

ECON 594
Final Paper

**The Effect of Institutional and Cultural Persistence of the
Austro-Hungarian Empire on Conflict in the Yugoslav Wars**

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Abstract

Can the persistent effects of long-gone empires on various outcomes seen in conflict levels? Using a border specification and regression discontinuity design, I estimate the effect of historical affiliation with the Austro-Hungarian Empire, using two separate border specifications, on conflict incidence during the Yugoslav Wars. My results indicate that longer historical affiliation with Austria-Hungary is associated with lower incidence of conflict, finding approximately 4-5 fewer conflict events in those municipalities with more than 200 years of imperial rule. These results are robust to 50 and 25km bandwidth around the border as well as an examination of heterogeneous effects by conflict type.

1 Introduction

The history of the Balkan Peninsula has been characterized by conflict between various ethnic, religious, and language groups as well as other players and nations with interests in this region of Southeastern Europe. The region's high level of diversity has resulted in regular tension between the individual groups' autonomy, internal cohesion, an encompassing South-Slavic, or "Yugoslavic", identity as well as imperial rule. Economic literature has identified ethnic divisions as an important factor in conflict incidence. The literature has also identified the importance of institutions and cultural persistence, and despite its long history of conflict and ethnic tension, the Balkans also have a long history of imperial rule. In this way, this area provides an excellent context for examining the interplay of these two factors.

Becker *et al.* (2015) specifically examine the effects of the "well-respected bureaucracy" of Austria-Hungary on contemporary trust in government institutions in various Eastern European countries with historical association with the empire. Using data from the Life in Transition Survey (LiTS), they find that individuals in those areas which were once part of Austria-Hungary have higher levels of trust in government and lower levels of corruption. These results, especially for those areas in the Balkans, are difficult to reconcile with the literature examining the determinants and effects of conflict. As such, this paper investigates the legacies and persistent impact of culture on conflict incidence during the Yugoslav Wars by comparing outcomes on either side of two borders of the Austro-Hungarian Empire.

Building on the literature examining long run persistence in cultural traits, institutions, and behaviours, my study finds that longer historical affiliation with the Austro-Hungarian Empire is associated with lower incidence of conflict during the Yugoslav Wars (1991-1998)¹. I check for robustness by examining this relationship using municipalities located 200km, 150km, 100km, 50km, and 25km, three different types of conflict, examining conflict intensity

¹This empire has also been known as the Habsburg, Austrian, and Holy-Roman Empire. I will refer to it as Austria-Hungary or the Austro-Hungarian Empire for consistency's sake

at the conflict event level, as well as creating placebo borders. I find that the pattern of lower incidence of conflict are robust only for those areas with lengthy history as part of the empire.

2 Literature Review

My analysis is related to several literatures including long-run cultural and institutional persistence as well as conflict. First, my examination of long-run persistence builds on the broad literature on the long lasting effects of culture on outcomes, especially in Europe, including studies by Tabellini (2010) and Bisin and Verdier (2001). Most centrally, this paper builds on the literature which examines the persistent effect of pre-First World War borders on contemporary outcomes. This literature has highlighted the persistent of these historical institutions through examining the effect on trust in financial institutions (Grosjean, 2011a), development and institutions over long horizons (Grosjean, 2011b), attitudes towards democracy (Grosfeld and Zhuravskaya, 2015), human capital attainment (Bukowski and others, 2015), and savings levels (Walker, 2020).

Second, my paper relates to conflict. The literature relating to conflict has shown that conflict has persistent impact on society through a number of channels, including social, economic, and political channels. Conflict lowers output (Cerra and Saxena, 2008), growth (Alesina *et al.*, 1996), trust and market participation (Cassar *et al.*, 2013), among other effects (Novta, 2016; Mitra and Ray, 2014). Blattman and Miguel (2010) outline various studies, both theoretical and empirical, that investigate the causes and effects of conflict. More specifically, given the nature of the Yugoslav Wars, my paper builds on previous work done related to ethnic conflict

There area also a number of studies examining the effects and determinants of the conflict in Yugoslavia specifically. Kukic (2019) examines the effect of nation building and integration as a method of reducing ethnic conflict. Jurajda and Kovač (2016) look at intergenerational

cultural transmission and nationalism through name choices and eventual participation in the Croatian War of Independence. For outcomes, Alacevich and Zejcirovic (2020) find that violence against civilians during the Bosnian War depressed voter turnout. This paper builds upon this literature by examining further the determinants of conflict in the region, while simultaneously bridging the gap to the literature examining long run persistence.

3 Background

This section provides a brief background on the history of the Austro-Hungarian empire, including its influence in southeastern Europe, the development of Yugoslavia, and its eventual dissolution during the Yugoslav wars in the 1990s.

Emerging as a great power in Europe during the eighteenth century, the Austrian Empire established itself as the dominant power in central Europe. The nineteenth century, however was fraught with internal challenges and issues of cohesion between the many parts of the empire, which challenged the empire's administration. Beginning in 1848, the empire experienced a period of unrest stemming from internal revolution, constitutional crises, and wars, including the loss of the economically and culturally significant Lombardy region as well as the loss of a war against Prussia in 1866, left the Habsburg dynasty on unstable ground.

Der Ausgleich, or the Austro-Hungarian compromise of 1867, created a power sharing arrangement between Cisleithanien (Austrian) and Transleithanien (Hungarian) administrative bodies, ending a lengthy period of uncertainty throughout the empire. Nevertheless, *der Ausgleich* was both unifying and dividing. In the years following, Hungarian factions pushed for more and more autonomy while Austrian factions resented the scale of power the Hungarian elite, the Magyars, held in decision making.

Tension pervaded among smaller groups as well. Even though power was shared between these two groups, Austria-Hungary was a *Vielvölkerstaat*, a state of many people, containing a great number of ethnic, religious, and language groups far beyond just Austrians and

Hungarians. All ethnicities within the empire were granted equal rights, in theory, following the implementation of the Basic State Act in 1867, shortly after *der Ausgleich*. In practice, however, this was not always the case. Not only was policy implemented heterogeneously across the empire, with each local administration enforcing policy inconsistently and often using discretion, expansions of the administrative structure during those same years caused bureaucrats to undermine public confidence in institutional efficiency and effectiveness. Furthermore, ethnic minorities in those areas controlled by Hungary experienced higher levels of discrimination. This Hungarian elite resisted giving concessions to ethnic minorities due to the policy of Magyarization followed by the Hungarian administration wherein smaller groups were forced to assimilate to Hungarian way of life. The Magyars also wished to expand their control over Croatia as well as to eventually incorporate Bosnia-Herzegovina-Dalmatia into a greater Hungary. (Williamson, 1991) Interestingly however, despite being under Hungarian administration, the Kingdom of Croatia was granted a high degree of autonomy, the rest of modern-day Croatia, the Dalmatia region, however remained under Austrian authority. Taken all together, this suggests an environment of lower levels of trust in the state as a whole.

Colonial aspirations of the Empire in the Balkan region in Southeastern Europe also inflamed tensions elsewhere. The occupation of Bosnia-Herzegovina by Austria-Hungary in 1878 was motivated as preventing the creation of a South-Slavic nation state, especially as Serbia and Montenegro were seen as hostile neighbours. This occupation was presented as a positive to both people residing in Bosnia-Herzegovina, but also Europe as a whole. Using rhetoric from New Imperialism, the empire emphasized how the occupation would bring the region a well-functioning administrative structure. Policy goals following the occupation, however, included isolating Serbs in Bosnia-Herzegovina from the rest of Serbia, which stoked tensions between minorities and eventually motivating some groups to express their concerns directly to Emperor Franz Joseph about their “ecclesiastical and national” autonomy within the empire. (Nikolic, 2016)

This occupation ended with the eventual annexation of Bosnia-Herzegovina in 1908, which furthered unrest in the region by inciting the Bosnian Crisis. This annexation was seen as an act of aggression against Serbia, further inflaming tensions in the subsequent First and Second Balkan Wars. Each of these events can be seen as eventually leading to the assassination of the Habsburg heir, Franz Ferdinand in Sarajevo during the summer of 1914, cited as the inciting incident of the First World War. Austria-Hungary was not a cohesive, “well-respected” empire in the strictest sense. It was instead a multifaceted state wracked with various internal issues, however whether these years of unrest translated to persistence remains a subject of debate.(Williamson, 1991)

The cessation of the Austro-Hungarian empire following the First World War and the end of its rule in the Balkans resulted in the creation of a single state in Yugoslavia, first a kingdom, then eventually a republic, containing a number of territories that were once a part of Austria-Hungary or the Ottoman Empire including Slovenia, Croatia, Bosnia-Herzegovina, Serbia, Macedonia, and Kosovo. The country was briefly split up whilst under occupation by the Axis powers during the Second World War, but was quickly reunified as a socialist republic under Josip Broz Tito, though again, the desire for autonomy and self-determination separated this Yugoslavia from the rest of communist Europe.

Yugoslavia’s position in the geopolitical environment during the Cold War allowed the country’s leadership to maintain a type of internal cohesion and suppress nationalist or separatist sentiment within the country despite the high level of ethnic diversity. However, following Tito’s death, nationalist sentiment once again raised tensions between groups. Economic downturn exacerbated underlying issues and magnified nationalism in the region, especially amongst Serbian nationalists, headed by Slobodan Milosevic. This group sought to gain more power and influence simultaneously as the other republics sought more autonomy from Serbia and the greater Yugoslavia. These tensions coupled with economic crises and rising desire for democratization in Eastern Europe at the end of the Cold War period eventually led to the breakup of Yugoslavia and war when the Yugoslav People’s Army

(JNA) attempted to preserve the unified Yugoslavia through any means necessary. Violence erupted across the republics and resulted in instances of ethnic cleansing and genocide. (Calic and Geyer, 2019)

4 Data

This section describes the data used for this paper as well as some of the creation of specific variables. My two main data sources are the Uppsala Conflict Data Program's conflict dataset and information from the 1991 Census of Yugoslavia.

Conflict Data: My main source of data for conflict is the Uppsala Conflict Data Program (UCDP). I have restricted the data to only examine those conflict events occurring during the Yugoslav Wars. This data set includes highly granular, geolocated data on types of conflict (State-Based, One-Sided), involved parties, number of deaths, and other measures. To examine incidence of conflict, I collapsed this data to measure the number of conflicts per 10,000 people in a given municipality, the main outcome variable.

To control for persistence of conflict as per Fearon and Laitin (2014). I also collected census data from the Museum of Genocide Victims, Belgrade, which details the number and ethnicities of casualties in each municipality during the Second World War.

Geographical Data

Data on geography was obtained from a number of sources. References for old borders were taken from historical atlases and shapefiles for Austria-Hungary were obtained from Max Plank Institute for Demographic Research (MPIDR) historical GIS collection. referenced shapefiles for Yugoslavia's 1991 municipalities were gathered from Milos Popovic.

I created ruggedness measures for each municipality using Terrain Ruggedness Index which calculates the mean difference between a central pixel and surrounding cells developed by Riley *et al.* (1999). This measure has also been utilized by Nunn and Puga (2012), highlighting its importance in the conflict literature. Using a 1km x 1km elevation map of

Europe from European Economic Association, I took the mean of the resulting TRI for each municipality. I also include indicators for whether a municipality is coastal.

Census Data

Data at the municipality level on population, ethnicity, religion, language, output, and labour shares are obtained from the 1991 population census books of each successor state of Yugoslavia. The 1991 census was the last census to take place before the outbreak of war. Average level of educational attainment and infant mortality are missing for Montenegro and Serbia. Education levels have thus been interpolated from education levels reported in the 1974 and 2002 censuses. Data on government expenditures on public goods used to calculate expenditure per capita is taken from Statisticki Godišnjak SFR Jugoslavije 1991 for 1989 and normalized by the 1991 population.² More concerning is that large proportions of the Albanian population in both Kosovo and North Macedonia, where this ethnic group holds a clear majority, boycotted this census due to deteriorating relations between groups prior to the war. As such, controls are limited to only those related to ethnic fractionalization/polarization, population density. I created measures of ethnic fractionalization and polarization from population estimates for 1991 created by the Kosovo statistical agency. Population density was calculated using census population information (estimates for Kosovo) divided by GIS-calculated area of each municipality

Other Data:

I also acquired data on the presence of the Yugoslav National Army from Dragoner (2008), which includes information on the number of army facilities and divisions located within a municipality for 1990. This allows me to control for some of the endogeneity stemming from the movement of armed groups during the war. I also utilize data on the time that each of these municipalities spent under administration from either the Austro-Hungarian or Ottoman Empire or both (Regan and Kaniški, 2003).

Summary statistics are reported in Table A1

²Most of this data was given to me by Leonard Kukic

5 Estimation Strategy

To investigate the relationship between cultural persistence of the Austro-Hungarian Empire and conflict during the Yugoslav Wars, I look at two channels: incidence and intensity of conflict. My main specification utilizes the model used by Becker *et al.* (2015), including only those municipalities located within a given distance, 250km, from the border. Since I expect that exposure to the Austro-Hungarian Empire will affect other covariates, not only the outcome variable, I first use a simple correlation model, similar to a regression discontinuity to absorb some of this variation.

Given that modern borders in the region closely follow the former Empire borders, each estimation will be performed using two border specifications. The first is the Austro-Hungarian border from 1910 following the annexation of Bosnia-Herzegovina. The second is the border of the empire without this region, the 1867 border, only including those areas counted as part of the empire proper, rather than as a colony.

A regression-discontinuity type border specification estimation estimating the effect of historical association with the Austro-Hungarian Empire is:

$$c_{i,r} = \alpha + \beta A_{i,r} + X_{i,r} \gamma' + \epsilon_{i,r} \quad (1)$$

Where c is the number of conflicts per 10,000 people in a given municipality i , α_r are Republic fixed effects, and γ are the various controls outlined in the Data section. I opt to utilize ethnic polarization as the main control variable rather than ethnic fractionalization as the findings in Montalvo and Reynal-Querol (2005) highlight the important differences between these two indices, and indicate that divisions between fewer but larger groups affect conflict more intensely than differences between many smaller groups.

An issue for this model is that the republic fixed effects are very nearly exactly collinear with the indicator variable. As such, fixed effects are only included in some specifications.

This specification has important differences from a regular regression discontinuity de-

sign, and is employed deliberately due to these differences. First, I expect that while this historical “treatment” is plausibly exogenous, historical association with Austria-Hungary will have effects on other covariates included in the model. Additionally, due to nature of the identification being based off of a municipality’s centriod distance, I am unable to identify an exact border effect because of the few number of observations located directly at or near the border. Furthermore, I expect that diffusion across the border due to migration across the border may cause local spillover effects, which is in direct conflict with some of the basic assumptions of an RDD estimation.

Nonetheless, I also utilize a directly comparable 1-dimensional spatial regression discontinuity using the centriod distance of each municipality to the border of the Austro-Hungarian Empire as the running variable. This approach is similar to the one developed by Dell (2010). I implement this strategy using the methods of Calonico *et al.* (2015), allowing for covariate-adjusted robust bias-corrected inference using kernel weights and local linear regression. I include the same set of covariates as used in equation (1). The estimation equation is as follows:

$$c_{i,r} = \alpha + \beta A_{i,r} + X_{i,r}\gamma' + f(\text{distance to border}_i) + \epsilon_{i,r} \quad (2)$$

This approach will provide a more precise identification of the effect of each border, but will be affected by attenuation bias due to cross-border diffusion and migration.

The results of the McCrary Density Tests using the two different borders as the cutoffs are presented in Figure A1 and Figure A2 in the appendix. We can see that there is clear evidence of “manipulation” in the plot using the 1910 border as the discontinuity. This undoubtedly stems from the characteristics of the conflict. Serbia, being the aggressor, sees less conflict than Bosnia, Croatia, and other states. Taking this into account, my estimates will overestimate the strength of the effect for the 1910 border.

6 Results

6.1 Main Results

This section reports the main results on the effect of historical affiliation with the Austro-Hungarian Empire on the number of conflicts in a given municipality during the Yugoslav Wars.

Graphical Evidence

First I present graphical evidence. Figure 1 displays instances of conflict in Yugoslavia with the former Austro-Hungarian border, both including the occupied area of Bosnia and Herzegovina and without. This figure is highly suggestive, as most of the incidence of conflict occurs within the boundaries of the former Austro-Hungarian empire. However, due to clear endogeneity issues, we must turn to our granular analysis to determine this relationship with more nuance.

Border Specification and Regression Discontinuity

Table 1 reports the results of the effect of historical association with Austria-Hungary using the 1910 border. In the border specification estimates in Panel A, we observe that those municipalities that were once a part of Austria-Hungary appear to experience a greater number of conflicts, approximately 7 per 10,000 people, and that this relationship is statistically significant across specifications. This point estimate shrinks to 4.9 conflicts with the inclusion of the control for ethnic polarization in Column (4), but increases again with the full set of controls in Column (5). The coefficients for the ethnic polarization are one Column (2) presents the estimate where Republic fixed effects are included and, as expected, their inclusion absorbs almost all of the variation found due to its collinearity with the Austria-Hungary indicator.

Turning to the results of the Regression Discontinuity in Panel B, we see that the conventional estimates are positive and significant across the table as the full set of covariates are added. The Bias-corrected and Robust estimates remain positive though diminish in both

magnitude and significance with the inclusion of the ethnic polarization control and the full set of covariates from the census data. The magnitudes of the point estimates are slightly larger when compared with those found with the border specification.

Table 2 presents the same results estimated for the alternative, older border of the Empire. The results of the border specification indicate that historical association with Austria-Hungary is associated with lower levels of conflict during the Yugoslav Wars, though the relevant point estimate with the full set of covariates is insignificant. The model with Republic fixed effects, reported in Column (2) once again absorbs the relevant variation for the Border Specification. Coefficients on the ethnic polarization variable are, once again, positive and statistically significant. The regression discontinuity results in Panel B similarly report a negative and significant effect of Austria-Hungary on conflict of a magnitude between 4.5 and 7.1. These point estimates are larger than those found in the border specification. In the model with the full set of covariates, the point estimates are significant at the 10% level in all specifications except the Robust, where it is insignificant.

Figure 2 presents the plots of the regression discontinuities for each border. Interestingly, we see opposite effects for either border. As such, we explore potential mechanisms behind this relationship.

Mechanism : Duration

To reconcile the reasoning for the different signs found in the estimates between the two different border specifications. I investigate potential mechanisms. One of the main differences between the municipalities on either side of these two borders is the length of exposure to the Austro-Hungarian Empire. Intuitively, it is logical that cultural transmission from the empire would be stronger in those areas with longer exposure to the empire's administration. Grosjean (2011b), finds that this type of long term persistence of cultural norms from historical empires can only be observed after 400 years of common history. As such, to examine this mechanism as well as to preserve variation, I look at association with the Austro-Hungarian empire lasting more than 100 and 200 years.

Table 3 presents the results of these estimations using the border specification. Columns (1)-(4) present results for the 1910 border and Columns (5)-(8) present the same for the 1867 border. Point estimates for historical affiliation with Austria-Hungary in both Panel A and B for the 1910 border are consistent with the results found in Table 1, in that there are positive, statistically significant and of similar magnitude. However, we see that on the indicators for more than 100 years and 200 years of exposure to Austro-Hungarian rule in Panels A and B respectively are negative and statistically significant, and increasing in magnitude with the inclusion of a greater number of controls. In Panel A Columns (5)-(8), we see that it appears the inclusion of the indicator for duration absorbs much of the effect found for the 1867 border in Table 2, as the point estimates for association with Austria-Hungary are null in Columns (5) and (6) and switch signs from other point estimates for the same relationship in Columns (7) and (8). When we use the control for more than 200 years of association, these point estimates are negative and significant in Columns (5) and (6) and null in (7) and (8). The coefficients on each length of duration under Austria-Hungary is negative and statistically significant in every specification for the 1867 border. These results indicate that more than 100 years of association with the empire is associated with approximately 5 fewer conflicts per 10, 000 people during the Yugoslav Wars, and when a given municipality spent more than 200 years under Austro-Hungarian administration this is associated with 4 fewer conflicts per 10, 000 people.

Taken together this analysis provides additional evidence towards the mechanism of cultural persistence, and is consistent with the findings of Grosjean (2011b) suggesting that longer horizons are needed to build social trust, which would then in turn lower conflict levels.

6.2 Robustness Checks

Different Bandwidths

Next, I further narrow the bandwidth of municipalities included in the analysis to identify

a more precise effect of each border. I examine the effects when narrowing the bandwidth to 200km, 150km, 100km, 50km, and 25km around each border. Given that most of these municipalities located within these finite distances are in Serbia, Bosnia, and Croatia, those which I have the full set of controls for, I use the model with the full set of covariates in each specification. The estimates for the 1910 border are presented in Table A2.

Panel A presents the main border specification model, panel B includes the duration mechanism, and panel C presents the results of the regression discontinuity. The point estimates for association with Austria-Hungary are positive and statistically significant in both the main border specification model and the model including the duration mechanism for all bandwidths indicating that historical association with Austria-Hungary is associated with approximately 7.5 more conflicts per 10, 000 people in a given municipality. In Panel B, the coefficients on the indicator for more than 200 years of association with the empire remain negative and significant with a similar magnitude to the point estimates from Table 3 until the border bandwidth is narrowed to 50km, at which point these coefficients become insignificant, likely due to the reduction in statistical power due to the small number of observations located within this finite distance to the border. In the same way, the coefficients on ethnic polarization also lose significance in both Panel A and B in the two narrowest bandwidths. The results of the regression discontinuity estimation indicate positive and significant effects on conflict where a municipality was historically associated with Austria-Hungary in the conventional estimates for all but the narrowest bandwidth, however bias-corrected estimates are only significant in the 200km specification, and none of the robust estimates are significant. As such, we cannot make any statements about the precise border effect of the 1910 border.

Table A3 presents the estimates using the 1867 border. The results presented in Panel A are from the main border specification. The point estimates for the effect of historical affiliation with Austria-Hungary on conflict are negative, though only significant at the 100km and 50km bandwidths in this specification. The estimates for ethnic polarization are

positive and significant and increasing in magnitude as the bandwidth narrows. Panel B includes the duration mechanism, where we see the coefficients for association with Austria-Hungary become null as the bandwidth narrows, but the coefficients for the duration variable remain negative, significant, and at a similar magnitude at all bandwidths. This is further encouraging evidence for the above-identified mechanism of cultural persistence. The results of the regression discontinuity estimation also identify negative and statistically significant coefficients for every bandwidth. The magnitude of the coefficients is consistent across each bandwidth except the last where the magnitude increases 2-3 fold in the narrowest border specification.

Taken together, this bandwidth analysis provides additional evidence for the negative relationship between a longer duration of historical association with Austria-Hungary and conflict levels during the Yugoslav Wars. The results of the narrowest bandwidth also provides further evidence that the effect I have identified is the effect of the border rather than another explanatory variable. While the results of this analysis for the 1910 border are less clear, this strengthens the positive relationship found between association based on the 1910 border and conflict, perhaps alluding to another potential mechanism to be explored in further research.

Types of Conflict

Next, I extend my analysis by exploring potential heterogeneity by examining the effect of historical association with Austria-Hungary on three different types of conflict, state-based, non-state, and one-sided violence to determine if there are differential effects by conflict type. The results of this estimation is reported in Table A4 for the 1910 border and Table A5 for the 1867 border. Columns (1)-(4) present the results of the border specification, and columns (5)-(8) report the results of the regression discontinuity estimation. Panels A, B, and C give estimates for state-based, non-state, and one-sided violence respectively. To preserve statistical power, given the lower levels of variation for non-state and one-sided violence the duration mechanism is not included in this analysis.

Results in Table A4 indicate, consistent with other results, that historical association with Austria-Hungary based on the 1910 border increases all types of conflict. Magnitudes of the point estimates are largest for state-based violence as expected given that most of the conflict events analysed are coded as this type. These estimates suggest that historical association with the empire based on the 1910 border increases the number of conflicts in a municipality by 4 - 6 per 10, 000 people.

Results of the regression discontinuity also give positive and significant coefficients for many of the models, however including the full set of covariates only give significant point estimates for one-sided violence. This may stem from the limited amount of variation found near the border for the different types of conflict,

Looking at the 1867 border, in Table A5 we find, again, consistently negative coefficients across all estimates of the border specification with varying levels of significance. Point estimates on state-based violence as well as ethnic polarization are consistent with the results presented in Table 2, given that there is slight attenuation from splitting the number of conflicts into three groups. However, in the specification with the full set of covariates in Column (4), the coefficient for Austria-Hungary is insignificant for all three conflict types.

The regression discontinuity results for non-state, and especially one-sided, violence are entirely null, probably resulting, once again, from very little variation in this variable around this border.

These results are therefore consistent with the above analysis, and we do not find clear evidence of heterogeneous effects of historical association with Austria-Hungary relating to the types of conflict, but rather only due to the different borders.

Conflict-Level Analysis

Finally, I also present results of limited analysis done at the conflict level to better capture conflict intensity. Here, I estimate the relationship between historical association with Austria-Hungary and conflict intensity, using the best estimate of casualties in a given conflict event as the outcome variable. Here, I am able to determine if there is a differential

effect of conflict intensity not only in incidence, as in the analysis above, but also severity. The results of this estimation are presented in Table A6.

I am especially concerned that results for the 1910 border will be driven by events with high numbers of casualties, specifically at Srebrenica, located close to the border. However, we can see the results of this estimation indicate that there are no significant differences in conflict severity on either side of the border, as significant results are only reported for the 1910 border in the model including ethnic and geographical controls, but not the full set of census controls. These results suggest that the above analysis is not missing this important dimension relating to intensity for either border.

6.3 Falsification Tests

Pseudo-Borders

I expect that moving each borders “inwards” and “outwards” by 100 km and updating the indicator for association with the empire, as necessary, will result in the estimation of null effects. The results of these estimations can be seen in Table A7. Here “Outwards” means shifting the border roughly Southeast away from Budapest and Vienna, “Inwards” is the opposite.

Panel A, Columns (1)-(4) report null, insignificant estimates for the effect of historical association with the Pseudo-Austria-Hungary and the number of conflicts, consistent with my predictions. However, the point estimates for the Pseudo-Austria-Hungary are negative and significant in all specifications except the one with the full set of covariates where the sign of the coefficient also changes. When comparing these point estimates with those in the main model in Table 1 and the model with the mechanism Table 3, where In Panel B, columns (1)-(4) the indicator for Pseudo-Austria-Hungary reports positive, significant point estimates which shrink in magnitude and significance, becoming insignificant in the model with the full set of covariates. Interestingly, again here we see that the sign is the opposite of the sign on the coefficients for the same variable in all other specifications.

Panel A Columns (5)-(8) report a negative and statistically significant relationship in all specifications except for where the model includes of the full set of controls, which renders the coefficient of interest insignificant and flipping the sign on the point estimate. Panel B Columns (5)-(8) report positive and statistically significant point coefficients with varying significance and magnitudes in all specifications. As the “outwards” estimation moves the border away from the center of the empire, this estimation may be identifying conflict intensity around the border here or another factor. As such, this is an imperfect measure, which is why we turn to the results of the pseudo-border specification estimated using regression discontinuity, which are reported in Table A8

We see that the results of the regression discontinuity estimation using the pseudo-borders gives insignificant coefficients in all but one specification, and are often close to zero in many specifications.

The results of this falsification test are therefore unclear, but the regression discontinuity results appear to indicate that the relationship I am exploring is the effect of the empire’s border, rather than another reason entirely.

7 Discussion

The results highlighted in the above section appear to indicate that association with Austria-Hungary is predictive of lower incidence of conflict per capita. The results of Table 3 emphasize that longer association with the empire appears to drive the negative relationship found in the basic model for the 1867, or more permanent, border. This mechanism is consistent with cultural persistence as the driver of the identified relationship. As well, the positive relationship found between conflict incidence and association with Austria-Hungary based on the 1910 border may stem from idiosyncracies related to the Bosnian War. and should be explored further.

The positive and statistically significant coefficients suggesting a strong relationship be-

tween ethnic polarization and conflict are also consistent with the findings of Montalvo and Reynal-Querol (2005), and the importance of ethnic divisions as a predictor of conflict. These results also provide an avenue for future research examining the interplay, and relative importance between various factors as determinants of conflict.

These results have a number of limitations. Evidently, my study suffers from serious endogeneity issues regarding collinearity between these historical borders, the republic borders in the former Yugoslavia, and modern-day borders in the region. While I have tried to address this in various ways, it remains that the effect I have identified may be driven by more contemporary borders and the differences resulting from those. Additionally, as identified above, cross-border population transfers creating spillovers fundamentally violate assumptions of regression discontinuity designs. Additionally, how the indicator for historical association with Austria-Hungary, as defined in Section 4 above, it will follow that some municipalities in the “control” sample, not defined as part of Austria-Hungary, will have been a part of the empire at some point prior to 1910. Nevertheless, the length of association with the empire for each of these areas is less than a quarter century, so as per the mechanism identified throughout this paper and the results of Grosjean (2011b), these areas should not see persistent effects stemming from association with the empire.

Furthermore, areas which experienced conflict are often chosen strategically and this has important implications for my results. The context of the Yugoslav Wars puts Serbia, whose municipalities were more often than not excluded from Austria-Hungary, as the aggressor nation which by nature of the conflict, experienced less conflicts in general. This is a glaring concern for the identification strategy and has only been imperfectly accounted for. This, in addition to conflict persistence between the Second World War, as well as the resulting population transfers, are two avenues for potential future research.

This paper has identified various avenues for potential future research which can be explored further, including differential effects stemming from long-term effects of the different administrative policies implemented by Austrian versus Hungarian administrations.

These differences present opportunity to exploit within country variation in, for instance, Croatia by comparing outcomes in Dalmatia and the rest of the country to determine whether these differential policies have persistent effects on a number of potential outcomes. As well, my results do not explore whether any purported decline in institutional quality and internal tension, and subsequent lasting cultural effects, between Austrian and Hungarian administrations as outlined in Section 3, have a lasting impact on outcomes. This is therefore yet another avenue for future research.

Finally, another path for future research would explore the connection between these results and the results found in Becker *et al.* (2015) to determine whether trust in the state and institutions were affected by this conflict or alternatively by specifically examining the mechanism of trust at the individual level as well. While Becker *et al.* (2015) do not find significant effects of the empire on individual levels of trust in others, this can be explored further.

8 Conclusion

The results of this paper provide additional evidence to the effect of long-gone empires on contemporary outcomes, and the effect of cultural persistence from institutions. Comparing areas on either side of two borders of Austria-Hungary, I find that a longer duration of historical association with the Austro-Hungarian Empire appears to lower the incidence of violence during the Yugoslav Wars. These results are robust to narrowing the specification bandwidth to within 25km of this border as well as examining three different types of conflict. I find positive and statistically significant effects when examining those areas in Bosnia-Herzegovina occupied and annexed within the last 50 years of the empire's existence, the mechanism for which should be explored further in future research.

My results suggest that those municipalities in Yugoslavia formerly a part of Austria-Hungary based on the 1867 border experienced 4-5 fewer conflict events during the Yugoslav

Wars relative to those without the same duration of imperial rule. The magnitude of these estimates are larger using the results of a regression discontinuity design and appear to be driven by those municipalities with longer association with the empire.

While these results are consistent with other findings in the related literature, they are mostly suggestive and face a number of issues. This analysis, however, opens ample opportunities to further explore this context.

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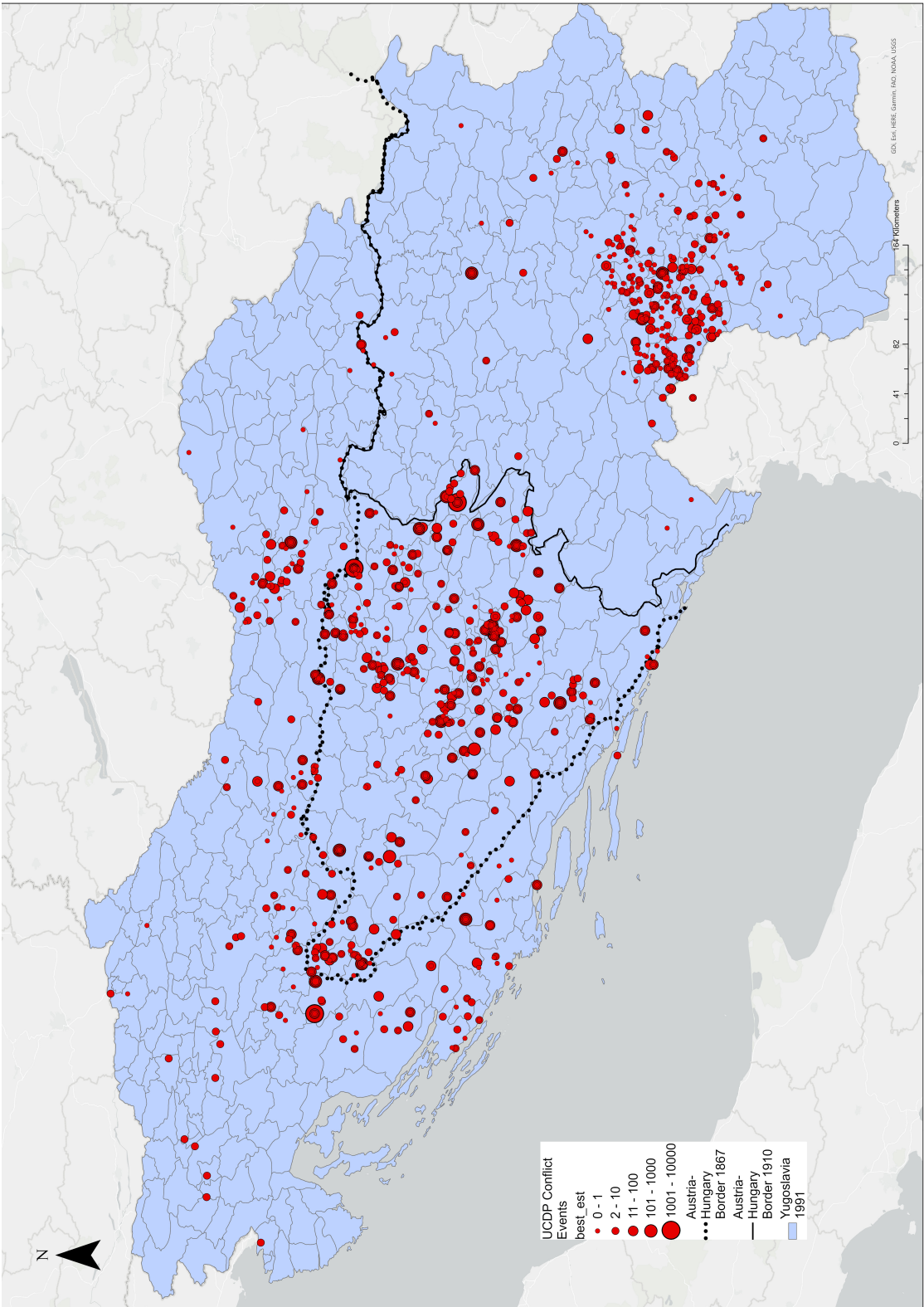


Figure 1: Map

Table 1: 1910 Border Main Results

	(1)	(2)	(3)	(4)	(5)
Panel A: Border Specification					
Austria-Hungary	6.820*** (1.227)	0.264* (0.147)	7.108*** (1.318)	4.893*** (0.978)	6.967*** (1.997)
Ethnic Polarization				7.444*** (1.666)	11.05*** (2.900)
Observations	367	367	367	349	315
R^2	0.093	0.179	0.099	0.128	0.204
Panel B: Regression Discontinuity					
Conventional	11.84*** (3.432)	11.84*** (3.432)	11.63*** (3.411)	6.886* (3.987)	6.349* (3.794)
Bias-corrected	12.01*** (3.432)	12.01*** (3.432)	11.64*** (3.411)	5.595 (3.987)	4.778 (3.794)
Robust	12.01*** (4.063)	12.01*** (4.063)	11.64*** (4.048)	5.595 (4.179)	4.778 (4.051)
Observations	500	500	500	466	428
Country FE	No	Yes	No	No	No
Geography Controls	No	No	Yes	Yes	Yes
Census Controls	No	No	No	No	Yes

Standard errors are clustered by municipality.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 2: 1867 Border Main Results

	(1)	(2)	(3)	(4)	(5)
Panel A: Border Specification					
Austria-Hungary	-3.574*** (0.727)	0.624 (0.521)	-3.547*** (0.698)	-2.650*** (0.542)	-1.299 (0.906)
Ethnic Polarization				9.561*** (1.744)	9.824*** (2.088)
Observations	474	474	474	463	428
R^2	0.029	0.200	0.029	0.115	0.145
Panel B: Regression Discontinuity					
Conventional	-5.147** (2.478)	-5.147 *** (2.478)	-4.462* (2.337)	-8.559** (3.894)	-7.134* (3.911)
Bias-corrected	-5.759** (2.478)	-5.759*** (2.478)	-4.783** (2.337)	-9.280** (3.894)	-7.064* (3.911)
Robust	-5.759* (3.006)	-5.759*** (3.006)	-4.783* (2.856)	-9.280* (4.779)	-7.064 (4.903)
Observations	500	500	500	466	428
Country FE	No	Yes	No	No	No
Geography Controls	No	No	Yes	Yes	Yes
Census Controls	No	No	No	No	Yes

Standard errors are clustered by municipality

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

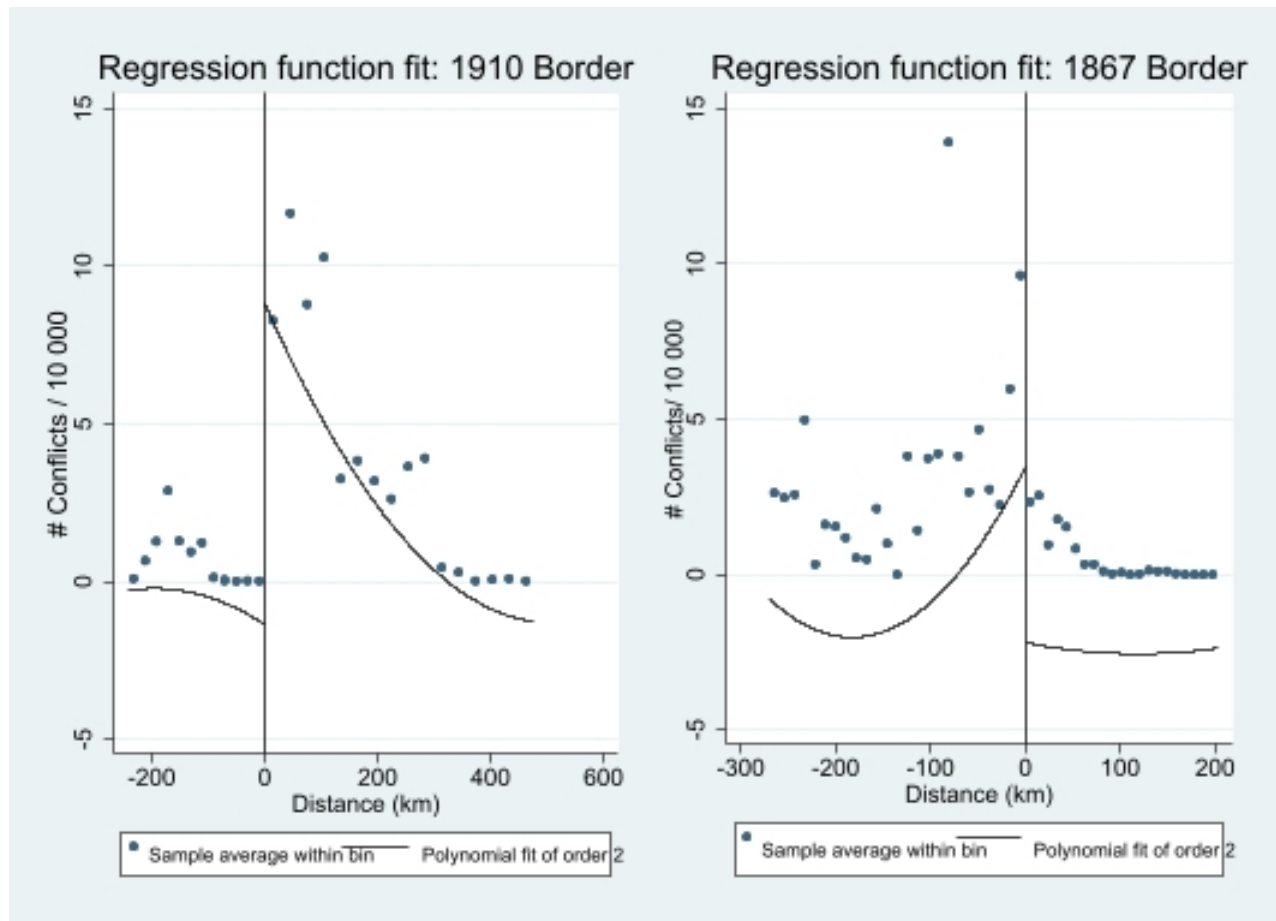


Figure 2: Regression Discontinuity Plots

Table 3: Duration of Association with Empire

	1910 Border			1867 Border				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A:								
Austria-Hungary	6.471*** (1.138)	6.775*** (1.230)	4.473*** (0.869)	7.265*** (1.993)	-0.260 (0.360)	-0.0126 (0.398)	1.815** (0.730)	4.072*** (1.508)
>100 years under A-H	-3.663*** (0.840)	-3.725*** (0.854)	-4.522*** (1.001)	-4.264*** (0.857)	-4.566*** (0.978)	-4.707*** (1.038)	-5.632*** (1.220)	-6.992*** (1.419)
Ethnic Polarization			8.353*** (1.808)	11.05*** (2.886)			10.26*** (1.854)	11.41*** (2.339)
Observations	367	367	349	315	474	474	463	428
R ²	0.119	0.126	0.165	0.221	0.056	0.057	0.149	0.175
Panel B:								
Austria-Hungary	6.364*** (1.117)	6.629*** (1.185)	4.132*** (0.796)	7.051*** (1.984)	-2.052*** (0.486)	-0.977** (0.448)	0.0931 (0.654)	1.196 (1.173)
> 200 years under A-H	-2.319*** (0.673)	-3.566*** (1.017)	-4.971*** (1.325)	-4.915*** (1.117)	-2.897*** (0.672)	-4.108*** (1.079)	-4.168*** (1.162)	-4.220*** (1.088)
Ethnic Polarization			8.757*** (1.949)	11.59*** (2.948)			9.692*** (1.764)	10.30*** (2.163)
Observations	367	367	349	315	474	474	463	428
R ²	0.103	0.118	0.160	0.220	0.044	0.051	0.135	0.158
Geography Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Census Controls	No	No	No	Yes	No	No	No	Yes

Standard errors are clustered by municipality

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Appendix

Table A1: Summary Statistics

	Mean	SD	Min	Max	N
Centriod Distance to:					
1910 Border	160.53	129.27	0.86	477.47	514
1867 Border	95.24	76.34	0.86	362.46	514
Duration of Habsburg affiliation	137.48	170.85	0	497	514
Number of Conflicts per 10, 000:					
Total	2.83	9.82	0	150.38	500
State-Based	2.45	9.15	0	143.93	500
Non-State	0.22	1.05	0	15.45	500
One-Sided	0.17	0.63	0	9.34	500
Ethnic Polarization	0.46	0.31	0.004	0.99	466
Ethnic Fractionalization	0.28	0.21	0.002	0.74	466
Population Density	125.55	339.94	6	5,270	436
Yugoslav National Army Presence	0.09	0.29	0	1	436
WWII Casualties	1298.23	1954.28	32	16333	499
Proportion Employed in Social Sector	0.60	0.22	0	1	436
Education	7.82	1.17	5	12	436
GDP per capita	8.65	5.52	1	59	436
Government Expenditure	1.44	4.87	0	98	436
State Capacity	0.14	0.13	0	2	436

Table A2: 1910 Border Bandwidths

	200km	150km	100km	50km	25km
Panel A: Main Model					
Austria-Hungary	7.288*** (2.052)	7.515*** (2.204)	10.37*** (3.105)	8.949** (3.421)	7.565* (3.891)
Ethnic Polarization	11.29*** (3.070)	11.47*** (3.356)	11.32*** (4.144)	14.71 (9.468)	4.950 (4.333)
Observations	288	256	194	109	58
R^2	0.208	0.216	0.243	0.257	0.254
Panel B: Duration					
Austria-Hungary	7.159*** (2.018)	7.208*** (2.163)	9.785*** (3.064)	8.773** (3.459)	7.526* (3.922)
Ethnic Polarization	12.06*** (3.143)	12.30*** (3.424)	12.48*** (4.274)	15.20* (8.944)	5.450 (4.736)
>200 years under Habsburgs	-4.947*** (1.206)	-4.836*** (1.275)	-3.801** (1.543)	-1.287 (3.183)	-1.610 (2.554)
Observations	288	256	194	109	58
R^2	0.222	0.227	0.249	0.257	0.255
Panel C: Regression Discontinuity					
Conventional	8.709** (3.515)	8.075** (3.748)	6.321* (3.807)	6.321* (3.807)	6.170 (4.042)
Bias-corrected	6.466* (3.515)	4.842 (3.748)	5.693 (3.807)	5.693 (3.807)	0.415 (4.042)
Robust	6.466 (4.006)	4.842 (3.937)	5.693 (4.687)	5.693 (4.687)	0.415 (3.516)
Observations	428	428	428	428	428
Geography Controls	Yes	Yes	Yes	Yes	Yes
Census Controls	Yes	Yes	Yes	Yes	Yes

Standard errors are clustered by municipality

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A3: 1867 Border Bandwidths

	200km	150km	100km	50km	25km
Panel A: Main Model					
Austria-Hungary, no BiH	-1.261 (0.910)	-1.045 (0.951)	-1.904** (0.966)	-4.422*** (1.412)	-2.834 (1.925)
Ethnic Polarization	9.964*** (2.107)	10.73*** (2.298)	12.25*** (3.216)	12.15*** (2.604)	15.59*** (4.011)
Observations	421	386	292	154	81
R^2	0.146	0.152	0.158	0.272	0.368
Panel B: Duration Mechanism					
Austria-Hungary, no BiH	1.327 (1.202)	2.402 (1.457)	2.414 (1.578)	-0.273 (1.741)	0.179 (2.500)
Ethnic Polarization	10.48*** (2.189)	11.77*** (2.491)	14.01*** (3.546)	13.79*** (2.900)	16.80*** (4.221)
>200 years under Habsburgs	-4.382*** (1.125)	-5.639*** (1.426)	-7.168*** (1.756)	-6.561*** (1.925)	-4.945* (2.670)
Observations	421	386	292	154	81
R^2	0.160	0.172	0.185	0.306	0.380
Panel C: Regression Discontinuity					
Conventional	-5.765*** (1.482)	-6.071*** (1.698)	-6.090*** (2.134)	-6.090*** (2.134)	-12.19** (6.036)
Bias-corrected	-6.366*** (1.482)	-6.838*** (1.698)	-7.764*** (2.134)	-7.764*** (2.134)	-29.16*** (6.036)
Robust	-6.366*** (2.413)	-6.838** (2.728)	-7.764** (3.383)	-7.764** (3.383)	-29.16** (13.73)
Observations	428	428	428	428	428
Geography Controls	Yes	Yes	Yes	Yes	Yes
Census Controls	Yes	Yes	Yes	Yes	Yes

Standard errors are clustered by municipality

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A4: Conflict Types: 1910 Border

		Border Specification				Regression Discontinuity			
		(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Panel A: State Based Violence									
Austria-Hungary	5.968*** (1.153)	6.223*** (1.242)	4.310*** (0.917)	6.285*** (1.909)	Conventional	10.28*** (3.319)	10.07*** (3.309)	5.592 (3.731)	5.305 (3.522)
Ethnic Polarization			6.441*** (1.566)	9.745*** (2.775)	Bias- corrected	10.15*** (3.319)	9.796*** (3.309)	4.202 (3.731)	3.706 (3.522)
					Robust	10.15*** (3.900)	9.796** (3.892)	4.202 (3.867)	3.706 (3.733)
R^2	0.082	0.087	0.112	0.183		-	-	-	-
Panel B: Non-State Conflict									
Austria-Hungary	0.585*** (0.135)	0.604*** (0.147)	0.427*** (0.105)	0.440*** (0.144)	Conventional	0.868*** (0.329)	0.873*** (0.327)	0.693** (0.347)	0.361 (0.416)
Ethnic Polarization			0.606*** (0.186)	0.825*** (0.240)	Bias- corrected	0.877*** (0.329)	0.886*** (0.327)	0.700** (0.347)	0.340 (0.416)
					Robust	0.877** (0.402)	0.886** (0.398)	0.700* (0.424)	0.340 (0.502)
R^2	0.059	0.062	0.079	0.093					
Panel C: One-Sided Violence									
Austria-Hungary	0.266*** (0.0795)	0.281*** (0.0816)	0.156** (0.0711)	0.241*** (0.0615)	Conventional	0.645** (0.278)	0.671** (0.277)	0.670** (0.305)	0.540** (0.215)
Ethnic Polarization			0.397*** (0.110)	0.483*** (0.101)	Bias- corrected	0.660** (0.278)	0.690** (0.277)	0.778** (0.305)	0.620*** (0.215)
					Robust	0.660** (0.336)	0.690** (0.336)	0.778** (0.361)	0.620** (0.250)
R^2	0.034	0.038	0.057	0.310					
Observations	367	367	349	315		500	500	466	428
Geography Controls	No	Yes	Yes	Yes		No	Yes	Yes	Yes
Census Controls	No	No	No	Yes		No	No	No	Yes

Standard errors are clustered by municipality

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A5: Conflict Types: 1867 Border

Border Specification						Regression Discontinuity			
	(1)	(2)	(3)	(4)		(1)	(2)	(3)	(4)
Panel A: State-Based Violence									
Austria-Hungary	-3.182*** (0.678)	-3.157*** (0.647)	-2.383*** (0.503)	-1.216 (0.827)	Conventional	-4.372** (2.203)	-4.615** (2.288)	-7.394** (3.610)	-5.941* (3.556)
Ethnic Polarization			8.263*** (1.646)	8.586*** (1.991)	Bias -corrected	-4.678** (2.203)	-5.131** (2.288)	-7.857** (3.610)	-5.526 (3.556)
					Robust	-4.678* (2.701)	-5.131* (2.781)	-7.857* (4.457)	-5.526 (4.493)
R^2	0.027	0.027	0.100	0.126					
Panel B: Non-State Violence									
Austria-Hungary	-0.161* (0.0832)	-0.160** (0.0811)	-0.0758 (0.0689)	-0.0374 (0.109)	Conventional	-0.775 (0.474)	-0.720 (0.471)	-0.431 (0.380)	-0.309 (0.443)
Ethnic Polarization			0.856*** (0.204)	0.831*** (0.198)	Bias -corrected	-0.993** (0.474)	-0.933** (0.471)	-0.487 (0.380)	-0.321 (0.443)
					Robust	-0.993* (0.562)	-0.933* (0.558)	-0.487 (0.462)	-0.321 (0.543)
R^2	0.005	0.005	0.064	0.085					
Panel C: One-Sided Violence									
Austria-Hungary	-0.232*** (0.0469)	-0.230*** (0.0465)	-0.191*** (0.0392)	-0.0457 (0.0876)	Conventional	-0.0263 (0.110)	-0.0253 (0.106)	0.00351 (0.116)	-0.0221 (0.121)
Ethnic Polarization			0.442*** (0.102)	0.407*** (0.0810)	Bias -corrected	-0.0455 (0.110)	-0.0319 (0.106)	0.0286 (0.116)	0.0254 (0.121)
					Robust	-0.0455 (0.131)	-0.0319 (0.125)	0.0286 (0.144)	0.0254 (0.150)
Observations	474	474	463	428		500	500	466	428
R^2	0.030	0.030	0.075	0.243					
Geography Controls	No	Yes	Yes	Yes		No	Yes	Yes	Yes
Census Controls	No	No	No	Yes		No	No	No	Yes

Standard errors are clustered by municipality

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A6: Conflict Level Intensity: Casualties

	(1)	(2)	(3)	(4)
Panel A: 1910 Border				
Conventional	11.06 (10.77)	11.44 (11.06)	23.76* (13.11)	7.149 (11.02)
Bias-corrected	13.02 (10.77)	13.10 (11.06)	23.58* (13.11)	17.95 (11.02)
Robust	13.02 (12.70)	13.10 (12.87)	23.58* (13.31)	17.95* (9.494)
Panel B: 1867 Border				
Conventional	1.149 (7.693)	1.536 (7.710)	3.218 (8.168)	1.518 (7.365)
Bias-corrected	-1.001 (7.693)	-0.600 (7.710)	1.525 (8.168)	1.553 (7.365)
Robust	-1.001 (7.700)	-0.600 (7.678)	1.525 (8.278)	1.553 (8.732)
Observations	5952	5952	5902	5401
Geography Controls	No	Yes	Yes	Yes
Census Controls	No	No	No	Yes

Standard errors are clustered by municipality

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A7: Pseudo-Borders

	Moved Inwards			Moved Outwards				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: 1910 Border								
Pseudo-Austria-Hungary	0.275 (0.935)	0.339 (0.927)	-0.153 (0.923)	0.657 (0.929)	-3.258*** (0.511)	-3.184*** (0.482)	-1.815*** (0.358)	1.925 (1.830)
Ethnic Polarization			10.62*** (1.948)	11.26*** (2.397)			9.699*** (1.814)	10.66*** (2.205)
Observations	440	440	406	370	500	500	466	428
R^2	0.000	0.001	0.100	0.145	0.014	0.015	0.103	0.145
Panel B: 1867 Border								
Pseudo-Austria-Hungary	3.545*** (0.899)	3.715*** (0.978)	1.520* (0.778)	2.899 (1.847)	2.044*** (0.735)	2.260*** (0.814)	1.421* (0.851)	3.114** (1.473)
Ethnic Polarization			10.81***	14.01***			10.24***	10.52***
Observations	339	339	305	272	477	477	443	406
R^2	0.020	0.022	0.094	0.165	0.008	0.011	0.102	0.153
Geography Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Census Controls	No	No	No	Yes	No	No	No	Yes

Standard errors are clustered by municipality

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A8: Pseudo-Border 1910: Regression Discontinuity

	Moved Inwards			Moved Outwards				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: 1910 Border								
Conventional	-0.913 (0.863)	-1.042 (0.805)	-1.763 (1.207)	-0.0103 (0.0944)	-1.190 (4.649)	-3.753 (3.998)	-3.533 (3.286)	1.196 (4.854)
Bias-corrected	-0.684 (0.863)	-0.959 (0.805)	-2.350* (1.207)	-0.00221 (0.0944)	0.179 (4.649)	-2.742 (3.998)	-2.971 (3.286)	2.330 (4.854)
Robust	-0.684 (1.166)	-0.959 (1.134)	-2.350 (1.514)	-0.00221 (0.131)	0.179 (5.399)	-2.742 (4.681)	-2.971 (3.757)	2.330 (5.597)
Panel B: 1867 Border								
Conventional	2.652 (3.247)	2.782 (3.224)	1.915 (3.292)	2.453 (3.006)	-0.0619 (0.111)	-0.0624 (0.107)	-0.0741 (0.110)	1.196 (4.854)
Bias-corrected	2.128 (3.247)	2.224 (3.224)	1.511 (3.292)	2.291 (3.006)	-0.0996 (0.111)	-0.101 (0.107)	-0.111 (0.110)	2.330 (4.854)
Robust	2.128 (3.693)	2.224 (3.674)	1.511 (3.721)	2.291 (3.866)	-0.0996 (0.134)	-0.101 (0.131)	-0.111 (0.133)	2.330 (5.597)
Observations	500	500	466	428	500	500	466	428
Geography Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Census Controls	No	No	No	Yes	No	No	No	Yes

Standard errors are clustered by municipality

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

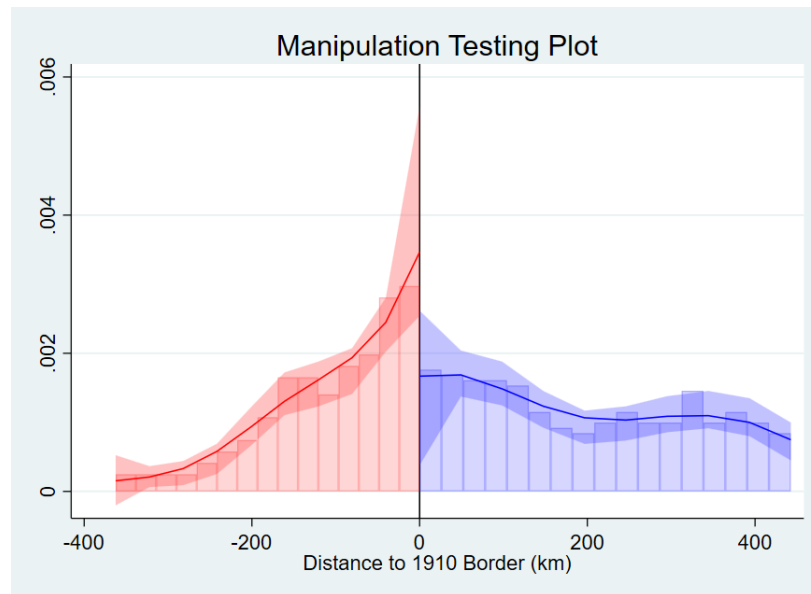


Figure A1: McCrary Density Test for 1910 Border

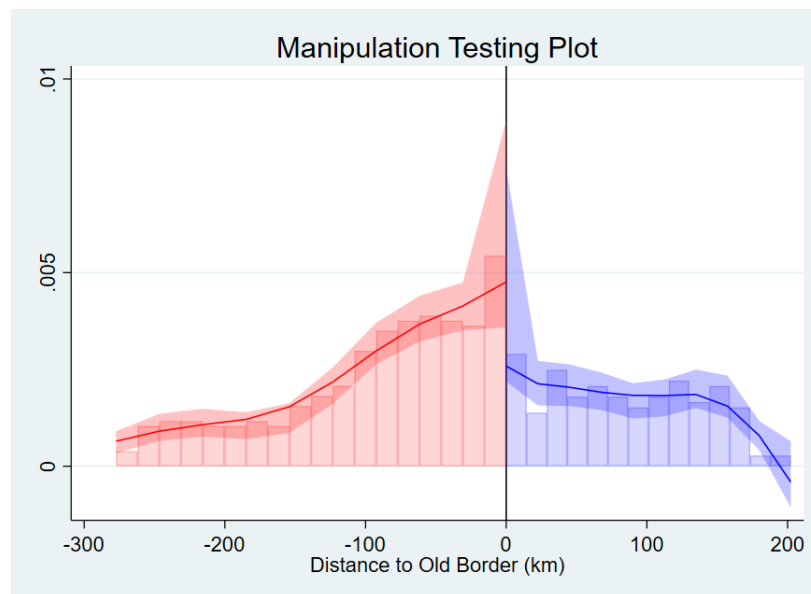


Figure A2: McCrary Density Test of Distance for 1867 Border