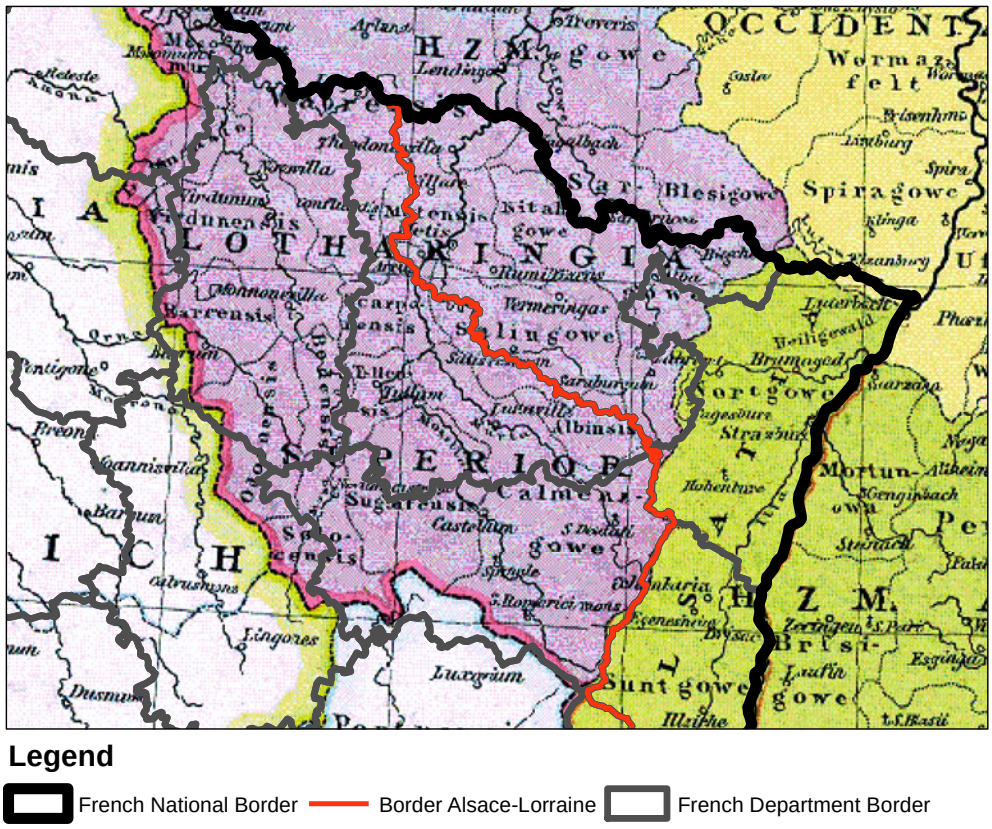
Notes: Description of survey questions from International Social Survey Programme (ISSP) 2003, National Identity (II), and ISSP 2004, Citizenship, and the Observatoire Interrégional du Politique (OIP) 2003. The values of the categories are reversed compared to the original question categories. Questions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

Figure A1: Map of Lotharingia around 1000 A.D.



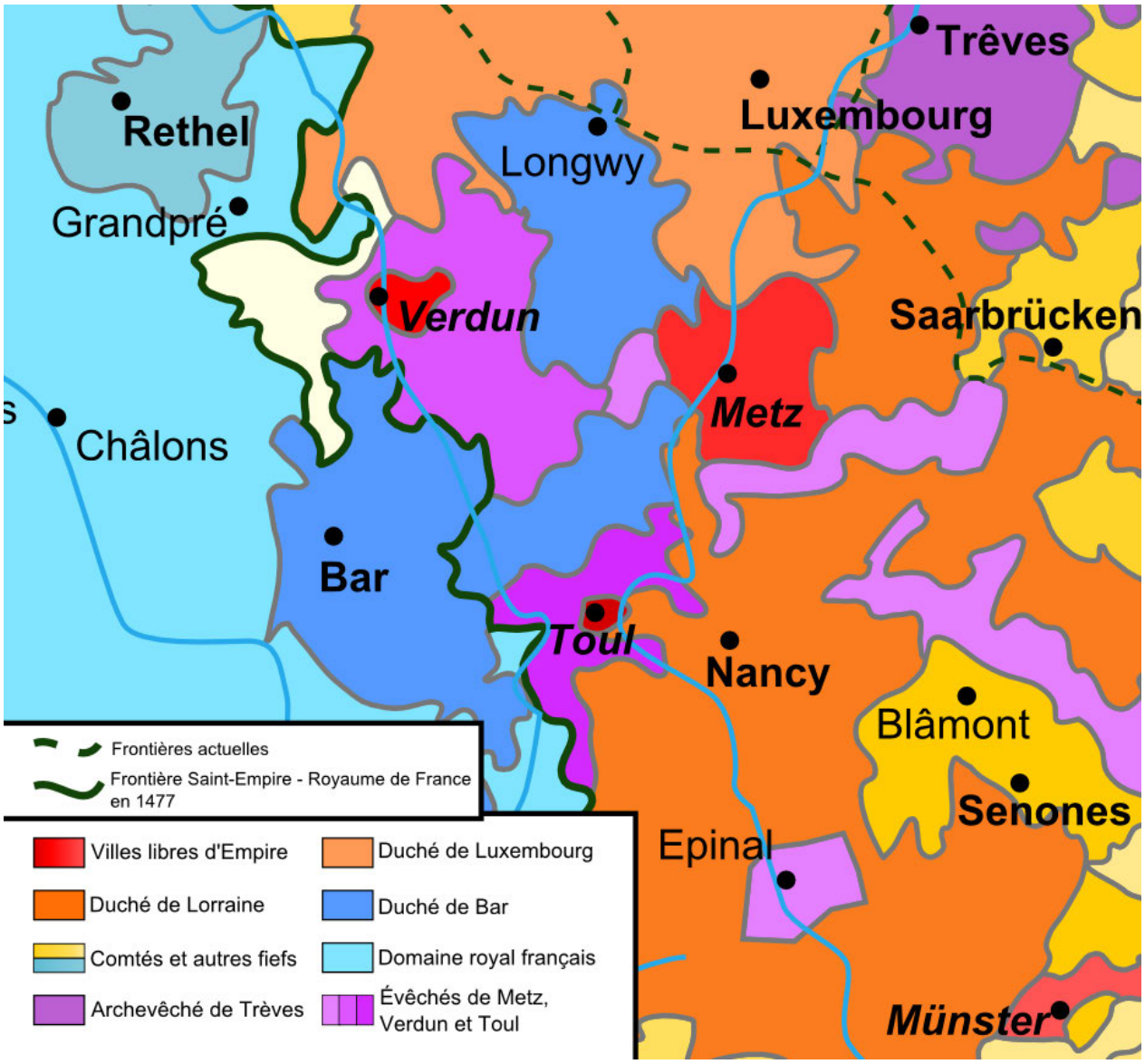
Notes: Map depicting the former Duchy of Lotharingia, around 1000: Pink= Lower Lorraine, Purple = Upper Lorraine, Orange = Frisia (effectively detached from Lotharingia). This map is used in the *Allgemeiner historischer Handatlas* by Gustav Droysen in 1886. Alsace was a part of the duchy of Swabia at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

Figure A2: 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 A3: Map of Lorraine in the 15th century



Notes: Map of Lorraine in the 15th century. This is a modified extract from the map *France in the late 15th century* from *Muir's Historical Atlas: Medieval and Modern* from 1911. The digitalized version can be found in the *Internet Medival Sourcebook* from Fordham University.

Figure A4: Map of Lorraine in the 18th century



Notes: Map of Lorraine in 1790. The map is an extract from *Carte de la Lorraine, du Barrois et des Trois Evchs de Metz, Toul et Verdun. Divise par Baillages, Dans laquelle se trouve Comprise la Gnralit de Metz* created by Robert de Vaugondy, Didier (1723-1786) Dezauche, Jean-Claude (1745-1824) in 1756. The original is in the *Bibliothque nationale de France, dpartement Cartes et plans, GE C-9972.* A scanned online version is accessible at http://gallica.bnf.fr/ark:/12148/btv1b7710337x. It shows the duty 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.

Table A6: Survey results, focusing on within Lorraine

Panel **A**: Identity					
Survey question	Mean, control	Δ	P-value	No. obs.	Source
Feel close to region (Regional identity)	3.362	0.154	<0.001	1314	OIP 99/01
Feel close to nation (National identity)	3.635	0.028	0.409	1313	OIP 99/01
Feel close to EU (European identity)	2.722	0.143	0.003	1299	OIP 99/01
Regional identity/National identity (standardized)	-0.138	0.138	0.011	1311	OIP 99/01
European identity/National identity (standardized)	-0.225	0.115	0.030	1298	OIP 99/01
Panel **B**: Democracy and policy competences					
Survey question	Mean, control	Δ	P-value	No. obs.	Source
Democracy works well in France	NaN	-0.023	0.616	1316	OIP 99/01
Democracy works well within region	NaN	0.111	0.008	1290	OIP 99/01
Well informed about regional policies	NaN	0.089	0.021	1308	OIP 99/01
In favor of transfering policy competence to region (avg. 10)	NaN	0.092	0.005	605	OIP 99/01
In favor of allowing more autonomy at regional level (avg. 5)	NaN	0.108	0.025	1315	OIP 99/01
Educ. policy and standards should be set at regional level (avg. 5)	2.855	0.112	0.024	574	OIP 03
Concerned regional admin. would increase interregional inequality	3.208	-0.172	0.037	574	OIP 03

Notes: Sources are the Observatoire Interrégional du Politique (OIP) 1999, 2001, and 2003, using respondents in 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.

Table A7: Survey results: ISSP 2003, National Identity (II)

		$\frac{Regional\ identity}{National\ identity}$ Lower	Higher	Sum
$\frac{European\ identity}{National\ identity}$	Lower	13.71%	43.39%	57.1%
	Higher	7.58%	35.32%	42.9%
	Sum	21.29%	78.71%	100%

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. Data is from the OIP 1999, 2001, and 2003, using respondents only in Lorraine.

Table A8: Descriptive statistics for control and pretreatment variables

Variable	Mean	Std. dev.	Min.	Max.
Distance to Metz	83.47	44.39	1.60	203.16
Distance to Strasbourg	107.53	50.32	0.02	223.02
Distance to Nancy	73.97	34.89	0.06	164.98
Distance to Germany	50.87	35.48	0.33	141.55
Elevation	300.51	119.71	110.12	1045.90
Ruggedness	0.73	0.68	0.01	5.18
Potato	7091.57	474.12	3665.80	7848.00
Wheat	6104.37	326.52	3873.60	6687.00
Median income 2008	31.56	6.00	17.69	53.55
Mean age 2006	39.60	3.01	28.26	63.07
Education 1999	0.20	0.07	0.00	0.58
Occupation 2006	0.19	0.07	0.00	0.50

Notes: Descriptive statistics for variables used as covariates (for variables used in the main paper) and pretreatment 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 A9: OLS estimates using whole sample of municipalities in Alsace and Lorraine

	A: Share Le Pen 2007		**B**: Turnout 2007	
Variable	(1)	(2)	(3)	(4)
Treatment	-0.691**	-0.969**	-1.412***	0.223
	(0.236)	(0.450)	(0.175)	(0.313)
Controls	No	Yes	No	Yes
Obs.	3142	3142	3142	3142
	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)
Controls	No	Yes	No	Yes
Obs.	3137	3137	3137	3137
	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)
Controls	No	Yes	No	Yes
Obs.	3141	3141	3141	3141

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. ***, ** and * indicates statistical significance at 1%, 5% and 10% levels, based on Conley standard errors.

Table A10: Covariate balancing

Variable	$\hat{\beta}_{10km}$	$\hat{\beta}_{1/2IK}$ [a]	Dep. var: Yes 92	Dep. var: Yes 05
Occupation				
Workers, 2006	0.009	0.002	-10.519***	-9.359***
	(0.016)	(0.014)	(0.923)	(0.913)
Farmers, 2006	0.003	-0.001	-24.457***	30.485***
	(0.009)	(0.007)	(1.237)	(1.249)
Artisans, 2006	-0.002	-0.003	-4.197**	2.824
	(0.005)	(0.003)	(2.112)	(2.013)
Executives, 2006	-0.007	-0.005	29.686***	58.089***
	(0.008)	(0.007)	(1.487)	(1.527)
Intermediate prof., 2006	-0.006	-0.013	9.230***	11.015***
	(0.010)	(0.009)	(1.096)	(1.039)
Economic activity				
Companies, 2011	-3.729	1.461	0.020**	0.041***
	(3.715)	(2.950)	(0.008)	(0.011)
Commercial est., 2011	-0.855	7.146***	-0.008	0.020**
	(2.921)	(2.409)	(0.007)	(0.009)
Industrial est., 2011	-3.344***	-1.916**	0.037***	0.012
	(1.230)	(0.930)	(0.011)	(0.010)
Building est., 2011	1.028	-0.105	-0.053***	-0.100***
	(1.607)	(1.206)	(0.011)	(0.012)
Public est., 2011	-0.699	0.694	0.043***	0.003
	(0.761)	(0.618)	(0.013)	(0.012)
Public goods				
Theatre rooms	-0.003	-0.000	-0.334	-0.116
	(0.003)	(0.002)	(0.407)	(0.218)
Athletic centers	-0.025	0.059	0.129	0.025
	(0.050)	(0.040)	(0.151)	(0.134)
Multisport fac.	-0.615	-0.840**	0.467***	0.196***
	(0.417)	(0.392)	(0.041)	(0.040)
Swimming fac.	-0.007	-0.022	-0.010	-0.137
	(0.014)	(0.028)	(0.082)	(0.085)
Psychiatric est.	0.003	0.006	1.433	0.968**
	(0.013)	(0.009)	(1.103)	(0.473)
Service houses	-0.017	-0.018**	-0.271	0.052
	(0.011)	(0.009)	(0.309)	(0.549)
Healthcare (short)	-0.002	0.003	0.433	0.122
	(0.005)	(0.004)	(2.167)	(1.719)
Healthcare (medium)	-0.007	-0.002	0.684**	1.004***
	(0.020)	(0.017)	(0.287)	(0.259)
Healthcare (long)	-0.002	-0.000	2.227	1.669*
	(0.019)	(0.012)	(1.471)	(0.946)
Post offices	-0.074	-0.012	0.504***	-0.919***
	(0.056)	(0.034)	(0.121)	(0.117)
Elementary schols	-0.205	0.011	0.842***	0.381***
	(0.203)	(0.134)	(0.054)	(0.052)
Highschools	-0.002	0.011	2.351**	1.496
	(0.007)	(0.008)	(0.954)	(1.051)
Vocational training	0.001	-0.002	2.141***	0.485
	(0.009)	(0.007)	(0.652)	(0.492)
Tech. vocational training	0.002	0.004	0.265	0.942***
	(0.002)	(0.003)	(0.231)	(0.287)
Demographics				
Population density	-77.246	147.944*	0.001***	0.000***
	(72.426)	(84.000)	(0.000)	(0.000)

Notes: This table demonstrates the balancing in our respective samples, using 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. ***, ** and * indicates statistical significance at 1%, 5% and 10% levels, based on Conley standard errors. There are on average no systematical differences. 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.

[a] Estimates from using one half of the optimal IK bandwidth.

Table A11: Median income and mean age at the former border

Panel **A**: Whole border								
	Median income				Mean age			
Variable	(1)	(2)	(3)	(4)[a]	(5)	(6)	(7)	(8)[a]
Treatment	1.138	1.168	0.953	1.133	-0.353	-0.427	-0.651	-0.408
	(0.947)	(0.873)	(0.808)	(0.873)	(0.541)	(0.454)	(0.396)	(0.366)
Obs.	507	745	979	744	604	887	1150	1338
Dist.	10 km	15 km	20 km	14.96 km	10 km	15 km	20 km	23.57 km
Panel **B**: Alsace versus Vosges								
	Median income				Mean age			
Variable	(1)	(2)	(3)	(4)[a]	(5)	(6)	(7)	(8)[a]
Treatment	4.627***	4.345***	3.843***	4.009***	-1.414*	-1.573**	-1.406**	-0.932*
	(1.135)	(0.973)	(0.910)	(0.910)	(0.841)	(0.682)	(0.608)	(0.561)
Obs.	196	290	391	374	210	304	406	504
Dist.	10 km	15 km	20 km	19.3 km	10 km	15 km	20 km	24.77 km
Panel **C**: Within Lorraine								
	Median income				Mean age			
Variable	(1)	(2)	(3)	(4)[a]	(5)	(6)	(7)	(8)[a]
Treatment	0.236	0.275	-0.411	0.086	0.059	0.056	-0.085	0.022
	(1.015)	(0.982)	(0.911)	(0.990)	(0.641)	(0.546)	(0.488)	(0.486)
Obs.	311	455	588	387	394	583	744	752
Dist.	10 km	15 km	20 km	12.56 km	10 km	15 km	20 km	20.23 km

Notes: Panel A uses all départements in Alsace and Lorraine, Panel B uses only Bas-Rhin, Haut-Rhin, and Vosges, Panel C uses only Moselle, Meurthe et Moselle, and Meuse. Controls added. ***, ** and * indicates statistical significance at 1%, 5% and 10% levels, based on Conley standard errors.

[a] Estimates from using one half of the optimal IK bandwidth.

Table A12: Covariate balance test

	Whole border							
	Median income 2008		Mean age 2006		Education 1999		Occupation 2006	
Variable	(1)	(2)[a]	(3)	(4)[a]	(5)	(6)[a]	(7)	(8)[a]
Treatment	1.138	1.133	-0.353	-0.408	0.002	0.001	0.009	0.006
	(0.947)	(0.873)	(0.541)	(0.366)	(0.005)	(0.004)	(0.014)	(0.011)
Obs.	507	744	604	1338	604	1311	604	950
Dist.	10 km	14.96 km	10 km	23.57 km	10 km	23.17 km	10 km	16.27 km

Notes: Using all départements in Alsace and Lorraine. Education refers to the share of people above 18 with a high school degree and occupation to the share of blue-collar workers in the total population. Controls: distance to Germany (border), distance to Metz, distance to Strasbourg, and distance to Nancy. ***, ** and * indicates statistical significance at 1%, 5% and 10% levels, based on Conley standard errors. Strong differences would indicate problems in the exogenous nature of our treatment assignment, or the comparability of our treatment and control group. There are no clear or significant differences in these main variables.

[a] Estimates from using one half of the optimal IK bandwidth.

Table A13: Le Pen and Turnout (within Lorraine)

	A: Share Le Pen 2007				**B**: Turnout 2007			
Variable	(1)	(2)	(3)	(4)[a]	(5)	(6)	(7)	(8)[a]
Treatment	-0.486	-0.385	-0.482	-0.600	0.387	-0.173	-0.552	-0.666
	(0.961)	(0.808)	(0.774)	(0.816)	(0.862)	(0.763)	(0.694)	(0.674)
Obs.	394	583	744	562	394	583	744	786
Dist.	10 km	15 km	20 km	14.56 km	10 km	15 km	20 km	21.14 km
	C: Turnout 1992				**D**: Turnout 2005			
Variable	(1)	(2)	(3)	(4)[a]	(5)	(6)	(7)	(8)[a]
Treatment	-0.861	-1.145	-1.646*	-0.934	0.804	-0.650	-2.413**	-1.777
	(1.229)	(1.056)	(0.967)	(1.132)	(1.222)	(1.124)	(1.092)	(1.128)
Obs.	394	583	744	470	394	583	744	652
Dist.	10 km	15 km	20 km	12.1 km	10 km	15 km	20 km	17.29 km

Notes: RD estimates for within Lorraine. Controls added. ***, ** and * indicates statistical significance at 1%, 5% and 10% levels, based on Conley standard errors.

[a] Estimates from using one half of the optimal IK bandwidth.

Table A14: Excluding Metz (within Lorraine)

	A: Excluding communes within 5 km from Metz							
	Share Yes 1992				Share Yes 2005			
Variable	(1)	(2)	(3)	(4)[a]	(5)	(6)	(7)	(8)[a]
Treatment	3.822**	5.130***	4.335***	4.774***	4.000*	3.832**	4.875***	4.325**
	(1.850)	(1.620)	(1.445)	(1.382)	(2.082)	(1.770)	(1.643)	(1.731)
Obs.	392	577	737	878	392	577	737	671
Dist.	10 km	15 km	20 km	24.53 km	10 km	15 km	20 km	17.86 km
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	B: Excluding communes within 10 km from Metz							
	Share Yes 1992				Share Yes 2005			
Variable	(1)	(2)	(3)	(4)[a]	(5)	(6)	(7)	(8)[a]
Treatment	3.940**	4.864***	3.834***	3.639**	4.450**	3.415**	4.157***	4.951***
	(1.889)	(1.647)	(1.478)	(1.442)	(2.033)	(1.699)	(1.567)	(1.477)
Obs.	372	548	693	766	372	548	693	783
Dist.	10 km	15 km	20 km	22.41 km	10 km	15 km	20 km	22.99 km
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Metropolitan areas might have a different history, or a very different composition of the population today. Metz is the largest metropolitan area in the Lorraine region. These specifications exclude all communes within 5 and 10 kilometres from Metz. Controls added. ***, ** and * indicates statistical significance at 1%, 5% and 10% levels, based on Conley standard errors.

[a] Estimates from using one half of the optimal IK bandwidth.

Table A15: Share of Yes Votes and Religion

	Dep. Variable: Share of Yes votes 1992			Dep. Variable: Share of Yes votes 2005		
	(1)	(2)	(3)	(4)	(5)	(6)
Attend (mean)	-1.84			-1.77		
	(1.32)			(1.11)		
Attend: Weekly		0.11			0.10	
		(0.08)			(0.07)	
Attend: 2-3 times a month		0.00			0.02	
		(0.10)			(0.09)	
Attend: Once a month		-0.05			-0.10	
		(0.11)			(0.07)	
Attend: Sev. times a year		0.06			0.05	
		(0.04)			(0.04)	
Attend: Less freq.		0.04			-0.00	
		(0.04)			(0.04)	
Roman Catholic			0.03			0.00
			(0.03)			(0.03)
Protestant			0.35*			0.15
			(0.18)			(0.15)
Christian Ortodox			0.12			0.27
			(0.59)			(0.49)
Jewish			0.85			1.09
			(0.53)			(1.00)
Islam			-0.09			0.01
			(0.12)			(0.15)
Other Religions			-0.15			0.01
			(0.23)			(0.28)
Obs.	94	94	94	94	94	94

Notes: This table tests whether there is a clear relationship between religious affiliation and voting in the pool referenda. OLS estimates using aggregate survey results on département-level. *Attend* 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. ***, ** and * indicates statistical significance at 1%, 5% and 10% levels, based on heteroscedasticity-consistent standard errors. 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.

Table A17: OIP Survey results, 1999 and 2001: European and regional attachments

Dep. Var: Attachment: Europe	Within 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 * indicates statistical significance at 1%, 5% and 10% levels, based on heteroscedasticity-consistent standard errors.

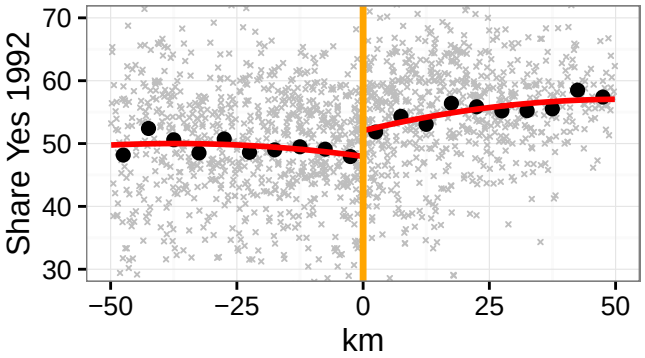
Table A16: National identity in 1789 (Cahiers de doléances)

	Mean	Std. dev.	Obs.
Lorraine	2.021	0.541	24
Moselle	2.000	0.816	7
Meurthe-et-Moselle	2.000	0.598	8
Meuse	2.000	0.000	4
Vosges	2.100	0.224	5
	Difference	Std. dev.[a]	Obs.
Moselle vs. rest	-0.029	0.349	24

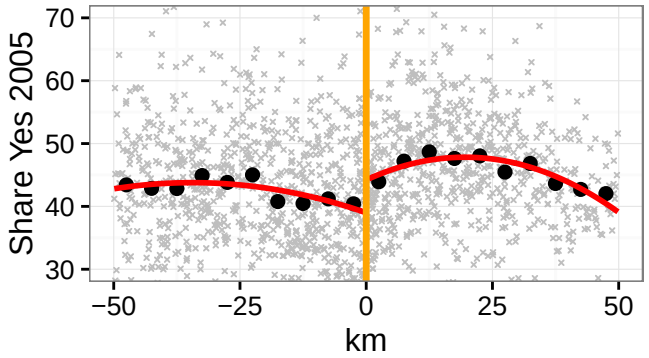
Notes: National identity in 1789 based on Cahiers de doléances for each département in Lorraine (and Vosges). The Measures are based on an index created by Hyslop (1934), where the value 3 corresponds to "National patriotism strongest (to King, King and Nation, Nation etc.)", 2 corresponds to "Mixed 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". Hyslop (1934) Created these values at the level of selected importance municipalities to based on more disaggregate reports in verbal form.

[a] Heteroscedasticity-consistent standard errors.

Figure A5: RD plots, within Lorraine



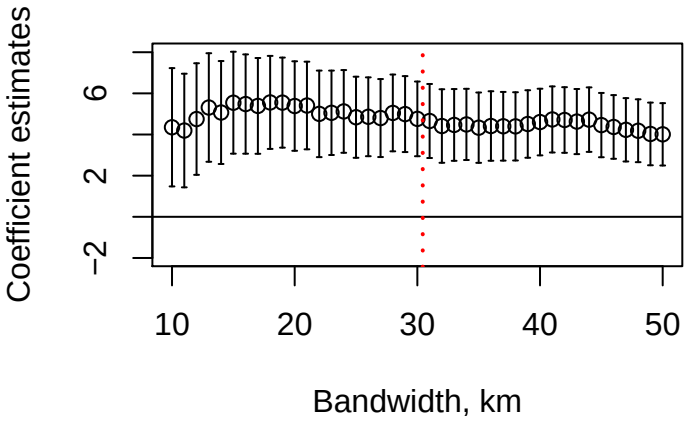
(a) Share Yes 1992



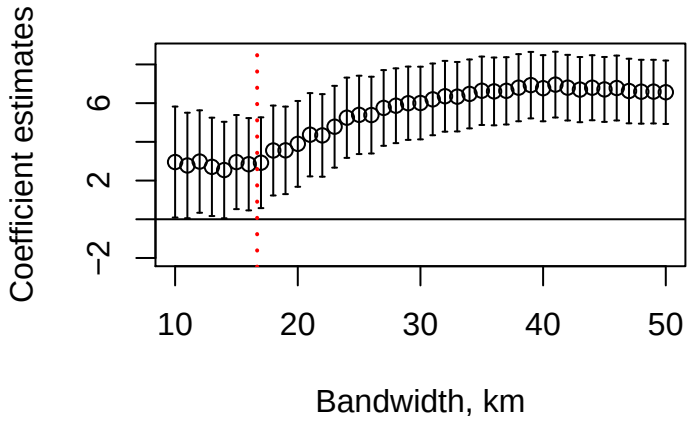
(b) Share Yes 2005

Notes: RD plots, within Lorraine. Fitted line based on 2nd degree polynomial. Black dots represent mean using 5km bins. Our main specifications are based on local linear models, the fitted lines are for illustrative purposes here.

Figure A6: Estimation plots, whole border



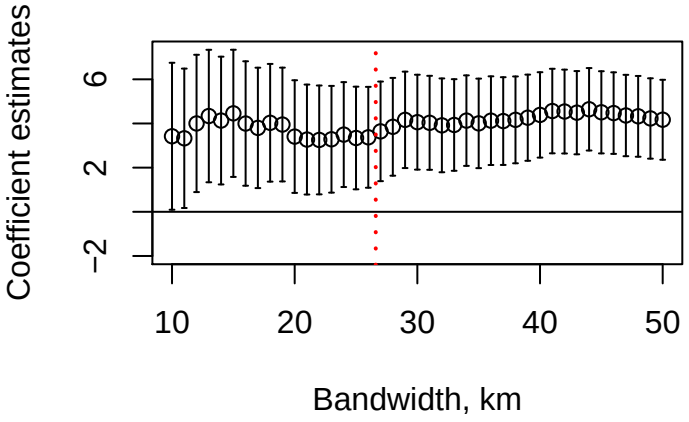
(a) Referendum 1992



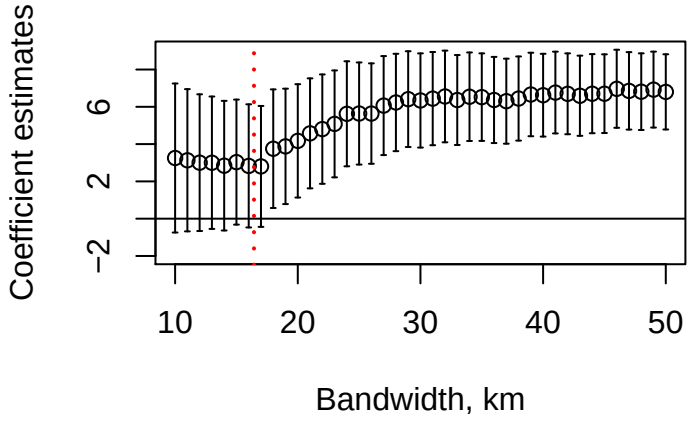
(b) Referendum 2005

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

Figure A7: Estimation plots, no controls



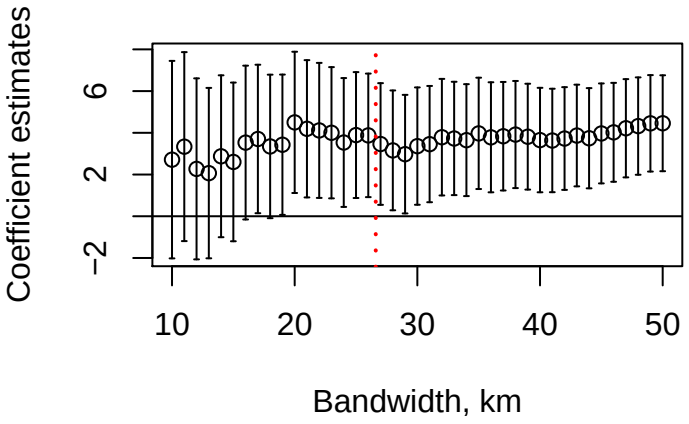
(a) Referendum 1992



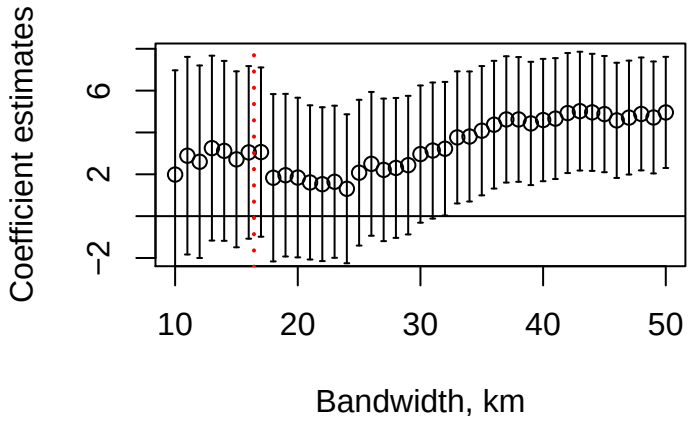
(b) Referendum 2005

Notes: Estimates of treatment effect, bandwidth of 10 to 50 kilometres, 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 one half of the IK bandwidth. Solid vertical lines represent 90% confidence intervals (based on Conley standard errors).

Figure A8: Estimation plots, 2nd degree polynomial



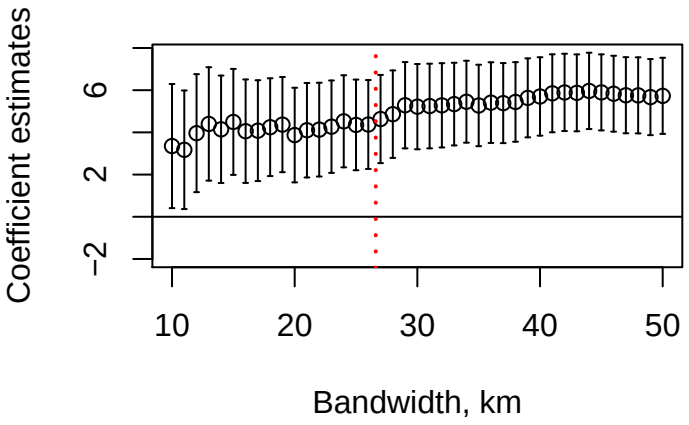
(a) Referendum 1992



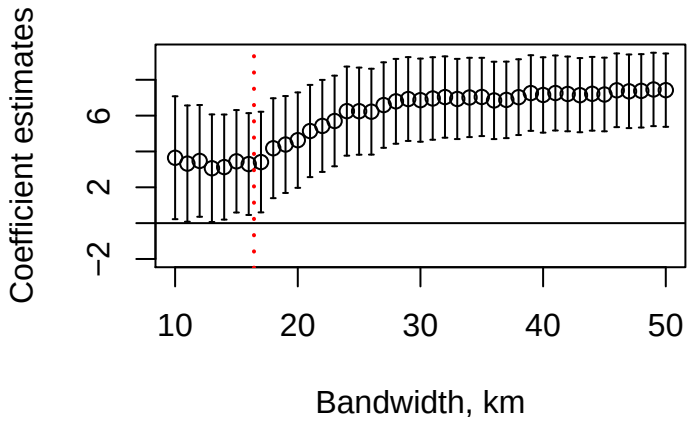
(b) Referendum 2005

Notes: Estimates of treatment effect, bandwidth of 10 to 50 kilometres, within Lorraine. These regressions are based on a 2nd degree polynomial. Dashed vertical line at one half of the IK bandwidth. Solid vertical lines represent 90% confidence intervals (based on Conley standard errors). Our preferred specification chooses a very small bandwidth, and the local linear regression design. These graphs show that for larger bandwidths we get comparable results using higher order polynomials. The coefficient estimates are similar and results become significant with larger bandwidths at conventional levels as we would expect.

Figure A9: Estimation plots, controlling for longitude and latitude



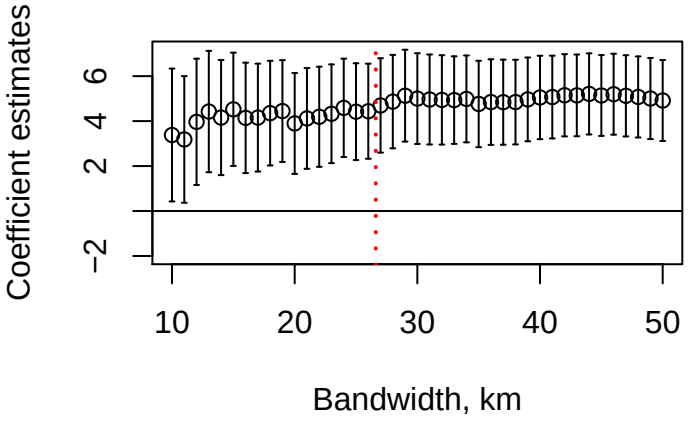
(a) Referendum 1992



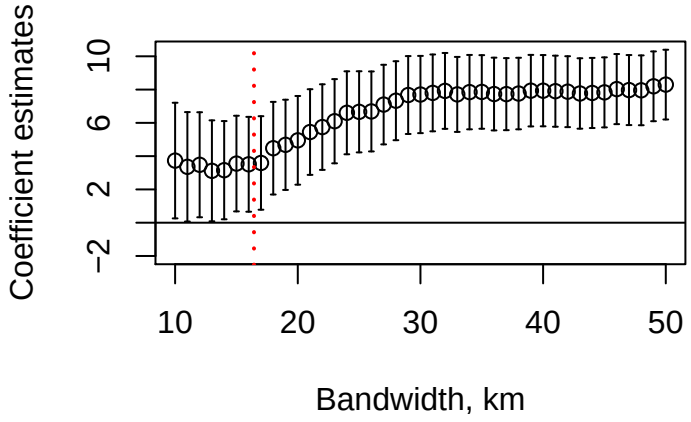
(b) Referendum 2005

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

Figure A10: Estimation plots, controlling for longitude, latitude and their interaction



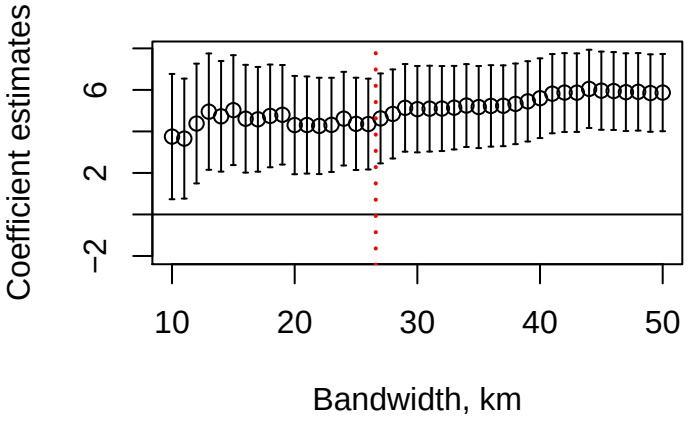
(a) Referendum 1992



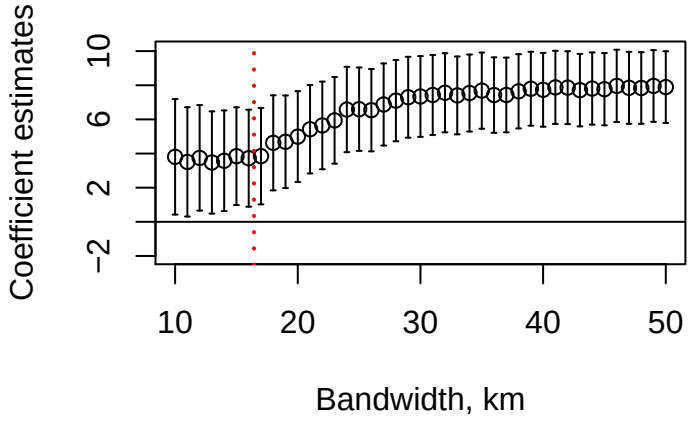
(b) Referendum 2005

Notes: Estimates of treatment effect, bandwidth of 10 to 50 kilometres, within Lorraine, controlling for longitude, latitude and their interaction. Dashed vertical line at one half of the IK bandwidth. Solid vertical lines represent 90% confidence intervals (based on Conley standard errors). 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 A11: Estimation plots, controlling for distance to language border



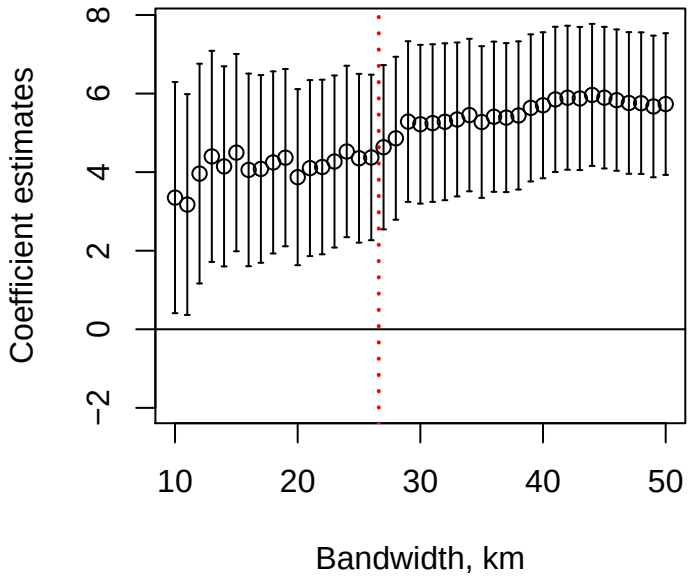
(a) Referendum 1992



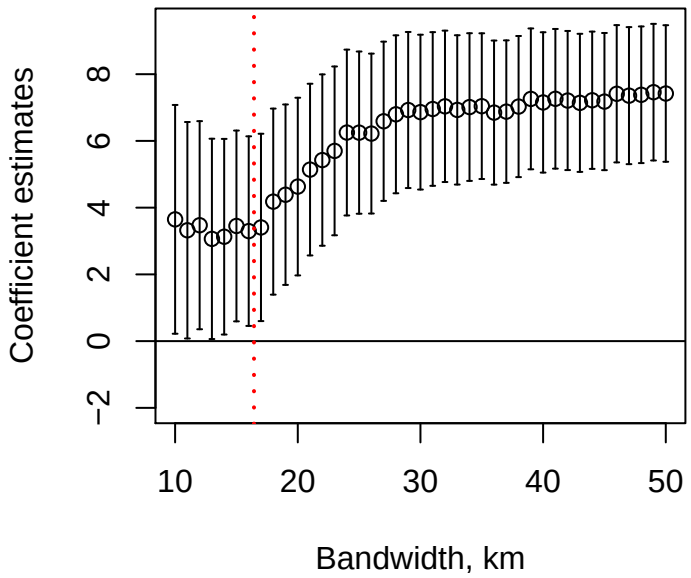
(b) Referendum 2005

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

Figure A12: Estimation plots, controlling for border segments



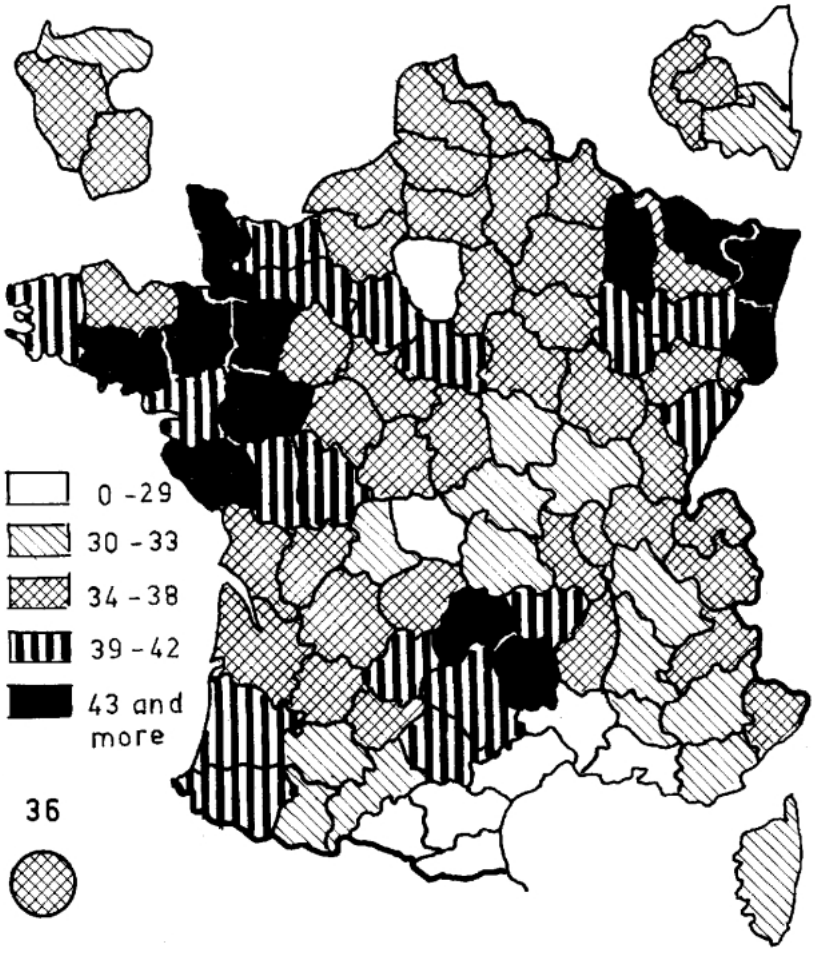
(a) Referendum 1992



(b) Referendum 2005

Notes: Estimates of treatment effect, bandwidth of 10 to 50 kilometres, within Lorraine, controlling for 4 border segments. Dashed vertical line at one half of the IK bandwidth. Solid vertical lines represent 90% confidence intervals (based on Conley standard errors). As the graphs show our results are not substantially altered by the inclusion.

Figure A13: Referendum 1972



Map No. 4. Percentages of "Yes" votes, April 1972 referendum.

Notes: 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. France we told the accession of Great Britain in 1969, and was the only state which was already a member to hold a referendum on the treaty. Accordingly, this referendum is not exactly comparable to the two other referenda, but should still capture European identity to some degree. As in our other specifications, support is clearly higher in the three treated départments. This is reassuring in the sense that it shows that there was no sudden swing in identities between the end of the treatment and our more recent measurement. A clearly visible swing would have been at odds with our theoretical model of identity transmission. Also obviously being only descriptive evidence, this map supports the link between treatment and our main outcomes.
Source: Leleu (1976), Map No. 4 on page 36.