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# Essays on Economic History

Marco Lavoratornovo

Tesi di dottorato "Essays on Economic History"  
di LAVORATORNOVO MARCO

discussa presso Università Commerciale Luigi Bocconi-Milano nell'anno 2019

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# The Effect of German Refugees on the Social Capital of West Germany

Marco Lavoratornovò

## Abstract

This paper analyses the long-term effects of a forced migration on the social capital of the receiving society. At the end of the Second World War, more than 10 million of ethnic Germans were expelled from eastern Europe and forced to resettle in West Germany. Most of them lost within a few days their house, their personal effects, and their network of friends and contacts. How did this impact the social capital of West Germany? We focus our attention on German counties, exploiting as an instrumental variable the fact that the French authorities did not accept refugees in their zone of occupation. We found that a higher share of refugees in a county is associated with a higher level of social capital in the first 15-20 years after the war.

## 1 Introduction

In the final months of the Second World War, millions and millions of ethnic Germans moved from Eastern Europe to the western regions of Germany, fleeing from the advancing Red Army. By the time of the first census in 1950, roughly 8 million displaced ethnic Germans, so-called *Vertriebene*, lived in West Germany, approximately 16% of the total West German population (see Table 1). While most of refugees doubted in the beginning that their displacement would be permanent, by 1950 at the latest it was clear that return was impossible. The integration of the expellees became one of the highest priority in post-war West Germany. Between 1950 and 1961, roughly 2.5 million refugees fled from East Germany and the eastern Europe, running away from the newly-established communist regimes. The expellee flow reduced drastically only after the construction of the Berlin wall in 1961.

In this study we want to analyze the long-term effects of the refugees and of their children on the level of social capital in West Germany. When the newcomers arrived in their new homeland, they had lost all their belongings and all their network of friends and contacts. They were deprived of both their physical and social capital. In their new place of residence, the refugees had to face enormous challenges: they had to find a shelter, a job, and enough food in a country devastated by the war and, at the same time, find a place in the fabric of a new community. However, they hardly could have been in worse conditions, suffering from the physical and mental consequences of their flight. Many were traumatized by what they had suffered. Moreover, once they finally reached West Germany, they had to confront a local population often unsympathetic, even hostile, to their situation. From previous studies, we know that trauma and conditions of economic distress are correlated with a decrease in the social capital. For example, a person who has just lost the job will be less inclined to trust other people or to be involved in political activities. Thus, the harsh conditions faced by the refugees in West Germany could have caused a negative shock to their ability to rebuild their social capital. As a consequence, we should observe a negative correlation between the share of refugees and the amount of social capital in a county. On the other hand, the arrival of refugees was accompanied by a wave of political and cultural activism, the newcomers established many associations and clubs and they influenced the government's policies to improve their status. If this is true, we should observe a positive correlation.

Social capital has received increasing attention in the recent decades and is considered one of the main determinants of economic growth, but it is often difficult to explain its presence or absence in a region. Many historical events may have triggered or impaired the process of its accumulation, one of these is immigration. The movement of peoples is a constant in history and it will probably become even more widespread in the future. For this reason, we think that it could be interesting to study a similar event that happened in the past.

Another reason lies in the very magnitude of the episode; the expulsion of the ethnic Germans was the greatest movement of peoples in the history of Europe. This permits us to observe its long-run effects on a state of 80 million. As the unit of observation we focus on German counties. As indicators of social capital we use voter turnout in the parliamentary elections and the number of non profit organizations per 10.000 inhabitants in 2015. Refugees did not randomly select where to resettle, so we cannot use a OLS estimation. We exploit as an instrument the former French zone of occupation, as the French authorities did not accept refugees in their zone. As a consequence, the share of refugees in the counties of the former French zone is lower than in the rest of West Germany. We found that a higher share of refugees in a county is associated with a higher voter turnout in the first 15-20 years after the end of the Second World War. This result is robust to the use of a smaller and more local sample. Instead, if we consider the period after 1980 a lower negative correlation is present between the share of refugees and our indicators of social capital, however these results are not confirmed by the analysis at the local level. A possible mechanism to explain our results is to consider the positive response of the refugees to their difficult situation in the very first years after the war. The extremely difficult economic and social conditions of the expellees in the postwar years and their sense of estrangement in a foreign land triggered the establishment of many political and cultural associations. They had different aims, but they all represented the willingness of the refugees to be an active part in the new German society. The voter turnout could be a consequence of this political activism. The common experience of the expulsion could have stimulated the creation of a common bond between the newcomers.

The economic and social integration of ethnic German expellees has received considerable attention in the last years. These studies focused on the effects on the expelled Germans and on the effects on post-war Germany and its native inhabitants. For example, Bauer et al. (2013) found that the displaced Germans suffered long-term negative effects on their economic outcomes, they had lower incomes and higher unemployment risks compared to similar native Germans, even 25 years after resettlement. This economic disadvantages seem to have not been limited to the refugees themselves, but they were somehow transmitted to their children who were also economically worse off than their native peers. Braun and Kvasnicka (2014) showed that the inflow of displaced ethnic Germans accelerated the reallocation of workers from low-productivity jobs in agriculture to high-productivity positions in manufacturing and services. One reason is that many displaced farmers had to find work in other sectors due to the absence of free arable land in the overpopulated West Germany. Finally, Semrad (2015) studies the long-term effects on educational outcomes, finding that the settlement of Sudeten Germans in the rural districts of Bavaria significantly improved the share of children in middle track secondary education 20 years later. This could be explained by the strong preferences of Sudeten refugees for secondary schooling, especially in form of a practical and business related education school. In this study we are interested in observing the effect of the

refugees on the social capital of West Germany. To the best of my knowledge, this is the first paper that tries to analyze how and if the newcomers influenced the process of accumulation of social capital. The expulsion and resettlement of ethnic Germans at the end of the Second World War provides us with the opportunity to study the connection between refugees and social capital on a unprecedented scale.

## 2 Historical background

### 2.1 Flight and expulsion

Ethnic Germans began to settle in the regions east of the Elbe river in the 9th and 10th century. By the end of the 13th century, the process of colonization and assimilation of the local Slavic peoples was essentially completed. Germans were the majority of the population or a significant minority in Pomerania, West Prussia, East Prussia, Sudetenland, and Silesia (see Figure 1). In the following centuries, ethnic Germans lived more or less peacefully side by side with the local populations. During the 19th century, relations with other ethnic groups became increasingly more strained, mainly due to the rise of nationalist sentiments. According to the new nationalistic doctrine, only homogeneous nation-states had the right to exist, and their borders had to be drawn along the ethnic lines. All other ethnic groups inside the new states had to be assimilated or expelled. In eastern Europe, where in many regions two or three different ethnic groups lived together, similar opinions were bound to trigger conflicts and anger. A turning point was the Treaty of Versailles. The new borders drawn at the end of the First World War left about 7 million of Germans outside Germany and Austria. In the new state of Czechoslovakia, Germans were more numerous than Slovaks, representing the second ethnic group of the country; nevertheless, the local Germans felt being mistreated and discriminated by the new state. Similar conflicts arose between German minorities and local populations in the Baltic states, Poland, Romania, and Yugoslavia. The Nazis' rise to power exacerbated the already existing problems. In Czechoslovakia the Sudeten Germans became a fifth column which aided Germany's expansionism. Nazis' rule over Central Europe during the war persuaded many that a peaceful coexistence between Germans and non-Germans was not possible. Thus, when the advancing Soviet troops arrived in the Balkans and in Central Europe, the local populations began to exact revenge on the German minorities who, rightly or wrongly, were perceived as responsible for many atrocities committed by the German occupation forces, and as a source of problems that was necessary to eliminate. These sentiments were shared by many politicians, the former Czechoslovakian president Beneš publicly asked the expulsion of German from his country already in 1941.



The first wave of refugees was triggered by the advance of the Red Army. The brutality with which they treated the German civilian population led to a huge exodus of refugees. The Vistula–Oder offensive, launched by the Soviet Army on 12 January 1945, triggered the flight of about 4 millions of ethnic Germans from Upper and Lower Silesia, Pomerania, Brandenburg and Danzig. Some 2.4 millions refugees were evacuated by ship from the Baltic Sea ports to Schleswig-Holstein, the other escaped overland in the so-called "treks". The flight of Ethnic Germans from their homelands in South Eastern Europe also began in the autumn of 1944, as soon as the local populations in Hungary, Yugoslavia and Romania regained power. The end of the war witnessed the beginning of the so-called "wild" or "spontaneous" expulsion, the second wave was carried out by the native populations of Poland and Czechoslovakia against their German minorities. According to local reports, the civilian population treated the Germans with even greater brutality than the Soviet troops. The few remaining valuables that refugees still possessed were often stolen by local police officers. Germans continued to be expelled from Poland during the autumn of 1945 under extremely harsh conditions. Expulsion on a smaller scale continued until 1950. Refugees suffered from the physical and mental consequences of their flight and many were traumatized by what they had suffered.

## 2.2 The magnitude of the problem

By 1950, no fewer than 12 million of German refugees and expellees coming from the eastern part of the Reich and central Europe had settled in the four Occupation Zones. According to the census of September 1950, 7.9 millions were resident in the newly established West German state. They arrived in a country devastated by the war and the task of their integration was one of the most serious problem faced by the Allied and by the German authorities. The most numerous groups were the Silesians (2.053.000), Sudeten Germans (1.912.000), East Prussians (1.347.000), and Pomeranians (891.000). Smaller groups included people from East Brandenburg, the Baltic States, the former free city of Danzig, Soviet Union, Yugoslavia, Hungary, Romania, and Poland.

To deal with this enormous influx of people, West Germany passed a new law in 1953 to regulate the legal condition of the newcomers. Among other things, the Federal Law on Refugees and Exiles divided them into three categories: "refugees" (*Flüchtlinge*) who fled from the Soviet occupation zone (SOZ)/German Democratic Republic (GDR); "displaced people from the homeland" (*Heimatvertriebene*) who lived inside the 1914-1937 borders of Germany or in a former Austro-Hungarian territory on 31/12/1937; and common "displaced persons" (*Vertriebene*) who lived outside the German Reich on 31/12/1937. Children born to these displaced Germans inherited the displacement status of their parents. In this paper we will follow the previous works about German refugees and will use the expressions "refugees", "expellees", and "newcomers" interchangeably, unless indicated otherwise.

For the scope of this paper, it is important to point out that the refugees and expellees were unevenly distributed among the ten West German Länder (see Figure 2 and Tables 1 and 2). Quoting from the book of Ian Connor<sup>1</sup>

At the Postdam conference, the Allies gave a commitment to securing "an equitable distribution" of refugees "among the several zones of occupation". However, the French, who had not been invited to the conference, did not feel compelled to abide by the decision and at first refused to accept newcomers into their zone; consequently, Württemberg-Hohenzollern, Baden and Rhineland-Palatinate were still sparsely populated with refugees as late as 1950. As result, it was the American and British Occupation Zones which had to cope with the brunt of the refugee influx. However, even within these zones there were enormous variations. The vast majority of newcomers had to be accommodated in rural areas, where employment opportunities were scarce, because the Allied bombing campaign had created grave housing shortages in the large towns and cities where job prospects would have been more favorable. As a result, the mainly rural states of Bavaria, Lower Saxony and Schleswig-Holstein had to accommodate the majority of the newcomers. Yet, even here the refugees were not evenly distributed; as a rule, Schleswig-Holstein and the eastern parts of Lower Saxony were most severely overburdened with newcomers because their close geographical proximity to the GDR.

The refugees settled in the areas near to the border for another obvious reason: these were not only the first accessible safe regions, but in the case of return, which in the beginning many refugees were sure of, they were the closest regions to their homes. We will exploit the uneven allocation of the refugees as an instrument variable to predict their share in each county.

### 2.3 Refugees and native populations 1945-1950

The living conditions of the refugees in the very first years after the end of the Second World War were extremely harsh. In 1945 West Germany was hit by a food crisis which lasted until 1948, the housing shortage was extremely acute all over the country, and the currency reform of 1948, which introduced the Deutsche Mark, caused a sharp increase in the unemployment rate. In these generally negative circumstances, expellees, as the weakest part of the population, were generally more affected than the native population. Moreover, when they arrived in the Western Occupation zones they were without the financial resources to begin a new life. They had lost their savings, their homes, and everything they owned save for the most precious personal possessions. According to the American Military Government, 90% of refugees had no cooking or

<sup>1</sup>Connor Ian *Refugees and Expellees in Post-war Germany*. Manchester University Press, 2007.

household utensils as late as September 1949. Moreover, in their new homeland, the refugees lacked the "connections" of the native inhabitants. This means, for example, that they were less able to make use of the black market to buy food. Many refugees had to endure deplorable housing conditions in early post-war years. The housing situation on Germany was a source of concern even before WWII, and the Allied bombing campaign greatly exacerbated the housing shortage. For this reason, most of the refugees were reallocated to rural areas where war damages were negligible. The natives were forced by the Housing Law of 1946 to accept refugees into their homes if they had enough spare rooms. Nonetheless the refugees' living conditions were significantly worse than those of the indigenous inhabitants. In fact, according to the census of 1950, the average number of people per room was equal to 1.75 among the newcomers, but only 1.18 among the native population. The difference in the quality of housing between the two groups was even greater than these figures suggest, because the refugees were usually allocated in the smallest rooms of the house.

The relations between refugees and natives became increasingly strained in the period between 1945 and 1950. There is a general consensus that most of the inhabitants initially responded sympathetically to the refugees. However, these feelings of compassion began rapidly to disappear. This deterioration can be attributed to several reasons: the increasing awareness that the refugees were not temporary guests who would return home in the near future, but were likely to settle permanently in West Germany; the increasing willingness of the refugees to improve their economic status, challenging the interests of the native population; finally, the native population perceived these refugees as "foreigners", and so a threat to their cultural traditions and their way of life. In particular religion represented a major source of friction between the two groups, refugees were not able to self-select into migration, moreover the Western Powers and new state were unable to allocate the newcomers according to their religious affiliations. As a result, in 1950 1.2 million Catholic Germans were living in what were traditionally Protestant areas, while 770.000 Protestant refugees had been reallocated in almost exclusively Catholic communities. Thus, the newcomers substantially changed the denominational structure of many parts of West Germany<sup>2</sup>. The main source of conflicts between the two groups lies in the economic competition for scarce resources. West Germany was a country ravaged by the war. It could not provide its native population with enough food, basic commodities, or housing. In such conditions, many began to see the newcomers as an excessive burden. On their side the willingness of the refugees to establish social relations with the local people was impaired by the psychological trauma caused by the expulsion.

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<sup>2</sup>The number of exclusively Catholic or Protestant parishes (*Gemeinden*) in Bavaria fell from 1.564 at the outbreak of the Second World War to just nine in 1950.

## 2.4 Refugees and native populations since 1950

Between 1950 and 1961 roughly 2.5 million refugees fled to West Germany, mainly from the newly established German Democratic Republic (see Table 2). The original place of residence of some of the new refugees was in eastern Europe. Initially they resettled in the Soviet occupation zone, but in the 1950s they moved into West Germany attracted by the local economic and political conditions. The flight of eastern Germans citizens became so common that in 1961 the East German government erected the Berlin wall. After this date the refugee flux dwindled, even if it never stopped.

Meanwhile the *Wirtschaftswunder* ("Economic miracle") of the 1950s greatly improved the economic conditions of both the refugees and the natives. In this decade most of the newcomers were able to find a job and a better accommodation. However, the refugees were in 1961 still heavily underrepresented among the self-employed and this is probably due to a loss of social status that many had suffered. Several empirical studies have assessed the economic performance of the refugees: Paul Luttinger<sup>3</sup> (1986) concluded that the economic and social integration of the refugees and expellees at the beginning of the 1970s was not as advanced as had been assumed. During an economic recession, older newcomers, in particular, were more likely to be unemployed than locals. Thanks to their own efforts, government legislation and West Germany's swift post-war economic recovery, the refugees made impressive progress on the labor market during the 1950s and 1960s. However, many felt that they had experienced a loss of social status since they had been unable to resume their former professions, or that they had to work much harder than the local people to achieve the same results. With no more restriction to their movement, refugees moved from the rural areas to the cities. The proportion of expellees living in towns and cities with more than 100.000 inhabitants increased from 17.2% in 1950 to 27.6% in 1961. Generally speaking, however, the newcomers preferred to migrate to small or middle-sized towns where employment prospects tended to be more favorable.

While the refugees' economic and political integration in the West Germany was well advanced by the beginning of the 1960s, their integration into German society was a much longer and more difficult process. Case studies suggest that the relations between the refugees and the indigenous population gradually improved in the 1950s, though tensions frequently persisted. For the scope of this paper, the study of Rainer Schulze<sup>4</sup> (1991) is particularly relevant. He interviewed many former refugees or expellees of the rural district of Celle some 40-50 years after their flight or expulsion. The study reveals that many never

<sup>3</sup>Der Mythos der schnellen Integration. Eine empirische Untersuchung zur Integration der Vertriebenen and Flüchtlinge in der Bundesrepublik Deutschland. (The myth of rapid integration. An empirical study on the integration of expelled people and refugees in the FRG).

<sup>4</sup>Unruhige Zeiten. Erlebnisberichte aus dem Landkreis Celle 1945-1949 (Troubled Times. Reports from Landkreis Celle, 1945-1949).

felt fully accepted by the native population. The refugees drew attention to the fact that:

[...] admission to the natives associations, in particular to the prestigious voluntarily fire brigade associations, village church choirs, rifle associations and bowling clubs which were important in the social life of rural areas, was only granted hesitantly, and that in some places these traditional bastions of native rural elites often remained closed to them for decades.

### 3 Social Capital and Immigrants

The concept of social capital has become increasingly popular in the last 25 years and has been used by a wide range of social scientists, such as economists, sociologists, and political scientists. Social capital refers to "connections among individuals, social networks, and the norms of reciprocity and trustworthiness that arise from them"<sup>5</sup>. Individuals form connections that benefit their own interests, for example a network of friends can be useful to find a job. However, social capital can also have externalities that affect the whole society. It is often argued that a higher level of social capital leads to positive social and economic outcomes by reducing transaction costs. The seminal empirical study of Putnam (1993) about Italy's civic split between North and South points in this direction. Putnam explains the differences in regional development by looking at statistical proxies representing the civic community, the institutional performance and the local government performance. The economic success of Northern Italy can be explained by the existence in these regions of a "culture of trust".

A culture of trust exists when the overwhelming majority of players expect that in the overwhelming majority of transactions, other parties whose behavior cannot be fully monitored will not defect. A culture of trust is a systematic bias in favor of cooperative resolutions to multiple prisoner's dilemmas.<sup>6</sup>

Thus for example, in a culture of trust, an entrepreneur will spend less time and money to control and supervise her employees or her business partner. On the other side, a low level of social capital is often seen as the cause of economic backwardness, corruption, and low-quality institutions. Putnam suggested that Italy's underdeveloped South was plagued by a lack of "civic culture", drawing on the famous work by Banfield (1958) about "amoral familism". More problematic is trying to explain why one region moves towards a "culture of trust" and a good equilibrium, while another moves towards "amoral familism" and a bad equilibrium. It is usually assumed that the formation of the stock of social

<sup>5</sup> Robert Putnam, *Bowling Alone: The Collapse and Revival of American Community*. Simon and Schuster, 2000.

<sup>6</sup> Galassi Francesco, *Measuring social capital: Culture as an explanation of Italy's economic dualism*. European Review of Economic History, 2001

capital is a long-run process and that the level of social capital is very persistent through history. Thus, in the case of Italian dualism, Putnam conjectures that its origin can be traced back to the history of independence that some cities in the Central and Northern part of Italy experienced in the first few centuries of the second millennium. Tabellini (2010) showed the importance for European regions of the historical institutions in the period from 1600 to 1850. In this paper we want to consider a historical phenomenon that could have affected social capital in the long-run: emigration and in particular forced emigration. In the last decades, the issue of migrant resettlement and adaptation to a new culture have received increasing attention from social scientists. Forced migration has important political, social, economic implications for both the immigrants and the receiving societies.

How could the refugees have affected the social capital, especially in the long-run? First of all, we can think about a direct channel: the newcomers' network of connections was suddenly severed when they were expelled, and when they reallocated to West Germany many were too old or not in the psychological conditions to build a new network in their new homeland. This could be represented as a negative shock to the amount of social capital of the refugees. This could explain a negative effect in the immediate decades following the end of the Second World War, but not after 60 or 70 years. In this case, we can consider two indirect channels. Parental social life and parents' social capital are important sources of individual social capital into the adulthood. Refugees could have transmitted their shock to their children. The daughter of a refugee could have inherited a smaller number of contacts than the daughter of a native. In addition, if we focus on the local population, the arrival of refugees could have challenged community cohesion, reducing social solidarity and trust. The outcomes of this process are ultimately determined by the characteristics of immigrants and by the responses of the receiving society. From this point of view, *Vertriebene* had the advantage of being ethnic Germans, so they share with their hosts the same language, culture, and system of value apart from minor differences. The main sources of attrition between the refugees and the native population regarded religion, when Catholics expellees settled in Protestant district or vice versa, and the "urban culture" brought by the newcomers to conservative rural districts. More problematic was the second aspect, West Germany was not in the condition to accommodate 8 millions of refugees in the aftermath of the WWII; economic competition for scarce resources impaired relations between natives and immigrants. After a warm welcome, local populations showed themselves to be particularly unsympathetic to the conditions of the newcomers when they began to see them as rivals for food, jobs, and houses. This could have led to the creation of two sub-groups in the same community. On other hand, the impediments and difficulties suffered by the refugees could have created and strengthened a common bond between the newcomers. Many of them realized how important was to establish interest groups to improve their condition, as a consequence many expellee lobby groups were founded in the postwar years. For example, in 1950 Waldemar Kraft, a former member

of the Nazi party, founded the *Gesamtdeutscher Block-Bund der Heimatvertriebenen und Entrechteten* (All-German Bloc-League of Expellees and Deprived of Rights) a right-wing political party, which acted as an advocacy group for the refugees. The Federal Law on Refugees and Exiles was probably the most important achievement obtained by the GB-BHE and similar groups. The new law regulated the legal situation of the expellees, granted start-up loans and subsidies, encouraged the integration of the newcomers into the labour market, etc. Moreover, refugees built up a vast network of homeland societies and cultural associations to remember their lost homelands. Each village and towns of Silesia, Prussia, and Sudetenland had at least one of this association, their members met each year to commemorate their hometown. The expulsion and the postwar years could have created a new sense of membership and community among the refugees. We test these two different hypotheses in the next section.

## 4 Identification strategy

### 4.1 Data

We selected German counties as the unit of observation. Unfortunately several administrative reforms have occurred since 1949, in particular between June 1969 and August 1977 at least six considerable *Kreisreformen* were implemented to reduce the number of districts. West Germany was divided into 557 counties in 1950 and into only 328 counties in 1980, after this date no relevant changes occurred. For this reason, we are forced to analyze separately two periods of time: in the first period, between 1950 and 1969, we observe the "short run" effects of the refugees, while after 1980 we observe the "long run" effects. We have chosen the administrative division of 1969 as the reference year for first period and the administrative division of 1980 for the second period (Figure 3). To analyze whether the inflow of refugees in West Germany has affected social capital we have considered all counties of West Germany, save West Berlin and the Saarland. West Berlin was ruled out because of its particular political and geographical position. We have excluded the counties of Saarland too, as Saarland has been part of France until 1957, when it joined the Federal Republic of Germany as a new *Land*, following the results of a referendum. Counties are divided in 2 categories: cities (*Kreisfreie Städte*) and rural districts (*Landkreise*), in turn, *Landkreise* are divided in parishes (*Gemeinden*). *Kreisfreie Städte* and *Landkreise* correspond to the third level of the administrative units of the Nomenclature of Territorial Units for Statistics (NUTS 3). Characteristics of German counties are recovered from the Federal Statistical Office of Germany (*Statistisches Bundesamt*) and the censuses of 1950 and 1961. Besides general information about population structure, censuses reported the share of refugees, religion, and so on. Unfortunately intra-census data are not available at the county level until the 1990s.

### 4.1.1 Short Run Effects of the Refugees

As indicator of social capital in the short run we use voter turnout for the parliament elections (*Bundestagwahlen*) from 1953 to 1965<sup>7</sup>. Electoral turnout is a standard measure of political participation and "civic-ness". However Putnam in his work about Italy focused on turnout for referenda and not for parliamentary elections, because:

Turnout in Italian general elections, however, is marred as a measure of civic involvement for several reasons:

- Until recently Italian law required all citizens to vote in general elections, and although enforcement of this law was uneven, it presumably brought many people to the polls whose motivation was scarcely "civic."
- Party organizations have an obvious incentive to influence elections, and thus electoral turnout presumably varies with party organizational strength and activity, independently of the voters' own civic engagement.
- In many parts of the peninsula where patron-client networks are rampant, voting in general elections represents a straightforward quid pro quo for immediate, personal patronage benefits, hardly a mark of "civic" involvement.<sup>8</sup>

There have not been referenda at a national level in post-war Germany, so it is not possible for us to use voter turnout for referenda. As a second best, we focused on parliamentary elections. However, it is noteworthy that at least the first and third point listed by Putnam are not true for Germany. Thus, voter turnout as a indicator of social capital is probably more accurate in the German case than in the Italian one.

### 4.1.2 Long Run Effects of the Refugees

One issue we faced was how to match the data from the censuses of 1950 and 1961 with the administrative division of 1980. Partially, we can rely on "Die Entwicklungsphasen der Städte und Regionen im Spiegel der Volkszählungen"<sup>9</sup> a database with aggregate data from the censuses of 1950, 1961, 1970, and 1987 at the level of the 328 districts. However, not all the variables we were interested in were present in the database, so we had to build a method to convert the

<sup>7</sup>We use a total of 4 elections 1953, 1957, 1961, and 1965

<sup>8</sup>Putnam Robert D. with Leonardi Robert and Nonetti Raffaella, *Making Democracy Work: Civic Tradition in Modern Italy*. Princeton University Press, 1992.

<sup>9</sup>Schön, Karl P.; Hillesheim, Dieter; Kuhlmann, Petra: *Die Entwicklungsphasen der Städte und Regionen im Spiegel der Volkszählungen*. Bonn: Bundesforschungsanstalt für Landeskunde und Raumordnung, 1993. The database can be found on-line as "ZA2472 Kreisdaten (Volkszählungen 1950-1987)" in the GESIS site.



data from the administrative division of 1950 to the administrative division of 1980. The data of the "new" counties have been estimated on the basis of the population of the "old" counties.

Also in this case, our first indicator of social capital is the voter turnout for the parliament elections (*Bundestagwahlen*) from 1980 to 2013<sup>10</sup>. Data for counties according to the administrative division of 1980 have been kindly furnished by Statistisches Bundesamt itself. For the period after 1980, it is possible to recover more indicators of social capital. We use the number of non-profit organization per 10.000 inhabitants in 2015 as a second indicator. Data for non-profit organizations are recovered from the *Handelregister* (register of commercial companies), each *Amtsgericht* (local district court) in Germany has a public register that contains details of all tradespeople and legal entities in the district. The public register is divided in several branches (*Registerart*). For our purpose, the *Vereinsregister* (the register of associations) is the most relevant. It refers to all the local associations working in social, cultural, educational, sports and leisure field. There were more than 450.000 active associations registered in former West Germany in 2015. Membership in voluntary organizations is another widespread indicator of civic engagement. According to Putnam (1993): "Networks of civic engagement, like neighborhood associations, choral societies, cooperatives, sports clubs, and mass-based parties represent intense horizontal interaction. Networks of civic engagement are an essential form of social capital: the denser such networks in a community, the more likely that its citizens will be able to cooperate for mutual benefit". Networking is often considered an advantage for economic development, since associations facilitate the creation of collective goods and knowledge spillovers. Donations to charity are a third measure of social capital currently under construction (see below).

## 4.2 Identification Strategy

We cannot rely on an OLS identification strategy as clearly the refugees did not choose where to resettle randomly. They could have been attracted to counties with better social and economic conditions, for example, counties with better employment opportunities. Social capital is often correlated with economic conditions and this could lead to a problem of endogeneity. A higher level of social capital before the WWII should be correlated with better economic conditions after the WWII and so with a higher share of refugees in 1950 and 1961. If this is true, a simple OLS estimation would lead to underestimate the effect of the refugees on social capital. Endogenous location choices are likely to be less problematic in our specific historical context. The initial location of expellees was hardly driven by local conditions and the mobility of expellees and natives alike was severely restricted in the immediate post-war period. A normal German citizen could not resettle in another *Land* or move from the countryside

<sup>10</sup>We use a total of 10 elections 1980, 1983, 1987, 1990, 1994, 1998, 2002, 2005, 2009, and 2013

to a city without authorization. However, these restrictions gradually phased out in 1948-49, refugees may thus have relocate by 1961 based on unobserved factors. To deal with unobserved factors at the county level, we instrument the share of expellees in the counties.

In order to predict the flows of refugees, we exploit the fact that their initial distribution across West German counties was largely driven by geographical and political reasons. There are three main sources of exogeneity we could use:

- Expellees were heavily concentrated in areas near their homelands, as they sought shelter in the closest regions of what would become West Germany.
- The vast majority of newcomers had to be accommodated in rural areas, because of the grave housing shortage caused by the Allied air raids on the German cities.
- The French authorities accepted the refugees that had arrived in their zone of occupation before July 1945, but they refused to accommodate any new wave of immigrants until 1949.

All of these three factors have been extensively exploited in the literature about the German refugees. In this paper we chose to focus on the last one. The French refused to accept newcomers in their zone of occupation until 1949 in retaliation to not having been invited to the Yalta conference. As a consequence, the districts in the former French zone of occupation (FZO) have a lower share of refugees. Before May 23 1949, when the Federal Republic of Germany was founded and freedom of movement was restored again, a newcomer could reallocate in the FZO only if one of her relative already lived there and could guarantee for her. The geographical distance between the homelands of the *Vertriebene* and the FZO, about 400-800 km, make this possibility quite unlikely. The share of refugees in the FZO before January 1, 1949 was estimated to be 0.2%<sup>11</sup>. Once the ban was lifted, newcomers started to flow west. However, this discontinuity persisted even after the creation of West Germany. In 1961 the share of refugees was 9-10% on one side of the former border and 16-17% on the other side. In addition to the difference in sheer numbers, the French ban had another consequence. The native population came into contact with the flux of refugees when the most difficult postwar period had already passed and the German economy was on the verge of a economic miracle. The struggle between locals and newcomers for food, jobs, and houses had been probably milder in the French zone than in the American and English ones. Economic competition between two groups is usually correlated with a deterioration in the reciprocal relations, and, thus, in a reduction in the level of social capital. We chose to use the FZO as source of exogeneity mainly because its former border provide us with a clear line of discontinuity, allowing us to perform a local analysis to minimize the effects of the unobservable variables (see below). Thus, as our

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<sup>11</sup> They consisted mainly of 150-200.000 refugees arrived before July 1945 and about 50.000 expellees from Denmark

instrument variable we consider a dummy variable taking value 1 if the district was in the former French zone, and 0 otherwise (Figure 4)

May we consider the French zone of occupation as a good instrument for our identification strategy? We must make sure we are not measuring a pre-existing difference in the level of social capital. Germany was divided in many states and statelets before 1871; moreover, regions and local communities retained a grade of sovereignty even after unification. Thus, we need to control if the border of the FZO follows a old boundary. The administrative division of Germany during the Weimar Republic and Nazi regime was mainly based on that of Imperial Germany, so internal borders between 1871 and 1939 remained more or less constant. The overlapping between the border of the French zone and the old administrative division is limited to a section of about 250 kilometers, 25% of the overall length of the border of the French zone (Figure 6). Moreover, the FZO was created joining a part of the British zone, Rhineland-Palatine, to a part of the American zone, the southern part of Baden Württemberg and Lindau county (see Figure 7). As a result, the FZO was formed by two regions that have never been under the same State before 1871, or in the same subdivision after 1871. Thus, the effect we observe should not have been caused by a previous administrative division. Second, we have to take into account the consequences of the Second World War. The war may have hit the regions east to the borders of the FZO differently than the regions west of the border. Thus, we added to our set of control variable a proxy for the impact of the war. The house section of the 1950 census contains information about "war damage to normal residential buildings" (*Kriegsschäden an Normalwohngebäuden*). It indicates, for each county, the share of residential buildings still inhabited in 1950 that were damaged during the war.

### 4.3 Models and Results

To test whether the share of refugees in a county is associated with a variation in the level of social capital, first of all, we run the first stage regressions to predict the destination of expellees. In the case of voter turnout we have:

$$Refugees_{i,t} = \alpha_0 + \alpha_1 * FrenchZone_i + \alpha_2 * X_{i,t} + \lambda_t + \mu_{i,t}$$

In the case of non-profit organizations for 10.000 inhabitants, we have a cross-sectional regression, so:

$$Refugees_{i,t} = \alpha_0 + \alpha_1 * FrenchZone_i + \alpha_2 * X_{i,t} + \mu_i$$

where  $Refugees_{i,t}$  is the share of expellees in county  $i$  at time  $t$ . For the period before 1969 we use the share of refugees in 1950, while for the following period we can exploit the distribution of refugees in 1950 or in 1961. The distribution in 1950 is the most exogenous. Newcomers resettled where shelters were available, where the Allies reallocated them, in the regions closest to their

homeland, and so on; without taking in consideration the economic or social conditions of their new hometowns. In contrast, the distribution of refugees in 1961 was driven partially by economic conditions, and, in particular by job opportunities. However, if we are interested in the long-term effects of the immigrants, the distribution in 1961 is probably more appropriate. Both have positive and negative aspects, so we think it would be worthwhile to show the results of both of them.  $FrenchZone_i$  is a dummy variable that takes value 1 if county  $i$  was in the former French occupation zone and 0 otherwise,  $\lambda_t$  are time fixed effects and  $X_{i,t}$  is a set of control variables, it includes a dummy for urban counties, share of people under age 15, share of Protestants, share of Catholics, turnover per capita; all of them at 1950 (or 1961). We added population change between 1939 and 1950 (or 1961), not considering refugees, to take into account the effect of internal migration; turnover per capita in 1939, as a proxy for the economic conditions before the war; density in 1939, because it could have influenced the share of the refugees after the war; and war damages (see above). In the regressions about voter turnout, we added the share of vote of the two most important parties of West Germany, CDU/CSU and SPD. In the case of the regressions relative to 1961, data allowed us to add a further control variable: religious distance. The most important cultural difference between newcomers and the native population was religion. Catholics were not able to reallocate in overwhelming Catholics counties, and the same is true for the Protestants. This could have further impaired the relations between the two groups. Religious distance is calculated as the euclidean distance between the religious composition of the local population and the newcomers:

$$ReligiousDistance_{i,1961} = [(ShareCath_{i,1961}^{Nat} - ShareCath_{i,1961}^{Ref})^2 + (ShareProtes_{i,1961}^{Nat} - ShareProtes_{i,1961}^{Ref})^2]^{0.5}$$

Sebastian Brau and Nadja Dwenger in a recent working paper have found a negative relations between religious distance and economic integration, measured by success on the labor market<sup>12</sup>. The predicted share of refugees is then used in the second stage:

$$VoterTurnout_{i,t} = \beta_0 + \beta_1 * \widehat{Refugees}_i + \alpha_2 * X_{i,t} + \lambda_t + \mu_{i,t}$$

and:

$$NPO_{i,2015} = \beta_0 + \beta_1 * \widehat{Refugees}_i + \alpha_2 * X_{i,t} + \mu_i$$

The results are showed in column (1) of tables 3, 4, 5, 6, and 7. Concerning the first stage, the effect of the French zone of occupation on the predicted share of refugees is significant and relevant. The share of refugees in a county west of the

<sup>12</sup>Brau S. and Dwenger N. *The local environment shapes refugees integration: Evidence from post-war Germany*. Hohenheim Discussion Papers in Business, Economics, and Social Sciences, No. 10-2017.

former border is expected to be between 8 and 13.5 percentage points lower. The F-statistics are well above the rule of thumb of 10, so the instrument is not weak. There appears to be a sharp difference between the period before 1969 and the period after 1980. In the very first decades after the war, the correlation between the share of refugees and voter turnout is positive, an increase of 1% in the share of refugees of 1950 is associated with an increase of 0.16% in voter turnout. In the following period the correlation becomes negative. An increase of 1% in the share of refugees of 1950 is associated with a decrease of 0.08% in voter turnout and of 1.17 non profit organization per 10.000 inhabitants. An increase of 1% in the share of refugees of 1961 is associated with a decrease of 0.087% in voter turnout and of 2.16 non profit organization per 10.000 inhabitants. The coefficients are significant at 5% or 1% level. Religious distance seems not to have played a role. The point estimations are generally negative, here and in the following specifications, but the coefficients are far from being significant.

According to witnesses and studies, conflicts between expellees and native have been longer and harsher in rural counties. We want to test if this had an impact on social capital. If inhabitants of rural counties were actually more hostile, then refugees' willingness to rebuild a network of contacts could have been negatively affected. Thus, the negative relation between newcomers and social capital should be greater in rural counties than in urban ones. To test if this hypothesis is confirmed by the data, we run the previous regressions again, once considering only rural counties and once considering urban counties. Results are showed in columns (2) and (3) of tables 3, 4, 5, 6 and 7. The results seem to confirm the narrative evidences. In the case of non profit organizations there does not seem to be a difference between rural counties and cities, while in the case of voter turnout the point estimate is usually lower in rural counties.

### 4.3.1 Local Level

One possible weakness of the previous identification strategy is that we cannot control for a pre-existing geographical gradient of social capital. For example, if we suppose that, for some reason, the social capital is higher near France and that it becomes lower the more we move to the east, than this is a violation of the exclusion restriction. Thus, the results we have could be driven by this west-east gradient and not by the effect of the refugees. Another possible concern is the fact that most of the former border of the FZO corresponds today to the border between German states, for example between Rhineland-Palatine and Hesse or between Rhineland-Palatine and North Rhine-Westphalia (see Figure 9). German *Länder* enjoy a high degree of autonomy, the effects we are observing could be the consequences of different policies implemented by different regional authorities. A possible solution is to look just at the counties of Baden-Württemberg, as this region was divided between the French and the Americans. As before, we use as an instrument to have been part of the former French zone or not. The possible presence of a pre-existing gradient in the level of social

capital or of other unobservable variables should now be less problematic given the geographical proximity of the districts, while the fact we are considering only counties inside the same *Land* should rule out our second concern. For the period after 1980, we excluded the rural county of Alb-Donau-Kreis because, following the administrative reforms in the 70s, the former border of the FZO pass in the middle of the "new" district, luckily enough this is a problem only for this county (see Figure 5 and 8). We use the same specifications as before, the results are presented in table 8, 9, and 10. The positive correlation between the share of refugees and voter turnout between 1953 and 1965 is still present, an increase of 1% in the share of refugees of 1950 is associated with an increase of 0.22% in voter turnout. Instead, the negative relation for the period after 1980 disappears, the point estimate is close to zero and not statistically significant. We have still a negative effect on the number of NPO, but the number of observations is very low (N=43). The analysis at the local level reinforces the idea of a positive effect of the refugees on the social capital in the postwar period. However, the long run impact of the newcomers seems to not have been significant.

#### 4.3.2 Vertriebene and Deutsche aus der SBZ

In the previous regressions we have considered as share of refugees in 1961 the total number of displaced ethnic Germans. However, the census of 1961 differentiates them into two categories: *Vertriebene* (refugees) and *Deutsche aus der SBZ* (Germans from GDR). *Vertriebene* were defined as all the ethnic Germans whose place of residence in 1937 was outside the four zones of occupation (what today is the Federal Republic of Germany), while *Deutsche aus der SBZ* were immigrants coming from the Soviet zone of occupation or the Soviet sector of Berlin. For the scope of this paper, this is interesting because many *Deutsche aus der SBZ* arrived in West Germany only in the 1950s. According to the census of 1950, the category of *Zugewanderte* amounted to 1.55 million, *Zugewanderte* comprised both eastern Germans and displaced people from Eastern Europe who first relocated to the GDR, and only later moved to West Germany. In 1961, eastern Germans alone accounted for 3.1 million people. This means that at least 50% of the *Deutsche aus der SBZ* arrived in West Germany only after 1950, in the case of *Vertriebene* this is true for no more than 12% of them. This allow us to run several tests for the period after 1980. First of all, the border of the former French zone of occupation should be less effective in predicting the destination of the eastern Germans, because many of them reallocated in West Germany only after the French zone was dissolved. In fact, the share of *Deutsche aus der SBZ* is 3.8% west of the former border and 4.4% on the other side, while the shares of *Vertriebene* are respectively 8.7% and 18.9%. Moreover, if we try to predict the share of the *Deutsche aus der SBZ* using the previous model, the coefficient of the dummy variable for the French zone is highly insignificant. Secondly, we could focus on the *Vertriebene*. Thus, we substitute in the previous regressions the share of refugees with the

share of *Vertriebene*, adjusting the control variable about population change accordingly. The results are showed in table 10. They are extremely similar to the corresponding results using the share of refugees in 1961.

#### 4.4 Future Developments

We would like to extend the previous analysis in two ways:

- We would like to add a third indicator of social capital at the county level based on donations to charity. The German federal statistical office has a sample of 1% of individual income tax returns for 2003, 2007, and 2011. From these data we should be able to build an index based on donations to charity (or to scientific research, to foundations, and so on) as share of total income. The statistical office granted us access to the databases and we are currently working to obtain the necessary data.
- We would like to run a placebo test using the voter turnout in 1920s to verify if there was any difference before WWII in the level of social capital between the future French zone of occupation and the rest of Germany. In this case the difficulty lies in the discrepancy of the electoral districts' borders. It could be necessary to restrict the regressions to a subset of the all sample.

## 5 Conclusion

In this paper we analyze the long-run effects of a mass immigration on the level of social capital of the receiving society. At the end of the Second World War, millions of ethnic Germans fled or were expelled from their houses in Eastern Europe and resettled in West Germany. In their new homeland they faced the challenge of finding a job, a house, and enough food in a country ravaged by the war. We tried to observe if and how this event affected social capital in Germany. Social capital has received increasingly attention in the last decades, economist and sociologists have demonstrated how important the level of social capital of a region is for future economic growth. However, it is more difficult to explain the reason behind the presence or absence of social capital. Social capital is very persistent through time and many historical events could have impaired or helped its accumulation; immigration could be one of these events. International migration has been a constant across history and it will probably be even more widespread in the future. For this reason, we think it could be interesting to observe the consequences of the resettlement of the German *Vertriebene*. Another reason lies at the very magnitude of the episode, more than 10 millions of peoples resettled in West Germany, the greatest mass migration in the history of Europe. We have focused our attention on German counties, using as indicators of social capital voter turnout in the *Bundestag* elections

and the number of non-profit organizations for 10.000 inhabitants. We exploit the border of the former French zone of occupation as a source of exogeneity as the French authorities did not accepted refugees in their territories. Results indicate that there is a significant positive correlation between the share of the refugees in a county and the level of social capital in the first 15-20 years after the end of the war. A higher share of expellees corresponds to a higher voter turnout, both at the national and at the local level. Instead, if we consider the period after 1980 a lower negative correlation is present between the share of refugees and our indicators of social capital, however these results are not confirmed by the analysis at the local level. A possible mechanism to explain our results is to consider the response of the refugees to their difficult situation in the very first years after the war. The extremely difficult economic and social conditions of the expellees in the postwar years and their sense of estrangement in a foreign land triggered the establishment of many political and cultural association. They had different aims: to improve the economic status of the newcomers, to influence the government policies, to reclaim the lost territories in Eastern Europe, to remember their hometowns, etc; but they all represented the willingness of the refugees to be an active part of their new homeland. Thus, a higher voter turnout in the districts with a higher share of refugees could result from the refugees' eagerness for political participation.



## Primary Sources

- [1] Deutschen Städtetag, *Statistisches Jahrbuch Deutschen Gemeinden*. 1949.
- [2] Reichling Gerhard, *Die Heimatvertriebenen in Spiegel der Statistik*. Duncker and Humblot, 1958.
- [3] Reichling Gerhard, *Die Deutschen Vertriebenen in Zahlen*. Duncker and Kulturstiftung d. dt. Vertriebenen, 1985.
- [4] Schmitt Karl, Rattinger Hans and Oberndörfer Dieter, *Kreisdaten (Volkszählungen 1950-1987)*. GESIS Datenarchiv, 1994.
- [5] Statistik der Bundesrepublik Deutschland, Band 35 Heft 2 *Die Bevölkerung nach der Religionszugehörigkeit*. Statistisches Bundesamt, 1950.
- [6] Statistik der Bundesrepublik Deutschland, Band 35 Heft 3 *Die Bevölkerung nach dem Wohnort am 1.9.39*. Statistisches Bundesamt, 1950.
- [7] Statistik der Bundesrepublik Deutschland, Band 38 Heft 2 *Gebäude- und Wohnungszählung in der Bundesrepublik vom 13.9.1950, Hauptergebnisse nach Krisen*. Statistisches Bundesamt, 1950.
- [8] Statistik der Bundesrepublik Deutschland, Band 114 *Die Vertriebenen und Flüchtlinge in der Bundesrepublik Deutschland in den Jahren 1946 bis 1953*. Statistisches Bundesamt, 1955.
- [9] Volks- und Berufszählung vom 6 Juni 1961 Heft 5, *Bevölkerung nach der Religionszugehörigkeit*. Statistisches Bundesamt, 1961.
- [10] Volks- und Berufszählung vom 6 Juni 1961 Heft 6, *Vertriebene und Deutsche aus der SBZ*. Statistisches Bundesamt, 1961.
- [11] Volks- und Berufszählung vom 6 Juni 1961 Vorbericht 14, *Vertriebene und Deutsche aus der SBZ in den kreisfreien Städten und Landkreisen nach der Religionszugehörigkeit*. Statistisches Bundesamt, 1961.

## References

- [1] Bauer, F. J, *Aufnahme und Eingliederung der Flüchtlinge und Vertriebenen*. Die Vertreibung der Deutschen aus dem Osten, 1995.
- [2] Blume Lorenz and Sack Detlef, *Patterns of Social Capital in West German Regions*. European Urban and Regional Studies, 2008.
- [3] Braun Sebastian and Dwenger Nadja, *The local environment shapes refugees integration: Evidence from post-war Germany*. Hohenheim Discussion Papers in Business, Economics, and Social Sciences, No. 10-2017.

- [4] Braun Sebastian and Kvasnicka Michael, *Immigration and Structural Change: Evidence from Post-war Germany*. Journal of International Economics, 2014.
- [5] Braun Sebastian and Mahmoud Tomas Omar, *The Employment Effects of Immigration: Evidence from the Mass Arrival of German Expellees in Post-war Germany*. Kiel Working Papers, 2011.
- [6] Connor Ian, *Refugees and Expellees in Post-war Germany*. Manchester University Press, 2007.
- [7] Falck Oliver, Heblich Stephan and Link Susanne *Forced Migration and the Effects of an Integration Policy in Post-WWII Germany*. The B.E. Journal of Economic Analysis and Policy, 2012.
- [8] Fischer Claus A., *Wahlhandbuch für die Bundesrepublik Deutschland*. Schäffer, 1990.
- [9] Galassi Francesco, *Measuring social capital: Culture as an explanation of Italy's economic dualism*. European Review of Economic History, 2001
- [10] Guiso Luigi, Sapienza Paolo and Zingales Luigi *Long-term Persistence*. Journal of the European Economic Association, 2016.
- [11] Putnam Robert D. with Leonardi Robert and Nonetti Raffaella, *Making Democracy Work: Civic Tradition in Modern Italy*. Princeton University Press, 1992.
- [12] Putnam Robert D., *Bowling Alone: The Collapse and Revival of American Community*. Simon and Schuster, 2000.
- [13] Satyanath Shanker, Voigtländer and Voth Hans-Joachim, *Bowling for Fascism: Social Capital and the Rise of the Nazi Party*. Working Paper, 2015.
- [14] Semrad Alexandra, *Immigration and Educational Spillovers: Evidence from Sudeten German Expellees in Post-war Bavaria*. Munich Discussion Paper, 2015.
- [15] Tabellini Guido, *Culture and Institutions: Economic Development in the Regions of Europe*. Journal of the European Economic Association, 2010.
- [16] Vonyó Tamás, *The bombing of Germany: the economic geography of war-induced dislocation in West German industry*. European Review of Economic History, 2012.

Figure 1: Distribution of German language in 1910 (above) and 1950 (below).

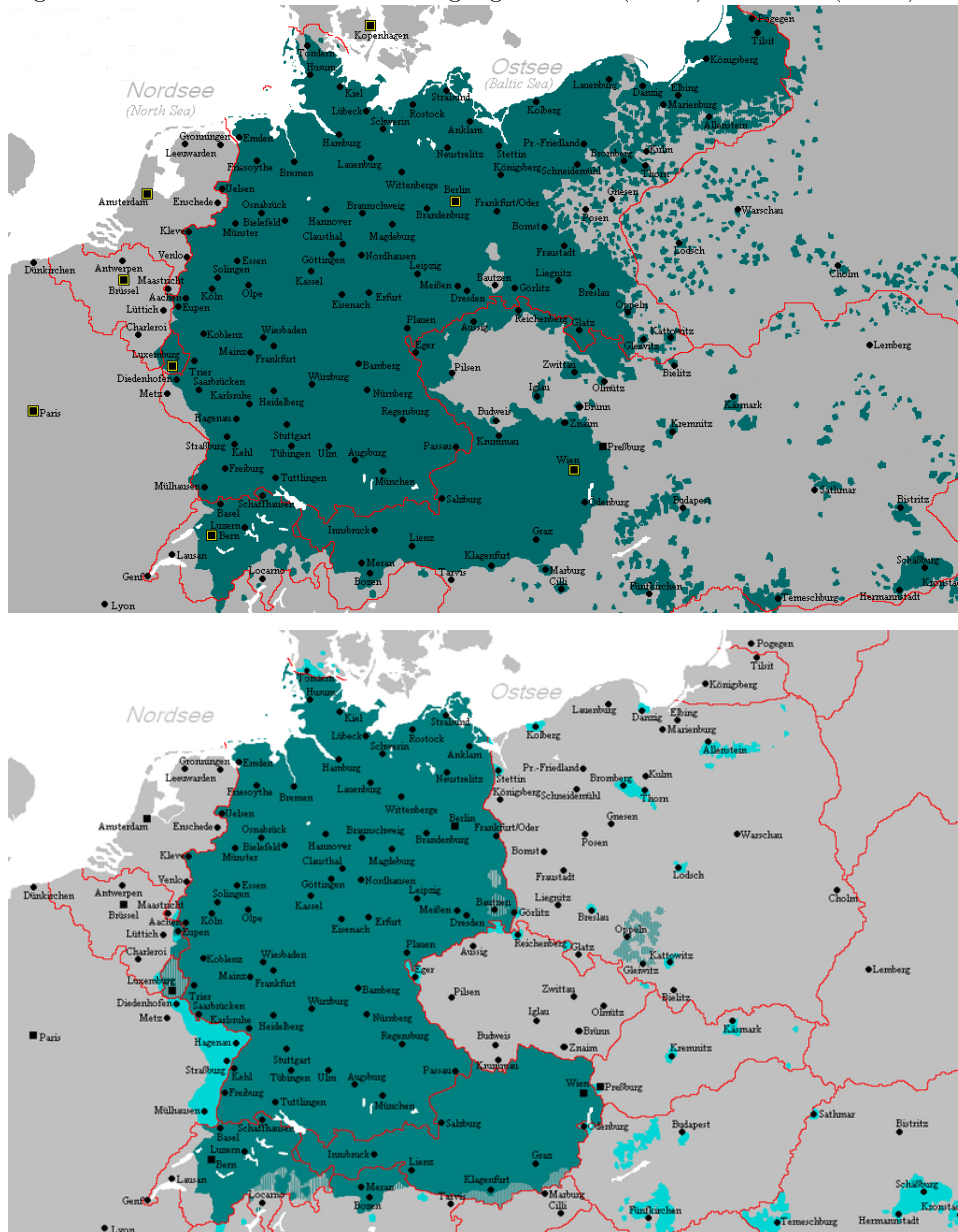


Figure 2: Share of refugees in total population (1961).

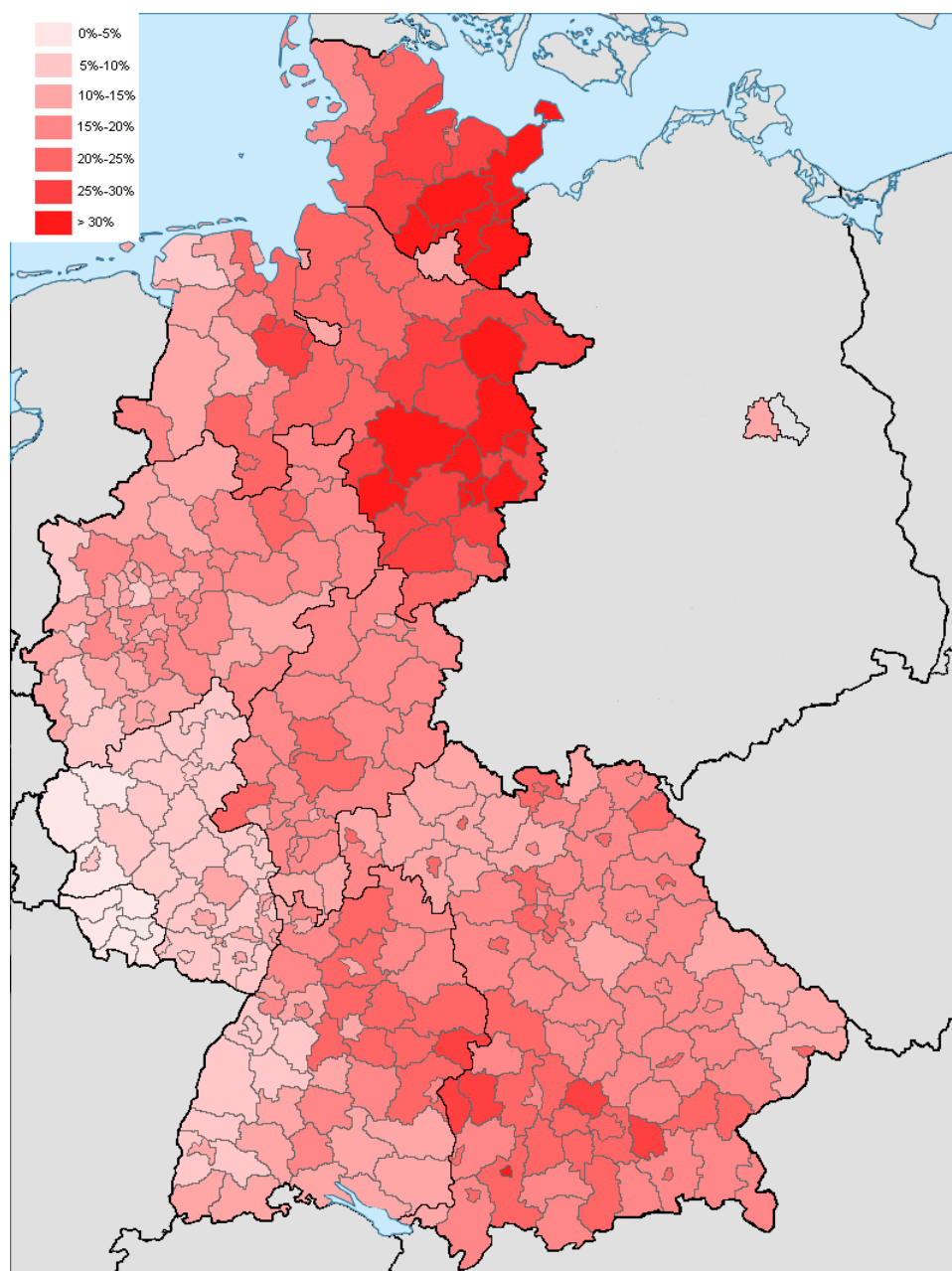


Figure 3: Administrative division of West Germany in 1980. Cities (yellow) and rural districts (white)

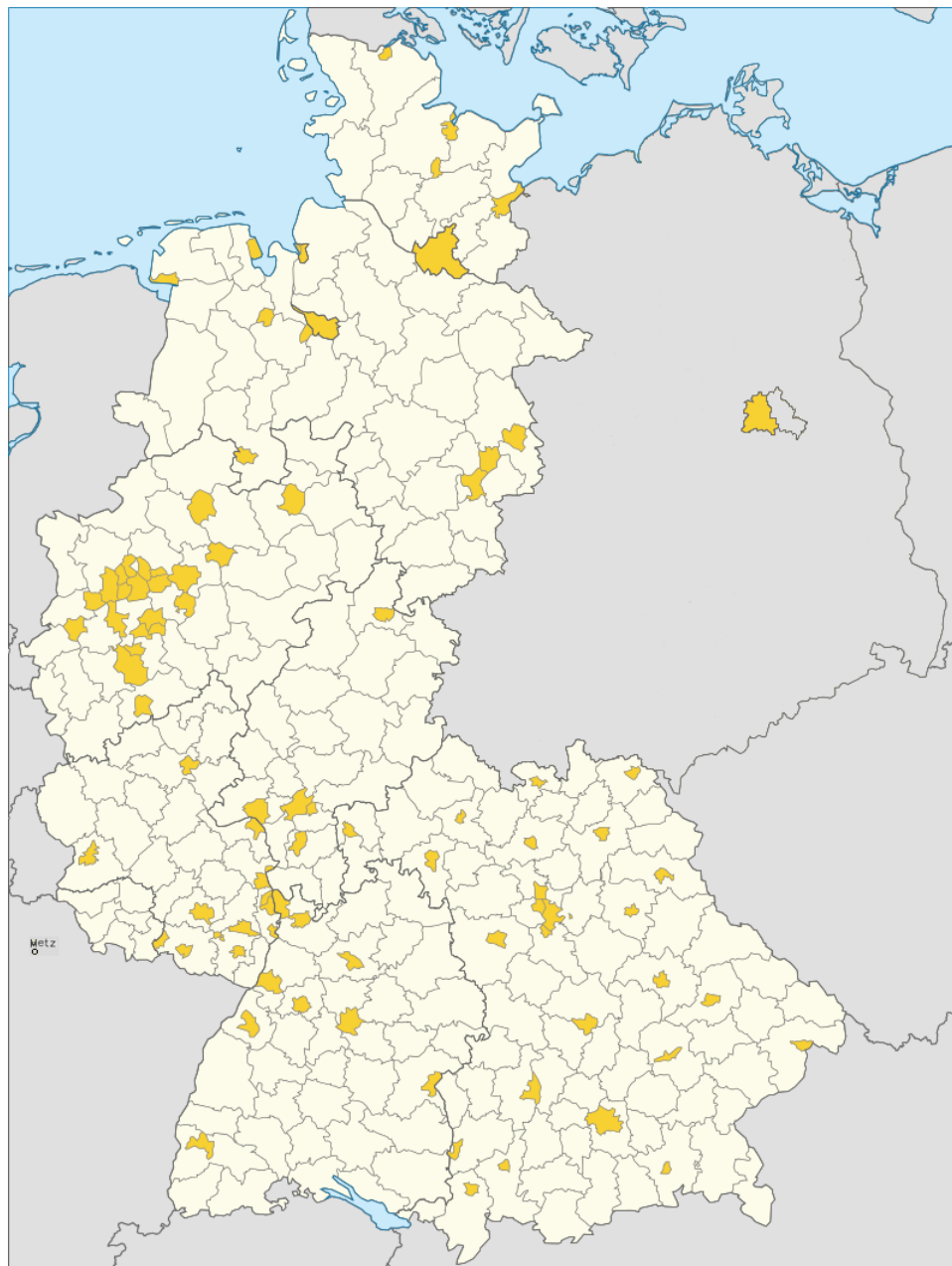


Figure 4: Red: districts in the former French zone of occupation.

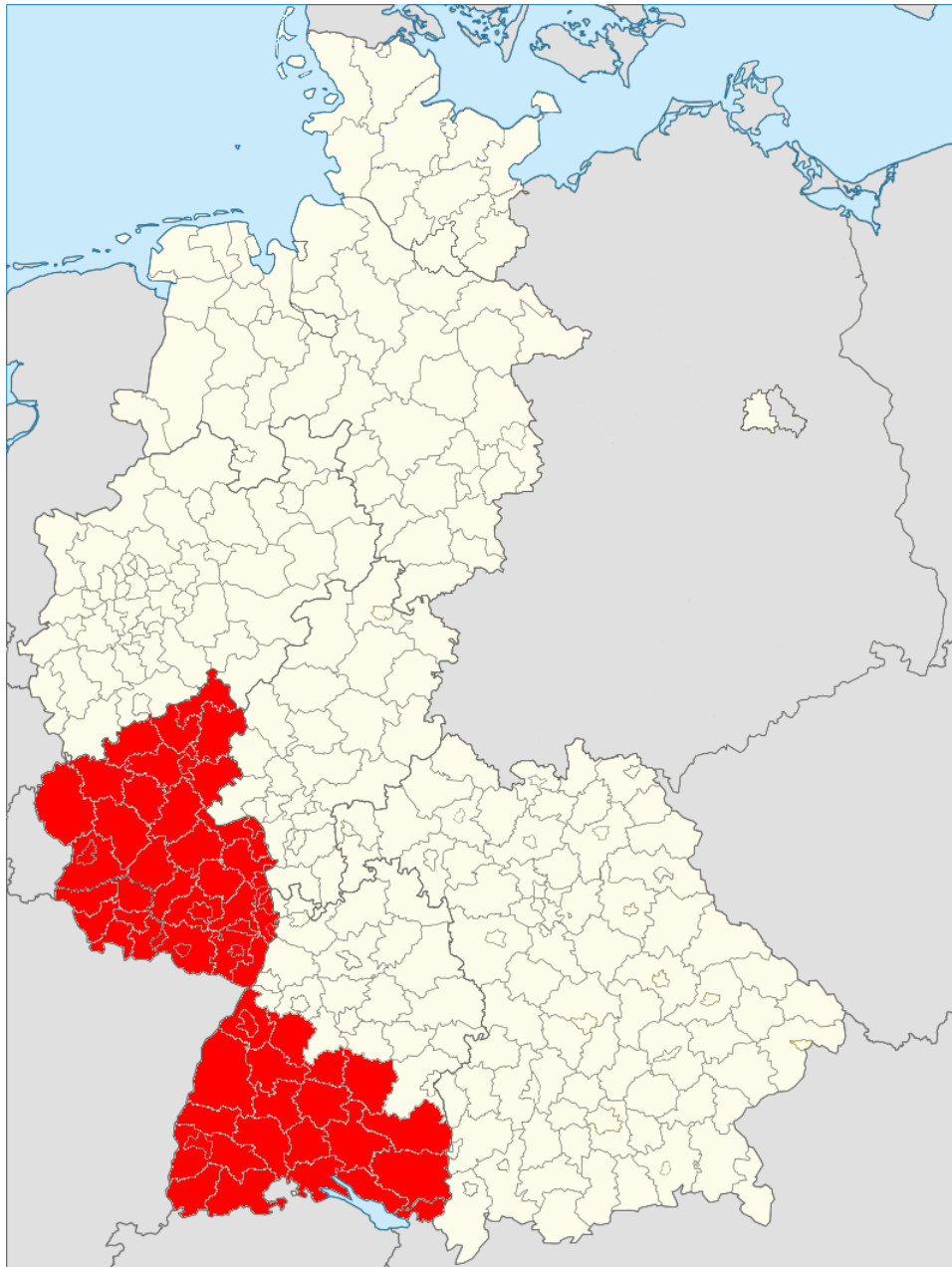


Figure 5: The counties of Baden Württemberg, considered for the local IV strategy. Red: districts in the former French zone of occupation. Green: districts in the former American zone. Administrative division post-1980.

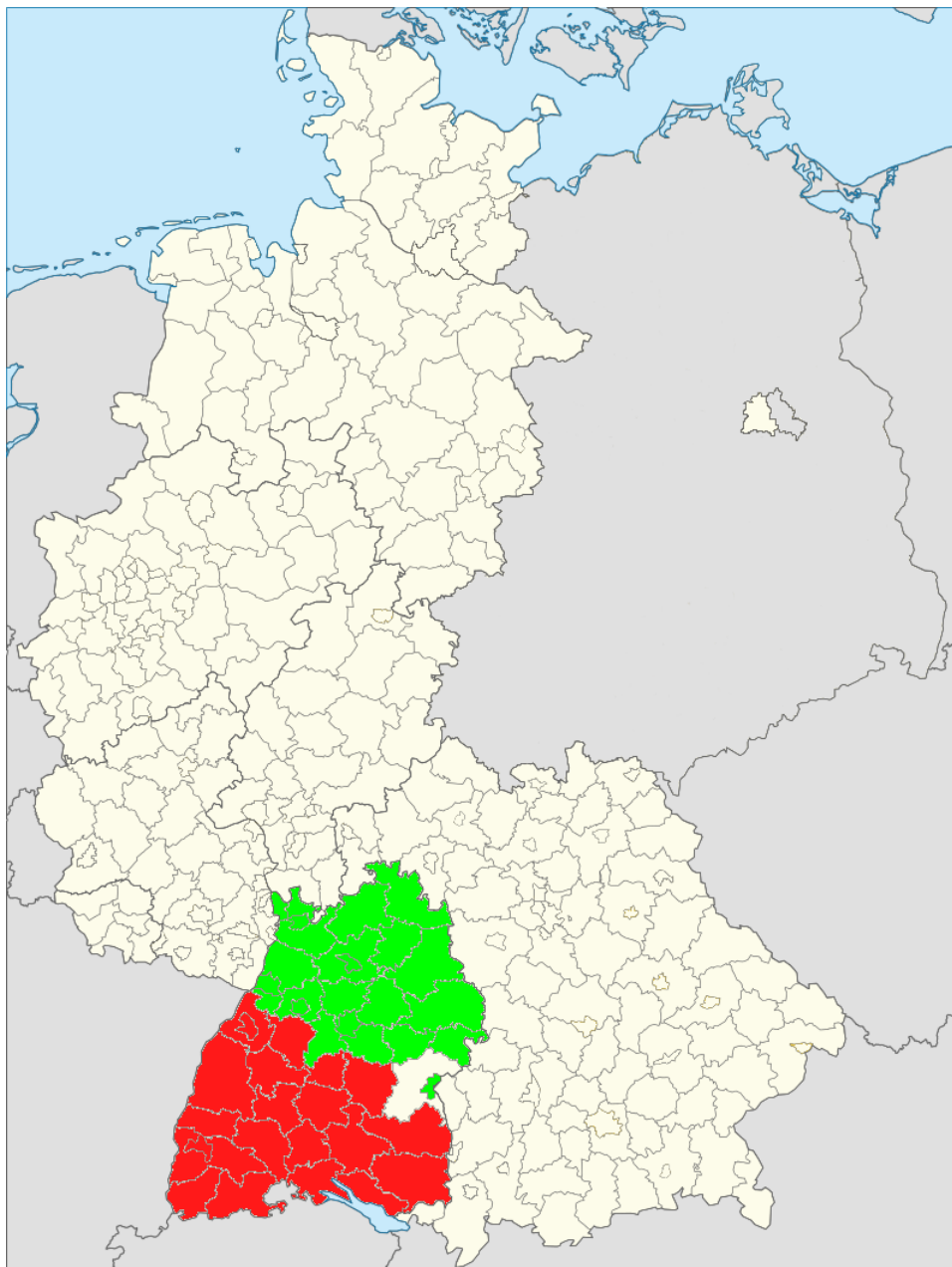


Figure 6: Administrative division of the German Empire in 1871. Border of the former French zone of occupation based on a previous border in green. Not based on previous border in red.





Figure 7: German occupation borders and territories from 1945 to 1949.

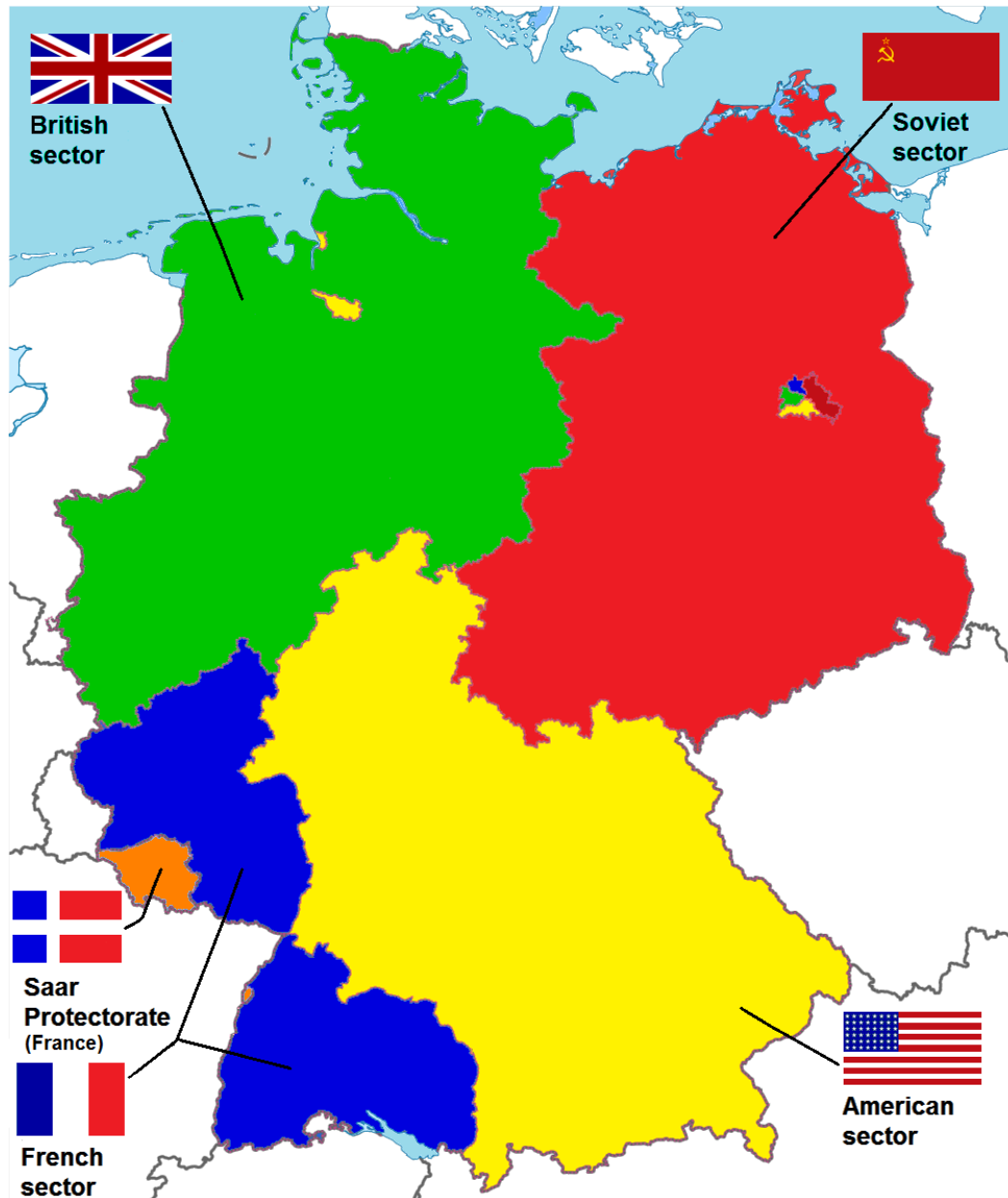


Figure 8: Administrative division of Baden-Württemberg in 1980. Border of the former French zone of occupation in red.

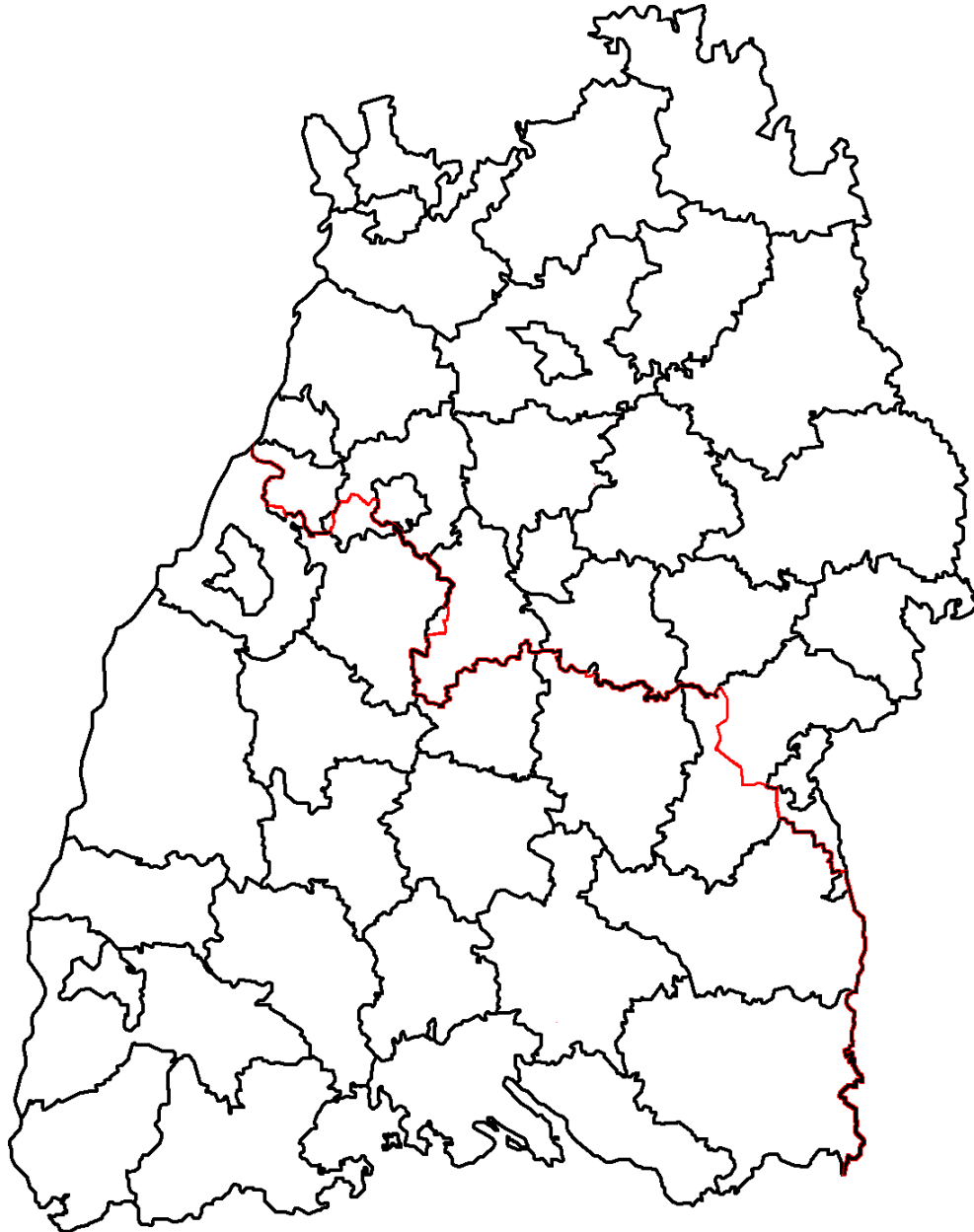


Figure 9: Map of Germany. Border of the former French zone of occupation in blue.



Table 1: Refugees in the West German states, 13 September 1950

State	Total population	Total refugees	Share of refugees in population
Baden-Württemberg	6.430.225	861.526	13.40%
Bavaria	9.174.466	1.937.297	21.09%
Bremen	558.619	48.183	8.63%
Hamburg	1.605.606	115.981	7.22%
Hesse	4.323.801	720.583	16.67%
Lower Saxony	6.797.379	1.851.472	27.24%
North Rhine - Westphalia	13.196.176	1.331.959	10.09%
Rheineland-Palatine	3.004.752	152.267	5.07%
Schleswig-Holstein	2.594.648	856.943	33.03%
Federal Territory	47.695.672	7.876.211	16.51%
West Berlin	2.146.952	148.389	6.91%
West Germany	49.842.624	8.024.600	16.10%

Source: Statistik der Bundesrepublik Deutschland, Band 114. Die Vertriebenen und Flüchtlinge in der Bundesrepublik Deutschland in den Jahren 1946 bis 1953, Statistisches Bundesamt, 1955.

Table 2: Refugees in the West German states, 6 June 1961

State	Population		Refugees		Germans from the GDR		Total Refugees	
	1.000	%	1.000	%	1.000	%	1.000	%
Baden-Württemberg	7.759		1.205	15.5	416	5.4	1.620	20.9
Bavaria	9.516		1.645	17.3	294	3.1	1.940	20.4
Bremen	706		98	13.9	48	6.8	146	20.7
Hamburg	1.832		206	11.3	130	7.1	336	18.4
Hesse	4.814		818	17.0	302	6.3	1.119	23.3
Lower Saxony	6.641		1.612	24.3	356	5.4	1.967	29.7
North Rhine - Westphalia	15.902		2.298	14.5	909	5.4	4.207	19.9
Rheineland-Palatine	3.417		276	8.1	128	3.7	404	11.8
Saarland	1.073		18	1.7	23	2.1	41	3.8
Schleswig-Holstein	2.317		630	27.2	114	4.9	744	32.1
West Berlin	2.197		151	6.9	381	12.3	532	19.2
West Germany	56.175		8.956	15.9	3.099	5.5	12.055	21.4

Source: Volks- und Berufszählung vom 6 Juni 1961, Heft 6. Vertriebene und Deutsche aus der SBZ. Statistisches Bundesamt, 1961.

Table 3: Voter Turnout 1953-1965 - National Level - Share of 1950

	(1) Turnout All	(2) Turnout Urban Counties	(3) Turnout Rural Counties
<i>Refugees 1950</i>	0.1573*** (0.0253)	0.2625*** (0.601)	0.15*** (0.026)
<i>City</i>	-1.213*** (0.44)		
<i>Under 15</i>	0.395*** (0.076)	0.566*** (0.151)	0.321*** (0.096)
<i>Catholics</i>	-0.0364 (0.0672)	-0.0553 (0.0916)	0.3067 (0.127)
<i>Protestants</i>	-0.547 (0.0696)	-0.0466 (0.0952)	0.281 (0.13)
<i>Pop. Change</i>	0.016 (0.014)	-0.0291* (0.0168)	0.0541** (0.0213)
<i>Turnover 1939</i>	-0.0016* (0.0008)	0.0026** (0.0011)	-0.0001 (0.0013)
<i>Turnover</i>	-0.0012 (0.0008)	-0.0015 (0.001)	0.0004 (0.0016)
<i>War Damages</i>	0.0233** (0.0093)	0.0164 (0.0165)	0.0384*** (0.011)
<i>Density 1939</i>	-0.0047 (0.0031)	-0.0045 (0.0031)	0.0001* (0.0001)
<i>_ cons</i>	59.32*** (6.94)	25.56 (22.4)	28.59** (13.1)
<i>Time fixed effects</i>	Yes	Yes	Yes
<i>Vote share for CDU/CSU and SPD</i>	Yes	Yes	Yes
<i>N</i>	2216	544	1672
<i>R<sup>2</sup></i>	0.51	0.585	0.44
	First Stage		
<i>French Zone</i>	-13.14*** (0.501)	-8.53*** (1.34)	-13.7*** (0.498)
<i>K.-P. F statistic</i>	687.4	40.65	757.14

Clustered standard errors at the county level in parenthesis.

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

Table 4: Voter Turnout 1980-2013 - National Level - Share of 1950

	(1) Turnout All	(2) Turnout Urban Counties	(3) Turnout Rural Counties
<i>Refugees 1950</i>	-0.0807** (0.0294)	-0.1497 (0.1064)	-0.105*** (0.027)
<i>City</i>	-3.2474*** (0.5377)		
<i>Under 15</i>	-0.2624*** (0.09)	-0.1338 (0.2443)	-0.3436*** (0.1187)
<i>Catholics</i>	-0.0601 (0.0648)	-0.11 (0.0996)	0.0278 (0.1134)
<i>Protestants</i>	-0.049 (0.0663)	-0.1104 (0.1018)	0.048 (0.1153)
<i>Pop. Change</i>	0.101*** (0.019)	0.0793** (0.0341)	0.1748*** (0.0231)
<i>Turnover 1939</i>	0.1616** (0.0811)	0.0533 (0.0933)	-0.958 (0.84)
<i>Turnover</i>	-0.063 (0.0754)	0.0814 (0.0858)	-0.008 (0.15)
<i>War Damages</i>	0.0439*** (0.0112)	0.0221 (0.0264)	0.0468*** (0.0113)
<i>Density 1939</i>	-0.001** (0.0004)	-0.0009 (0.0006)	-0.0013 (0.0025)
<i>_ cons</i>	82.02*** (6.72)	92.94*** (9.34)	69.31*** (11.54)
<i>Time fixed effects</i>	Yes	Yes	Yes
<i>Vote share for CDU/CSU and SPD</i>	Yes	Yes	Yes
<i>N</i>	3210	910	2300
<i>R<sup>2</sup></i>	0.843	0.852	0.846
	First Stage		
<i>French Zone</i>	-10.91*** (0.6426)	-6.92*** (1.4)	-13.49*** (0.703)
<i>K.-P. F statistic</i>	263.24	24.39	367.7

Clustered standard errors at the county level in parenthesis.

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

Table 5: Voter Turnout 1980-2013 - National Level - Share of 1961

	(1) Turnout All	(2) Turnout Urban Counties	(3) Turnout Rural Counties
<i>Refugees 1961</i>	-0.1146** (0.0465)	-0.225* (0.1253)	-0.1202*** (0.0456)
<i>City</i>	-3.46*** (0.559)		
<i>Under 15</i>	-0.3374*** (0.1006)	-0.468*** (0.16)	-0.444*** (0.127)
<i>Catholics</i>	0.0349 (0.0884)	-0.1519 (0.157)	0.1098 (0.1723)
<i>Protestants</i>	0.0165 (0.0902)	-0.1345 (0.155)	0.1337 (0.1767)
<i>Pop. Change</i>	0.0831*** (0.0126)	0.0988*** (0.0316)	0.1042*** (0.0168)
<i>Turnover 1939</i>	0.1881** (0.0842)	0.0464 (0.1107)	-0.1833 (0.9)
<i>Turnover</i>	-0.0587** (0.0298)	-0.0084 (0.0479)	-0.087 (0.0637)
<i>War Damages</i>	0.046*** (0.0109)	0.048* (0.0258)	0.0484*** (0.0126)
<i>Density 1939</i>	-0.0011*** (0.0004)	-0.0017*** (0.0006)	-0.003 (0.0024)
<i>Religious Distance</i>	-0.8666 (0.7327)	0.275 (0.179)	-0.668 (0.783)
<i>_ cons</i>	77.86*** (8.99)	99.92*** (15.39)	61.12*** (16.92)
<i>Time fixed effects</i>	Yes	Yes	Yes
<i>Vote share for CDU/CSU and SPD</i>	Yes	Yes	Yes
<i>N</i>	3210	910	2300
<i>R<sup>2</sup></i>	0.837	0.835	0.834
	First Stage		
<i>French Zone</i>	-7.5*** (0.51)	-6.47*** (1.24)	-8.29*** (0.55)
<i>K.-P. F statistic</i>	216.14	27.34	226.28

Clustered standard errors at the county level in parenthesis.

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

Table 6: Non Profit Organizations 2015 - National Level - Share of 1950

	(1) NPO All	(2) NPO Urban Counties	(3) NPO Rural Counties
<i>Refugees 1950</i>	-1.1726*** (0.3151)	-1.0816 (1.0107)	-1.17*** (0.1886)
<i>City</i>	12.442** (4.9586)		
<i>Under 15</i>	-0.42 (0.9404)	-1.4314 (2.4881)	-1.8375** (0.8156)
<i>Catholics</i>	1.3276** (0.6725)	1.2738 (1.7412)	-0.5571 (1.0676)
<i>Protestants</i>	1.443** (0.6988)	1.3077 (1.0947)	-0.4334 (1.0952)
<i>Pop. Change</i>	-0.3234* (0.1694)	-0.316 (0.3031)	-0.4693*** (0.1609)
<i>Turnover 1939</i>	0.4665 (1.0531)	-0.3318 (0.9908)	4.9316 (6.6112)
<i>Turnover</i>	-0.6676 (0.8231)	0.4275 (1.0)	-2.501** (1.0434)
<i>War Damages</i>	-0.2849*** (0.1076)	-0.326 (0.2836)	0.0755 (0.1252)
<i>Density 1939</i>	-0.0072** (0.0033)	-0.0059 (0.0049)	-0.1195*** (0.0222)
<i>_ cons</i>	-19.14 (65.28)	98.69 (171.46)	216.19** (106.85)
<i>N</i>	321	91	230
<i>R<sup>2</sup></i>	0.163	0.126	0.321
	First Stage		
<i>French Zone</i>	-11.53*** (0.745)	-7.69*** (1.302)	-13.92*** (0.7039)
<i>K.-P. F statistic</i>	239.24	34.85	318

Clustered standard errors at the ROR level in parenthesis.

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



Table 7: Non Profit Organizations 2015 - National Level - Share of 1961

	(1) NPO All	(2) NPO Urban Counties	(3) NPO Rural Counties
<i>Refugees 1961</i>	-2.16*** (0.4191)	-2.4** (1.1051)	-2.2024*** (0.3843)
<i>City</i>	9.3093** (4.5875)		
<i>Under 15</i>	-2.8412*** (0.8108)	-5.2454*** (1.7405)	-2.7968*** (0.596)
<i>Catholics</i>	1.3802 (0.8951)	1.5691 (1.7412)	1.1073 (1.3642)
<i>Protestants</i>	1.5107* (0.9102)	1.6859 (1.7875)	1.0154 (1.3911)
<i>Pop. Change</i>	-0.249** (0.1152)	0.2827 (0.2883)	-0.5425*** (0.1257)
<i>Turnover 1939</i>	-0.8416 (0.9917)	-0.7541 (1.3027)	1.4163 (6.555)
<i>Turnover</i>	0.6519* (0.3728)	0.2382 (0.4756)	0.2487 (0.4397)
<i>War Damages</i>	-0.138* (0.0827)	-0.0964 (0.2187)	0.0271 (0.1066)
<i>Density 1939</i>	-0.0127*** (0.0036)	-0.0104*** (0.0039)	-0.0652*** (0.0189)
<i>Religious Distance</i>	-5.7134 (7.4958)	-9.8504 (18.32)	-3.9735 (7.4035)
<i>_ cons</i>	77.86*** (8.99)	98.69 (171.46)	303.95** (141.46)
<i>N</i>	321	91	230
<i>R<sup>2</sup></i>	0.171	0.032	0.321
	First Stage		
<i>French Zone</i>	-7.94*** (0.675)	-6.83*** (1.155)	-8.44*** (0.7039)
<i>K.-P. F statistic</i>	138.33	35.02	143.81

Clustered standard errors at the ROR level in parenthesis.

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

Table 8: Voter Turnout 1953-1965 - Local Level -Baden Württemberg

	(1) Vot. Tur. All
<i>Refugees 1950</i>	0.2154*** (0.0506)
<i>City</i>	-2.6 (2.02)
<i>Under 15</i>	0.0832 (0.211)
<i>Catholics</i>	0.792* (0.456)
<i>Protestants</i>	0.756* (0.454)
<i>Pop. Change</i>	0.0657 (0.0725)
<i>Turnover 1939</i>	-0.0025 -0.0021
<i>Turnover</i>	0.0107*** (0.0029)
<i>War Damages</i>	0.0325 (0.0572)
<i>Density 1939</i>	0.0001 (0.0026)
<i>_ cons</i>	-17.95 (45.88)
<i>Time fixed effects</i>	Yes
<i>N</i>	288
<i>R<sup>2</sup></i>	0.638
<hr/>	
First Stage	
<i>French Zone</i>	-11.4*** (1.04)
K.-P. F statistic	119.84

Clustered standard errors at the county level in parenthesis.

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

Table 9: Voter Turnout 1980-2013 - Local Level -Baden Württemberg

	(1) Vot. Tur. All		(2) Vot. Tur. All
<i>Refugees 1950</i>	0.0031 (0.0429)	<i>Refugees 1961</i>	0.0584 (0.0552)
<i>City</i>	-1.412 (1.294)	<i>City</i>	-0.586 (1.155)
<i>Under 15</i>	-0.2845 (0.2578)	<i>Under 15</i>	-0.3913** (0.1953)
<i>Catholics</i>	0.3971 (0.3004)	<i>Catholics</i>	0.9338*** (0.3277)
<i>Protestants</i>	0.3961 (0.2995)	<i>Protestants</i>	0.9531*** (0.3431)
<i>Pop. Change</i>	0.2097*** (0.0477)	<i>Pop. Change</i>	0.1458*** (0.0321)
<i>Turnover 1939</i>	-0.1092 (0.6093)	<i>Turnover 1939</i>	0.2619 (0.5191)
<i>Turnover</i>	0.3094* (0.1627)	<i>Turnover</i>	0.1099 (0.0788)
<i>War Damages</i>	0.0974*** (0.0338)	<i>War Damages</i>	0.046** (0.018)
<i>Density 1939</i>	-0.0011 (0.0017)	<i>Density 1939</i>	-0.0009 (0.0015)
		<i>Religious Distance</i>	-2.44* (1.35)
<i>_ cons</i>	44.78 (27.3)	<i>_ cons</i>	-5.5 (31.1)
<i>Time fixed effects</i>	Yes		Yes
<i>Vote share for CDU/CSU and SPD</i>	Yes		Yes
<i>N</i>	430		430
<i>R<sup>2</sup></i>	0.918		0.926
<b>First Stage</b>			
<i>French Zone</i>	-11.6*** (0.973)		-9.04*** (0.94)
<i>K.-P. F statistic</i>	142.17		92.4

Clustered standard errors at the county level in parenthesis.

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

Table 10: Non Profit Organizations 2015 - Local Level - Baden Württemberg

	(1) NPO All		(2) NPO All
<i>Refugees 1950</i>	-1.352*** (0.444)	<i>Refugees 1961</i>	1.868*** (0.3966)
<i>City</i>	39.66*** (8.31)	<i>City</i>	42.61*** (13.74)
<i>Under 15</i>	2.976 (1.92)	<i>Under 15</i>	1.428 (1.71)
<i>Catholics</i>	3.41 (2.277)	<i>Catholics</i>	1.404 (2.537)
<i>Protestants</i>	3.306 (2.245)	<i>Protestants</i>	1.326 (2.588)
<i>Pop. Change</i>	0.4303 (0.367)	<i>Pop. Change</i>	-0.42* (0.2235)
<i>Turnover 1939</i>	0.187 (2.736)	<i>Turnover 1939</i>	3.371 (3.809)
<i>Turnover</i>	-2.418*** (0.697)	<i>Turnover</i>	-0.678** (0.3019)
<i>War Damages</i>	-0.861*** (0.3311)	<i>War Damages</i>	-0.8013*** (0.2022)
<i>Density 1939</i>	-0.0393** (0.0169)	<i>Density 1939</i>	-0.0207 (0.0146)
		<i>Religious Distance</i>	-0.2734*** (0.0653)
<i>_ cons</i>	33.77 (219.21)	<i>_ cons</i>	-40.57 (222.21)
<i>N</i>	43		43
<i>R<sup>2</sup></i>	0.686		0.757
First Stage			
<i>French Zone</i>	-11.38*** (1.32)		-8.97*** (0.961)
K.-P. F statistic	74.19		87.09

Clustered standard errors at the ROR level in parenthesis.

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

Table 11: Vertriebene 1961

	(1) Turnout National	(2) Turnout Local	(3) NPO National
<i>Vertriebene 1961</i>	-0.115** (0.0462)	0.053 (0.0668)	-2.266*** (0.534)
<i>City</i>	-3.4487*** (0.533)	-1.051 (1.217)	11.67 *** (4.36)
<i>Under 15</i>	-0.308*** (0.0949)	-0.4312* (0.205)	-2.6*** (0843)
<i>Catholics</i>	0.0373 (0.0836)	0.986*** (0.337)	2.125** (0.918)
<i>Protestants</i>	0.0534 (0.0861)	1.004*** (0.354)	2.336** (0.939)
<i>Pop. Change</i>	0.07*** (0.011)	0.116*** (0.0298)	-0.104 (0.128)
<i>Turnover 1939</i>	0.2366*** (0.0783)	0.328 (0.532)	-0.275 (0.918)
<i>Turnover</i>	-0.0996*** (0.0312)	0.0939 (0.0821)	0.1975 (0.319)
<i>War Damages</i>	0.0431*** (0.0111)	0.0424** (0.0185)	-0.117 (0.097)
<i>Density 1939</i>	-0.0009** (0.0004)	-0.0008** (0.0015)	0.0092** (0.0036)
<i>Religious Distance</i>	-0.902 (0.728)	-0.0232 (0.0148)	-0.065 (0.081)
<i>_ cons</i>	69.77*** (7.88)	-9.01 (32.27)	-53.1 (71.43)
<i>Time fixed effects</i>	Yes	Yes	
<i>Vote share for CDU/CSU and SPD</i>	Yes	Yes	
<i>N</i>	3210	430	321
<i>R<sup>2</sup></i>	0.664	0.925	0.225
	First Stage		
<i>French Zone</i>	-7.46*** (0.442)	-8.18*** (0.854)	-7.24*** (0.549)
<i>K.-P. F statistic</i>	285.5	91.7	173.6

Clustered standard errors at the county level for voter turnout and at the ROR level for NPO.

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



# The Austro-Hungarian Compromise of 1867 as a Natural Experiment

Marco Lavoratornovo

## Abstract

In this paper we want to analyze how an exogenous change in institutions could have affected economic growth in the long run. In 1867 the Habsburg Empire split in two halves: Austria and Hungary. Both of them had a Prime Minister, a government, and a parliament, respectively in Vienna and in Budapest; they were united only in the figure of the Emperor, Franz Joseph. Territories that have been part of the same Empire for centuries were suddenly under the control of two different parliaments. We want to exploit this historical event as a natural experiment. We focus on ethnically homogeneous regions on the two sides of the new internal border. We use the urbanization rate as an indicator of economic growth and railway tracks, post offices, and telegraph stations as proxies for public investments. Our identification strategy is based on a difference-in-difference estimation. Preliminary results indicate that districts under the Austrian rule performed better. A possible explanation is the presence of more liberal and inclusive institutions on the Austrian side.

## 1 Introduction

The reason behind the unequal distribution of wealth is one of the most important research topics in economics. Many theories have been proposed for the differences in economic development between Western Europe and Latin America or between the U.S and Sub-Saharan Africa. One typical explanation underlines the role of institutions. Some institutions may trigger and help economic development, while others may perpetuate poverty. Thus, a region exposed to more liberal laws should have a faster economic growth than a region with still feudal legacies, guilds, serfdom, etc. However, this is not always easy to demonstrate. Theoretically we ought to take some regions as identical as possible, randomly assign some institutions to half of them, other institutions to the other half, and then confront the results after 20 or 30 years. Obviously this is impossible, but, looking at history, we could exploit some natural experiments. In this paper we would like to observe closely one of this natural experiment.

In the aftermath of the defeat against Prussia, the Habsburg Empire split in two parts in the spring of 1867 (Figure 1). The new halves of the Empire, Cisleithania or Austria and Transleithania or Hungary <sup>1</sup>, had full control of their internal affairs and its own Parliament, respectively in Vienna and in Budapest. They were united only in the person of Franz Joseph, Emperor of Austria and King of Hungary. As a consequence, bordering regions that have been under the same rule for centuries were suddenly under the control of two different Parliaments. In some cases, an ethnically homogeneous area was divided by the new internal border. How did the Compromise impact the economic development of the new Austrian-Hungarian Empire? Was it better to be under the Austrian rule or under the Hungarian rule? Why? To try to answer this questions we use a diff-in-diff estimator, considering a time span of 53 years, from 1857 to 1910. We use counties on the two sides of the border inhabited by the same ethnic group as units of observations, the urbanization rate as a proxy for economic development, and railways, post offices, and telegraph stations as proxies for public investments.

If we look at the political evolution of the Empire, we should find that regions in the Austrian part performed better. Austria had more inclusive institutions with the regard of national minorities and more liberal, capitalistic-oriented institutions in general. In addition, the class of Hungarian-speaking landowners perpetuated a more feudal-like system in their half of the Empire, hindering the local economy. However, if we consider the economic history of the Habsburg Empire, there is not a general consensus. Actually, we can count at least 3

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<sup>1</sup>The official names were "The Kingdoms and Lands represented in the Imperial Council" (Austria) and "The Lands of the Crown of Saint Stephen" (Hungary), but they were rarely used outside of official documents. Cisleithania and Transleithania took their names from the river Leitha, the historical border between the Austrian Empire and the Kingdom of Hungary. In the following of this paper, we will use the terms Cisleithania\Austria and Transleithania\Hungary for the two sides of the Empire. It is important to underline that when we use the terms Austria and Hungary we will refer to the two halves of the Empire and not to the modern States.



main hypothesis about the economic trajectory of the two parts of the Dual Monarchy:

- Austria outperformed Hungary from 1867 until the dissolution in 1918.
- Austria outperformed Hungary initially, but Hungary caught-up in the last 20 years.
- Austria grew faster at the beginning, but the crash of the Vienna Stock Exchange in 1873 triggered a reverse of fortune. The Hungarian economy, heavily dependent on wheat, thrived thanks to an outflow of capital from the industrial and financial sector to the more reassuring agriculture sector. Only in the last 15-20 years the rate of growth of Cisleithania surpassed the Transleithania's one<sup>2</sup>.

This disagreement is probably due to the lack of reliable data to measure economic growth. Thus, different economists consider different indexes (industrial production, coal consumption, prices, salaries, etc.), or they built the same index in different ways. It is worthwhile to underline that in the existing literature scholars consider the Dual Monarchy in comparison with other European countries, or they compare the entire Cisleithania with the entire Transleithania. Our aim is to do something different, we want to confront small, bordering parts of the two halves of the Empire. In this way, hopefully, we should be able to exclude or minimize the differences in natural resources, culture, and unobservables, isolating the effect of institutions.

To the best of my knowledge, I am the first to use the Compromise of 1867 as a natural experiment. In our opinion, analyzing the long-run effects of this sudden political change is worthwhile mainly for two reasons. Firstly, because it would permit us to improve our knowledge of the economic history of the Austro-Hungarian Empire and of Central Europe. Secondly and on a more general level, it is an opportunity to examine the relation between institutions and economic growth.

## 2 Historical background

The Habsburgs began to claim control over the Kingdom of Hungary after 1526, when king Louis II of Hungary and most of Hungarian nobility was killed in the disastrous battle of Mohacs against the Turks. As brother-in-law of Louis II, Ferdinand I was crowned king of Bohemia and king of Hungary in the following years. This was the first step that brought the Austrian dynasty to dominate the Danube basin. However for the first century and a half, only a small part of the old kingdom was under the control of the Habsburgs and they were generally occupied in defending themselves against the Turks. Only after the second

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<sup>2</sup>This is the main thesis of John Komlos in *The Habsburg Monarchy as a Customs Union: Economic Development in Austria-Hungary in the Nineteenth Century*. Princeton University Press, 1983.

siege of Vienna in 1689, the imperial army was able to expel the Ottomans from central Europe. Austria continued to advance in this area during most of the 18th century, in 1772 the Kingdom of Galicia and other surrounding areas were ceded to the Empire in the first partition of Poland and three years later Bukovina passed from Turkish to Habsburg control.

The 18th century was significant also from a political and economic point of view. The defeat in the war of the Austrian succession spurred Maria Theresa and his son Joseph II to introduce a wide range of reforms in the attempt to modernize the Austrian society and to catch-up with the Prussia of Frederik the Great. In one of the most famous case of “enlightened absolutism”, the two sovereigns tried to transform the old feudal norms and rules into more modern capitalist relations:

*In a breathtaking sequence of reforms the peasant’s legal inferiority was sharply reduced, all land was subjected to a single tax, and the remaining dues and services the peasant owed the lord were converted into payments in cash or in kind. The peasant was given the right to marry, the freedom to leave the estate, and the freedom to learn a trade. No additional labor services could be exacted nor could children be compelled to perform labor services. The lords’ judicial powers were restrained. In 1785 a land cadastre was carried out to determine the area and yield of productive land in the German and Slav provinces of the Empire. As a result of reform legislation in 1785 and 1789 the capitalist bases of Habsburg agriculture were laid<sup>3</sup>.*

In 1775, Maria Theresa eliminated the tariff barriers between Bohemia, Moravia, and the Austrian lands, creating one of the biggest area of free trade in Europe. However, the Kingdom of Hungary remained outside of the custom union, this was due to the unruly Hungarian nobility. Maria Theresa was not able to force them to pay any form form of direct taxation, as compensation she continued to levy an import and an export tax on trade between the two parts of the Monarchy.

After the interruption of the Napoleonic wars, the western part of the empire entered in a phase of strong growth, the beginning of the industrial revolution for Austria and Bohemia can be situated between 1825 and 1830. The Habsburg lands began to outline a development gradient, the richest and most industrialized regions were located in the north-west and the poorest in the south and in the east. On a smaller scale, it parallels the larger European continuum. By the mid eighteenth century, a division of labor between the two parts of the Empire was already evident, the more developed western regions focused on industrial products and the eastern territories had a comparative advantage in agricultural production. In 1848-49, the Empire was shocked by the revolution and the civil war, only the intervention of the cossacks sent by the Czar permitted to crush the Hungarian rebels. The following decade was characterized by

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<sup>3</sup>David Goodis, *The Economic Rise of the Habsburg Empire 1750-1914*. University of California Press, 1984

repression and centralization on one side, and economic and political reforms on the other. A conscious attempt to neutralize the political extremists with focused interventions. Economic historians underline as the two major reforms of this period the abolition of serfdom and the lifting of the long-standing tariff wall between Austria and Hungary.

## The Compromise

The Habsburg Empire held a dominant position both in Italy and in Germany since the congress of Vienna, but the defeats against Piedmont in 1859 and Prussia in 1866 left the state without a political compass. The aim of the Emperor Franz Joseph and his court was the “empire of seventy millions”, that is, to add the whole Germany to the dominions of the Habsburg. The crushing defeat of Königgrätz (Sadowa) during the Austro-Prussian war put an end to this dream and meant the definitive victory of the *Kleindeutschland* (Lesser Germany) solution to the German question, namely, a union of the northern German states under the Prussian power. The Monarchy was in a particular difficult position in 1866, two lost wars in less than seven years shaken its prestige internally, while the loss of its prominence in both Italy and Germany and the multinational character of the Empire in the age of nationalism put under question the mere rationale for its existence. Franz Joseph needed to find a way to consolidate its power, in this political setting the Compromise (*Ausgleich*) was conceived.

The need to find a *modus vivendi* with the independent and proud Hungarian nobility was a problem for the Habsburg sovereigns from the beginning. Since their defeat in 1849, the Hungarians followed a policy of “passive resistance” against Vienna, refusing to participate to any political project or reform until their old autonomy was recognized again. There were several attempts to overcome this stalemate before 1867, but they were frustrated by the obstinacy of both the Emperor and the Hungarian nobility. As the war with Prussia came nearer, the court postponed a settlement in the hope that a victory would make any concession unnecessary. In August, 1866, immediately after defeat, the Magyars offered themselves as partners. Ferenc Deák, the leader of the Hungarians, declared that they asked no more after defeat than before it. Andrassy, the Hungarian chief negotiator, said that the Germans and Magyars were to be the two “people of state”, while “the Slavs are not fit to govern, they must be ruled”. Franz Joseph agreed rapidly with Andrassy, too rapidly in hindsight, and the Compromise came into existence in 1867.

The Empire, now commonly called Austria-Hungary, was split in two halves: Cisleithania (Austria) and Transleithania (Hungary). They had different parliaments in Vienna and Budapest, different prime ministers, different Cabinets, different direct taxation policies. Politically, they had in common just the minister of foreign policy and the minister of war<sup>4</sup>, economically the two halves were

<sup>4</sup>The third common minister, the Minister of Joint Finance, had no serious function. He

united by a custom union, a common central bank, and a common currency. The agreement also required identity of the major indirect taxes, on alcohol, sugar, meat, and later petroleum. The revenue from these taxes and the custom tariffs were used for the common expenditures<sup>5</sup>, any shortfall was covered on the basis of a 70-30 proportion between Austria and Hungary. The reasons for this disparity were the differences in population (57-43) and in wealth between the two halves. The economic part of the compromise was subject to renewal every ten years, this proportion was modified on two subsequent occasions and in 1907 stood at 65.6-34.4. Austria and Hungary were formally united only in the figure of Franz Joseph as Emperor of Austria and King of Hungary. The Compromise permitted Franz Joseph to exercise his residual powers in the matters of foreign policy, where he was still supreme. The Emperor was for sure not happy of the new situation, in the past he refused milder proposals from the Hungarians, but he agreed to make concessions to the Magyars in order to avoid making concessions to any other groups, in particular to the German liberals. Moreover, he saw the Compromise just as a temporary agreement before the future revenge against the Prussians. Dualism was exclusively a “compromise” between the Emperor and the middle Hungarian nobility represented by Deák and Andrássy, a class of landowners that numbered not more than 4000-5000 families. Notwithstanding their number, this *élite* held in their hands the eastern half of the Empire, they were the dominant class politically, economically and intellectually. The Compromise allowed them to tighten up the control on Hungary and to extend their influence on Vienna. On the other hand, Austria was deliberately placed before a *fait accompli*, with no possibility to refute or modify the negotiation.

Over time, Austria and Hungary followed different political and economic trajectories, while Cisleithania developed an industrial basis in Austria and Bohemia and a decentralized policy, Transleithania specialized in the production of cereals and followed a policy of Magyarization.

For the scope of this paper is important to underline two things. First of all, the new internal border between Austria and Hungary was based on previous administrative borders. The Habsburg Empire was previously divided in several regions: Archduchy of Austria, Kingdom of Bohemia, Duchy of Bukovina, etc. The new Transleithania was formed by associating the Kingdom of Hungary with the Kingdom of Croatia-Slavonia and part of the so-called military frontier. Over the centuries, these kingdoms and duchies enjoyed different grades of autonomy depending on the power or philosophy of government of the different sovereigns, on the necessity to defend against a foreign enemy, on the power of local nobility, etc. Thus, it is not possible to consider the new border as good as random and this fact limits the alternatives for the identification strategy. Secondly, the two halves were not always divided along ethnic lines (Figure 2), for example, we have Ruthenians (Ukrainians), Romanians, and even Germans

could only present the expenses of the common monarchy to the finance ministers of Austria and Hungary.

<sup>5</sup>The main sources of common expenditure were the army and the navy

on both sides of the new border. We will exploit this fact by focusing on the areas on the new border inhabited by the same ethnic group to obtain a more homogeneous sample.

## Hungary since 1867

In Hungary, the government promoted mainly the landowners' interests, an obvious consequence of its composition. In 1869, the government reintroduced the previously-abolished fee tail (or entail). Entail ensures that an estate could not be sold, parceled, or devised by will, but it must be bequeathed to a predetermined heir, usually the closest living male relative of the deceased tenant. It makes also more difficult or impossible to use the estate as a collateral. This norm was codified in the middle ages to assure the persistence of the huge land estates and the social class of great landowners. According to Tihany: "the territory of entailed estates more than quintupled between 1870 and the turn of the century, from 463,000 to 2,369,000 cadastral hold<sup>6</sup> [...] the Minister of Agriculture later intervened directly in the land market to stop the 'exploitation' of the peasants by middlemen who bought up debt ridden properties for subsequent sale in smaller lots at higher prices"<sup>7</sup>. In 1894, The Hungarian parliament passed a law forbidding any further ploughing up of pasture. The main aim of these and similar laws was to keep under the control of the old Hungarian gentry the production of wheat, avoiding any interference from new capitalist farmers and their more mechanized forms of production. Thus, they were able to curb the Hungarian grain output and to take advantage of higher market prices. As consequence, in its last half of a century of existence the Kingdom of Hungary saw an increase in the importance of latifundia. In the 1867-1914 period, the share of arable land owned by estates with more than 10000 hold passed from 9% to 20%, more than doubling. To give an example, Prince Esterhazy, the head of the most illustrious Hungarian household, at the height of his power owned more than 300,000 hectares of terrain with more than 700 villages and 21 palaces. This economic policy based on a feudal-like system was paralleled by a "Magyarization" policy in the relations with other nationalities. In the first census after the Compromise in 1869, Hungarian-speaking people constituted only 40% of the just established Transleithania. The Hungarian gentry considered too dangerous politically to be a minority in their own state and in the following years they promoted the Hungarian language and culture as much as possible. They even fought with the Austrian over the status of German as *lingua franca* of the Army. As a result, the share of Hungarian-speaking people of Transleithania increased to 55% in the 1910. Many Jews, Germans, Slovaks, and Croats were assimilated, in particular the intellectual *élite*. While Hungarian culture and nationalism was promoted, the government repress any attempts of the ethnic minorities to assert themselves. This is undoubtedly one of the main differences in the internal policies between the two halves of the

<sup>6</sup>1 cadastral hold is equal to 4316 m<sup>2</sup> or 1.067 acres

<sup>7</sup>Leslie C. Tihany, *The Austro-Hungarian Compromise, 1867-1918*. Central European History, 1969.

Empire. While the Austrians reluctantly surrendered some powers to the non-German peoples, trying to defuse the nationalistic bomb that was tearing apart the Empire, the Hungarians did nothing similar.

### **Austria since 1867**

The national question was the more divisive argument of the Austrian half of the Empire as well. Austria had a more sympathetic approach, but this did not mean that all the ethnic groups were treated equally, or that nationalism did not cause heated debates. Clashes between the German and the Czech nationalists were frequent both in Vienna and in Prague. When a Czech school opened in Vienna, the *Neue Freie Presse*, a conservative newspaper, indicated it as a sign of the next fall of Germanism. A controversy about the establishment of parallel classes in Slovene language in the German secondary school of Celje (Cilli) caused the fall of the cabinet of prince Windisch-Grätz. However, non-German-speaking nationalities gradually obtained more rights and more representatives in the Viennese parliament. Where there were not German-speaking people, ethnic minorities reached a great degree of autonomy, for example, Italians in Trentino or Polish in Galicia. For the scope of this paper it is important to stress how in Austria the different nationalities could use their increasing political power to direct some public investments in their own regions, while this was much more difficult in Hungary. Another difference concerns the very first period after the Compromise. While in Transleithania the power was seized by the Hungarian landowners, in Austria the majority in the Parliament was held by the German liberals. The Constitutional Party or German-Liberal Party introduced reforms to modernize Austria, to oppose the influence of the Catholic Church, and to guarantee basic rights. However, the market crash of 1873 and the rise of nationalism triggered anti-capitalistic and anti-liberal sentiments. A coalition of nobles and conservatives progressively rose to power during the 1880s and the 1890s, and the initial process was somewhat arrested. Since then, the internal policies of the two sides of the Empire became more similar. However, the influence of the first cabinets lasted. Guilds, restrictions to the movement of people, to the sell of land, to the free allocation of labor, etc were usually abolished first in Austria and then in Hungary. Sometimes, similar limitations were restored in Hungary after have been abolished in the whole Empire before the Compromise, as in the case of entail. Likewise, some basic rights as the right of assembly, of association, to strike were guaranteed first in Austria, or only in Austria. In conclusion, we can reasonably state that Austria had more liberal and capitalistic-oriented institutions than Hungary.

### **Economic development of the Austro-Hungarian Empire**

We know that at the outbreak of the first world war Austria was the industrial powerhouse, while Hungary was the breadbasket of the Empire. However, this could not be necessarily the result of better institutions on the Austrian side. Austria and Hungary had sharp differences in the endowment of natural

resources. Economic development and, in particular, industrial development in the 18th and 19th century were extremely dependent on the presence of iron ores and coal mines. For example in Belgium, while the coal-rich Wallonia became the first industrial region on continental Europe, Flanders hardly took part in the industrial revolution and thousands of Flemish had to emigrate. We have a similar pattern in France and Germany, only the regions rich in natural resources developed an industrial basis. In the Habsburg monarchy the two main coal-mining regions, namely Upper Silesia and Bohemia, were both in the Austrian part. The Bohemian lands had abundant supplies of burnable lignite and anthracite, the highest quality of coal. Moreover, Bohemia could exploit its favorable geographical position in the Empire, the river Elbe put it in direct contact with Hamburg and raw cotton imports from America. In Hungary some coalfields were present, but they were of worse quality and more expensive to exploit. As a consequence, coal prices were higher in Hungary than in Austria, in 1913 the price of 100 kg of lignite was 0.55 crowns in Austria and 1 crown in Hungary and the price of 100 kg of anthracite 1.05 crowns in Austria and 1.36 in Hungary<sup>8</sup>. On the other side, if we have a look to a physical map of the Dual Monarchy it is evident how agriculture is more promising in Hungary, at least potentially, while the terrain in Austria is almost everywhere hilly or mountainous, the great Hungarian plain (great *Alföld*) dominates the Hungarian half. Thus, the “division of labor” between the 2 parts of the Empire is hardly surprising.

### 3 Data and Identification Strategy

We could use the whole new internal border as a source of discontinuity, but our intention is to focus just on 3 regions: Dalmatia (today in Croatia), Burgenland (Austria), and Galicia-Transcarpathia (Ukraine and Romania); see blue lines in Figure 2. These areas have some convenient characteristics for the scope of this paper:

- They are inhabited by the same ethnic groups on the two sides of the border: Croats in Dalmatia; Austrians and Slovenians in Burgenland; Ukrainians and Romanians in Galicia. This permits us to observe the effect of the Compromise over an homogeneous population, ruling out differences in culture as far as possible.
- They have, roughly, the same endowment of natural resources on the two sides of the border. Galicia and Dalmatia have, on both sides, a hilly and mountainous terrain, rich in timber, but not suitable for agriculture. On the contrary, Burgenland is a water-rich plain. Mines of coal, iron ores, or other relevant raw materials were not present. To the best of my knowledge, salt mines are the only exception. Rich salt mines were exploited in Transcarpathia (Hungarian side), while they were missing in

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<sup>8</sup>John Komlos, *The Habsburg Monarch as a Customs Union*, pag. 305

Galicia (Austrian side). This is the only imbalance between the two sides of the border for the regions we are interested in.

In conclusion, focusing on these three regions should allow us to have a sample as homogeneous as possible. Our objective is to use as unit of observation the smallest administrative division of the time, namely, districts (*politischer bezirke* for Austria, and *járás* for Hungary, see Figure 3), to avoid to include, as much as possible, different ethnic groups, in particular Hungarians on the Transleithanian side of Burgenland and Transcarpathia. Then, as dependent variables we would like to use urbanization rate as a proxy for economic development and railway tracks, post offices, and telegraph stations as proxies for public investments. However, districts did not remain fixed over time, they were split, they were merged or they underwent major administrative reforms. We need to choose a reference year and then to reconstruct our proxies for each county according to the borders of the reference year. This is not a source of concern for railway tracks, post offices, and telegraph stations, but it is problematic in the case of urbanization rate.

## Urbanization Rate

We need a way to measure the economic development of the different regions of the Empire. Obviously we cannot use GDP per capita, as alternative we use the urbanization rate, measured as the proportion of the population living in urban areas of 5000 or more people. Urbanization is often used as a proxy to estimate historical levels of income, in particular in pre-industrial or early industrial societies. The rationale is that urbanization rate was related both to agricultural productivity and to industrialization, the two major determinants of economic growth. In particular, sustaining a growing urbanization rate was possible only with a parallel increasing in the agricultural output per capita, given that at the time the share of labor force working in the agriculture sector was over 70-80%, it is reasonable to consider urbanization rate as a proxy for economic development.

Demographic data came from 2 sources, before 1857 we could use the *Tafeln zur Statistik der oesterreichischen Monarchie* (Statistical Tables of the Austrian Monarchy), after 1857 we rely on the censuses. The *Tafeln* was a yearly publication of the *K.K. Hof- und Staatsdruckerei* (Imperial Royal Court and State Printing House), it can be considered as an equivalent of statistical yearbooks. The first book of the series was relative to 1828, each yearbook reports the number of people for each *kreis* in which the Empire was divided. Moreover, periodically, but not yearly, it is also present a table with the number of inhabitants for all the towns with a population greater than 2000. Combining these two series of data, we can obtain the urbanization rate of each *kreis* of the Empire. Unfortunately, this data are not accurate enough for the scope of this paper. The average *kreis* is too vast (confront Figure 3 with Figure 4), using *kreise* as units of observations would cause us two problems: it would greatly reduce the size of the sample and it would not permit us to have as observations



ethnically homogeneous areas, in fact, in many *kreise* of interest Hungarians are the most numerous ethnic group. As said above, we have to rely on a lower administrative division. To do this, we need to know the number of inhabitants for each village, town, and city of the regions we are interested in. This is not an obstacle for the period from 1857 to 1910, because censuses contain such information, however, it is very problematic for the period before 1857. To the best of my knowledge, more disaggregated data were not published at the time. However, local authorities had to compile records and to send them to Vienna, so that the statistical office could print the *Tafeln*. Thus, the only possibility is to look for demographic data in archives. We went to the Austrian national archive and we found some data, but more visits are necessary to fully recover what we need. Moreover, during the July revolt of 1927, the Palace of Justice of Vienna was burned down together with part of the archive of the Double Monarchy. For this reason, we cannot assure to be able to recover the necessary information for the pre-1857 period.

The first census in the Empire was taken in 1857, for the first time the collecting was consistent for the entire territory and a key date (31st October 1857) was introduced. However, some relevant data such as age, profession, or household structure were missing in this earlier census. The second census of 1869 was based on the Census Act (*Volkszählungsgesetz*) of 29th March 1869. This act served as the basis for all other censuses until World War I. The record sheets contained some general items concerning the size of the household and a detailed table: name, year of birth, sex, religion, marital status, profession, birthplace, right of residence, presence. Further censuses followed in 1880, 1890, 1900 and 1910. All the books from each census are available on internet, both for the Austrian and for the Hungarian part. The *Special-Orts-Repertorien* are of particular interest for us, as in these books are reported data about each village, town or city of the Empire. If rebuilding the urbanization rate for the previous period will prove to be impossible, one possible alternative is focus just on the 1857-1910 interval, considering 1857 and 1869 as the pre-treatment observations, and 1880, 1890, 1900, and 1910 as the post-treatment observations. Considering the data about 1869 as a pre-treatment observation even if the Compromise happened in 1867 is probably not too much unreasonable and it will allow us to test for the common trend assumption. However, we think that recovering observations from 1840s or before is crucial to make the identification strategy credible. Our main concern is that the new border is not as good as random. We need to recover as many observations as possible from the period before 1867 to claim that Austria and Hungary were following similar paths before the Compromise.

## Data Quality

As a word of caution, we have to point out that, even if we will be able to recover data for the period before the first census, the reliability of these data could be a source of concern for at least two reasons:

- Data came from local authorities, not from census staff as later. Accuracy could change from region to region.
- Aversion from local population could have hindered the operations of data collection. At the time, population data were usually used for military purposes, namely, to know how many young males could be recruited. Moreover, in the first half of the 19th century, it was present a popular movement against any form of data collection, many people thought that the State could use these information harmfully.

We cannot solve these problems, we have to take as assumption that these drawbacks are not severe enough to compromise the results, or that their magnitude was similar on the two sides of the future internal border.

## Public Infrastructure

The amount of public infrastructure in each county is another economic aspect we are interested in. Differences in infrastructure could be an explanation for differences in economic development. As proxies for the public investments, we would like to use railway tracks, post offices, and telegraph stations. While post offices and telegraph stations remained firmly in public hands, the ownership of railway lines often bounced between the State and private companies. Thus, it is worthwhile to spend few words explaining the reasons for this inclusion.

The Danube monarchy quickly followed the English example, the first railroad was built already 1824. After one initial period characterized by private investments, a first wave of nationalization followed in the 1840s. However, the public budget, burdened by military expenditures, did not permit major investments, and the construction of new railroads slow downed. A major turning point was the Railroad Licensing Act of 14 September 1854. With this act the Empire tried to attract private capital for railway construction. The new law granted returns on invested capital, tax reductions, and low-interest loans. The economic upturn of 1867 led to the first "railway boom", the total length of railways more than doubled in Austria between 1867 and 1873. With the market crash of 1873, most of private capitals withdrew from the railway sector. The governments of both Austria and Hungary became more and more involved, they acquired railroad companies in distress, financed the construction of secondary non-profitable lines, and so on. The failure of the private sector and the downfall of the German liberals led to a wave of nationalization in 1880s and 1890s. By the turn of the century, most of the railway tracks of both of the Empire was in public hands. From this brief summary, it should be evident how important was the role of the State, even during the system of guaranteed private railways (1854-1873), private companies relied heavily on State support. Moreover, not only since 1880s most of railway tracks became public, but they represented an increasing burden for the government budget. In Austria, the expenditures for railways were 3.6% in 1870, 10,5% in 1890, and 26,76% in 1910<sup>9</sup>. Actually,

<sup>9</sup>Adam Wandruszka and Peter Urbanitsch, *Die Habsburgermonarchie 1848-1918, Band I*.

railways were the first item of expenditures in 1910, surpassing of more than 300 millions of crowns military spending. In Hungary, one fifth of the national budget went likewise to the railway system in 1900. Given their importance, we think to be useful to include railways in our analysis. The number of post and telegraph offices is another way to measure public investments. They represented a significant fraction of the public budget as well, 3.5% in 1870 and 6.1% in 1910.

Data about railways tracks, their length and opening date are generally easy to recover. For post offices and telegraph stations, we can rely on the *Hof und Staats-Handbuch der Oesterreichisch-Ungarischen Monarchie*, an annual publication where all the post offices and telegraph stations of the Empire were indicated.

## Identification Strategy

The fact that the new internal border was based on pre-existing regional borders reduces the identification strategies at our disposal, we have to rely on a diff-in-diff estimator. First of all, we need to test the common trend assumption to verify if Austria and Hungary followed the same path before 1867:

$$Y_{it} = \lambda_t + \phi_i + \sum_{j \neq 1867} \beta_j D_j * Austria_i + \epsilon_{it} \quad (1)$$

Where  $Y_{it}$  is the urbanization rate or the kilometers of railways for county  $i$  at time  $t$ ;  $\lambda_t$  is a set of time fixed effects;  $\phi_i$  geographical fixed effects, and  $D_j$  a series of year dummy variables, one for each observation but 1867, which is taken as the baseline.  $Austria_i$  is a dummy variable taking value 1 if county  $i$  was in the Austrian part of the Empire after the Compromise. Then, we will run the following regression:

$$Y_{it} = \beta_0 + \beta_1 Austria_i + \beta_2 Compromise_t + \beta_3 (Austria * Compromise)_{it} + \epsilon_{it} \quad (2)$$

Where,  $Compromise_t$  is a dummy variable taking value 1 if we are after 1867, and the other variables have the same meaning as before.

## 4 Preliminary Results

We present here some preliminary results, the data available at the moment permit us to have 2 observations before the Compromise (1857 and 1869) and 4 observations after (1880, 1890, 1900, 1910). We considered all the districts on the new internal border if the majority of the population was formed by Germans, Slovenian, Croatians, Ukrainians, or Romanians. The sample consists of 42 districts, 21 on the Austrian side and 21 on the Hungarian side. 20 in

Galicia, 17 in Burgenland, and 5 in Dalmatia. Some descriptive statistics are showed in Table 1, the average population of a district was 38.900 in 1857 and 59.000 in 1910. This means that in 1910 we are considering a population of about 2.4 million, about 4-5% of the total population of Austria-Hungary at the time. As dependent variables, we use urbanization rate and the number of kilometers of railways tracks. In 1857, urbanization rate was 3.3% on the Hungarian side and 4.5% on the Austrian side, in 1910 respectively 7.1% and 14.8%. The results are showed in Table 1 and 2, in the case of railways they are clearly significant, the interaction term in equation (2) is significant at the 5% and the interaction terms in equation (1) become significant after the Compromise. More railway lines were constructed on the Austrian side than on the Hungarian side. A less clear picture is provided by the urbanization rate, the interaction term of equation (2) is almost not significant, very close to the 10% level. In fact, if we look at equation (1) we can see that the difference in urbanization rate between Cisleithania and Transleithania become significant only in the last censuses of 1900 and 1910. Thus, if it is valid to consider the urbanization rate as a proxy for economic development, we can say that a significant economic difference in favor of the districts on the Austrian side appeared only 30-40 years after the Compromise. This is quite surprising, given the difference in investment in railways and the difference in institutions that took place mainly in the first decade after the Compromise when the German liberals were in power in Austria.

As future developments, as said above, we want to add other indicators for public investments based on the number of post offices and telegraph stations and, if possible, to use observations for the period before the first census. Another possibility is to widen the sample considering not only the districts directly on the new internal border, but also districts that adjoin districts on the border. This is possible in the case of Dalmatia and Galicia, but not for Burgeland because the territories inhabited by Germans and Slovenians on the Hungarian side are not wide enough. The sample would pass from 42 districts to about 80.

## 5 Conclusion

In this paper we would like to analyze how an exogenous change in institutions could have affected economic growth in the long run. We exploit as a natural experiment the split of the Habsburg Empire in two halves in 1867. This "political revolution from above" was sudden and unexpected, as it was triggered by the defeat of the Austrian army in the Austro-Prussian war of 1866. The agreement establishing the Dual Monarchy went down in history as the Compromise (*Ausgleich*). The Compromise was the result of the efforts of the Emperor Franz-Joseph and his court on one side, and the representatives of the Hungarian-speaker landowners on the other side. Representatives of other national minorities, political parties or social classes did not take part at the process. For this reason, we can consider this political change as exogenous and

unexpected, at least for the part of the population we are interested in. We use ethnically homogeneous regions on the two sides of the new border as units of observation, the urbanization rate as an indicator of economic growth, railways, post offices, and telegraph stations as indicators of public investments. In particular, urbanization rate should be our main indicator, as a traditional proxy for economic growth in pre-industrial societies. Data are recovered mainly from publications of the time, in particular the censuses of 1857, 1869, 1880, 1890, 1900, and 1910. At the moment, our main problem is to recover demographic data for the period prior to the first census in 1857, because data published at the time were not accurate enough. In our identification strategy we use a diff-in-diff estimator using the data of 1857 and 1869 as the pre-treatment observations and the other 4 censuses as the post-treatment observations. Preliminary results indicate that districts on the Austrian side of the border performed better. This could be explained by the presence of more liberal and inclusive institutions in Austria. In the first decade after the Compromise, the parliament of Vienna was in the hands of German liberals who tried to move their part of the Empire toward the values of the French Revolution and of English capitalism. On the contrary, in Hungary the power remained in the hands of the landowners who maintained a more feudal-like economy and followed a policy of Magyarization toward the national minorities. The aims of this paper are to deepen the knowledge of the economic development of the Austrian-Hungarian Empire in the 19th century and, on a broader note, to exploit this historical event to observe the relationship between institutions and economic growth in the long run.

## Primary Sources

- [1] k. k. Direction der administrativen Statistik, *Tafeln zur Statistik der österreichischen Monarchie für das Jahr 1843*. 16 Jahrgang; k. k. Hof- und Staatsdruckerei, 1847.
- [2] Direction der administrativen Statistik, *Tafeln zur Statistik der österreichischen Monarchie für das Jahr 1845*. 18/19 Jahrgang; k. k. Hof- und Staatsdruckerei, 1850.
- [3] Direction der administrativen Statistik, *Tafeln zur Statistik der österreichischen Monarchie*. Neue Folge 1 Band, 1851; k. k. Hof- und Staatsdruckerei, 1856.
- [4] Direction der administrativen Statistik, *Statistische Übersichten über die Bevölkerung und den Viehstand von Österreich nach der Zählung vom 31. October 1857*. k. k. Hof- und Staatsdruckerei, 1859.
- [5] k. k. Statistischen Central-Commission, *Summarische Ergebnisse der Volkszählung vom 31. Dezember 1869*. k. k. Hof- und Staatsdruckerei, 1870.
- [6] Österreichische Statistik, *Die Ergebnisse der Volkszählung und der mit derselben verbundenen Zählung der häuslichen Nutzthiere vom 31. December 1880 in den im Reichsrathe vertretenen Königreichen und Ländern*. k. k. Hof- und Staatsdruckerei, 1882.
- [7] Österreichische Statistik, *Die Ergebnisse der Volkszählung vom 31. December 1890 in den im Reichsrathe vertretenen Königreichen und Ländern*. k. k. Hof- und Staatsdruckerei, 1892.
- [8] Österreichische Statistik, *Die Ergebnisse der Volkszählung vom 31. December 1900 in den im Reichsrathe vertretenen Königreichen und Ländern*. k. k. Hof- und Staatsdruckerei, 1902.
- [9] Österreichische Statistik, *Die Ergebnisse der Volkszählung vom 31. Dezember 1910 in den im Reichsrathe vertretenen Königreichen und Ländern*. Neue Folge, k. k. Hof- und Staatsdruckerei, 1912.
- [10] Magyar Kir. Statisztikai Hivatal, *A magyar korona országában az 1870 év elején végrehajtott népszámlálás eredményei. A hasznos házi állatok*. Athenaeum Nyomdájában, 1871.
- [11] Magyar Kir. Statisztikai Hivatal, *A magyar korona országában az 1881 év elején végrehajtott népszámlálás eredményei. Némely hasznos házi állatok*. Athenaeum R. Társulat Könyvnyomdája, 1882.
- [12] Magyar Statisztikai Közlemények, *A magyar korona országában az 1891 év elején végrehajtott népszámlálás eredményei. Általános népleírás*. Pesti Könyvnyomda Részvénytársaság, 1893.

- [13] Magyar Kir. Központi Statisztikai Hivatal, *A magyar korona országainak 1900 évi népszámlálása. A népesség általános leírása községenként*. Pesti Könyvnyomda Részvénytársaság, 1902.
- [14] Magyar Kir. Központi Statisztikai Hivatal, *A magyar szent korona országainak 1910 évi népszámlálása. Els rész. A népesség fbb adatai községek és népesebb puszták, telepek szerint*. Athenaeum Irodalmi és Nyomdai Rtársulat, 1912.

## References

- [1] Acemoglu D., Cantoni D., Johnson S., and Robinson J., *The Consequences of Radical Reform: The French Revolution*. American Economic Review, 2011.
- [2] Evans R.J.W., *Austria, Hungary, and the Habsburgs: Central Europe c.1683-1867*. Oxford University Press, 2008.
- [3] Good David F., *The Economic Rise of the Habsburg Empire, 1750-1914*. University of California Press, 1984.
- [4] Komlos John, *The Habsburg Monarchy as a Customs Union: Economic Development in Austria-Hungary in the Nineteenth Century*. Princeton University Press, 1983.
- [5] Kwan Jonathan, *Liberalism and the Habsburg Monarchy 1861-1895*. Palgrave Macmillian, 2013.
- [6] Macartney C.A., *The Habsburg Empire*. Weidenfeld and Nicolson, 1971.
- [7] Mathias Peter and Pollard Sidney, *The Cambridge Economic History of Europe from the Decline of the Roman Empire; Volume 8, The Industrial Economies*. Cambridge University Press, 2008.
- [8] Schulze, Max-Stephan, *Patterns of growth and stagnation in the late nineteenth century Habsburg economy*. European Review of Economic History, 2000.
- [9] Schulze, Max-Stephan and Wolf, Nikolaus, *Harbingers of dissolution?: grain prices, borders and nationalism in the Habsburg economy before the First World War*. Economic History Working Papers, 2006.
- [10] Taylor A.J.P., *The Habsburg Monarchy, 1809-1918: A History of the Austrian Empire and Austria-Hungary*. University Of Chicago Press, 1976.
- [11] Tihany Leslie C., *The Austro-Hungarian Compromise, 1867-1918*. Central European History, 1969.
- [12] Urbanitsch P. and Wandruszka A., *Die Habsburgermonarchie 1848-1918, Band I: Die wirtschaftliche Entwicklung*. Verlag d. österr. Akademie d. Wissenschaften, 1973.

Figure 1: Austria-Hungary after the Compromise.

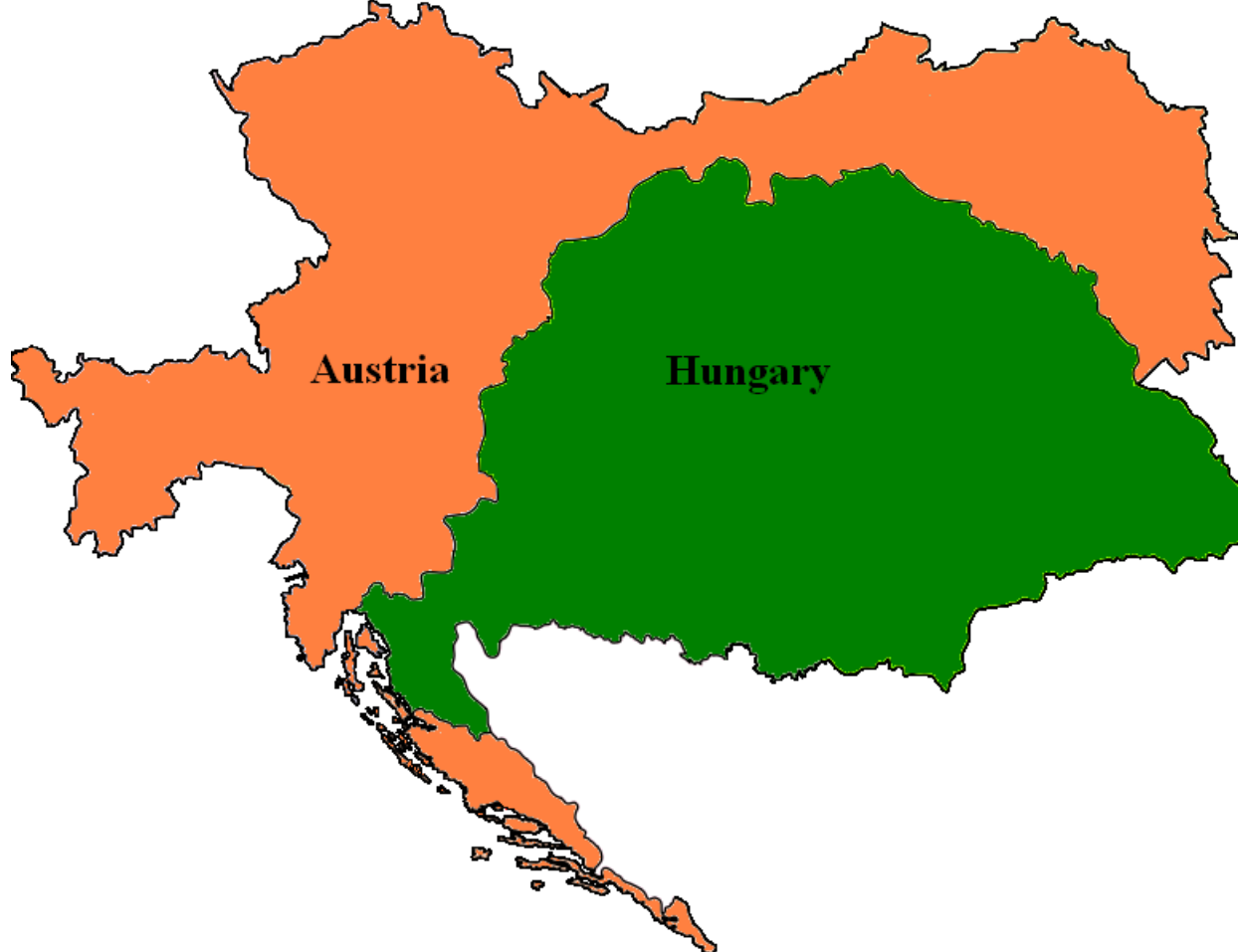




Figure 2: Ethnic composition of Austria-Hungary (1910).



Figure 3: Districts of interest in yellow.

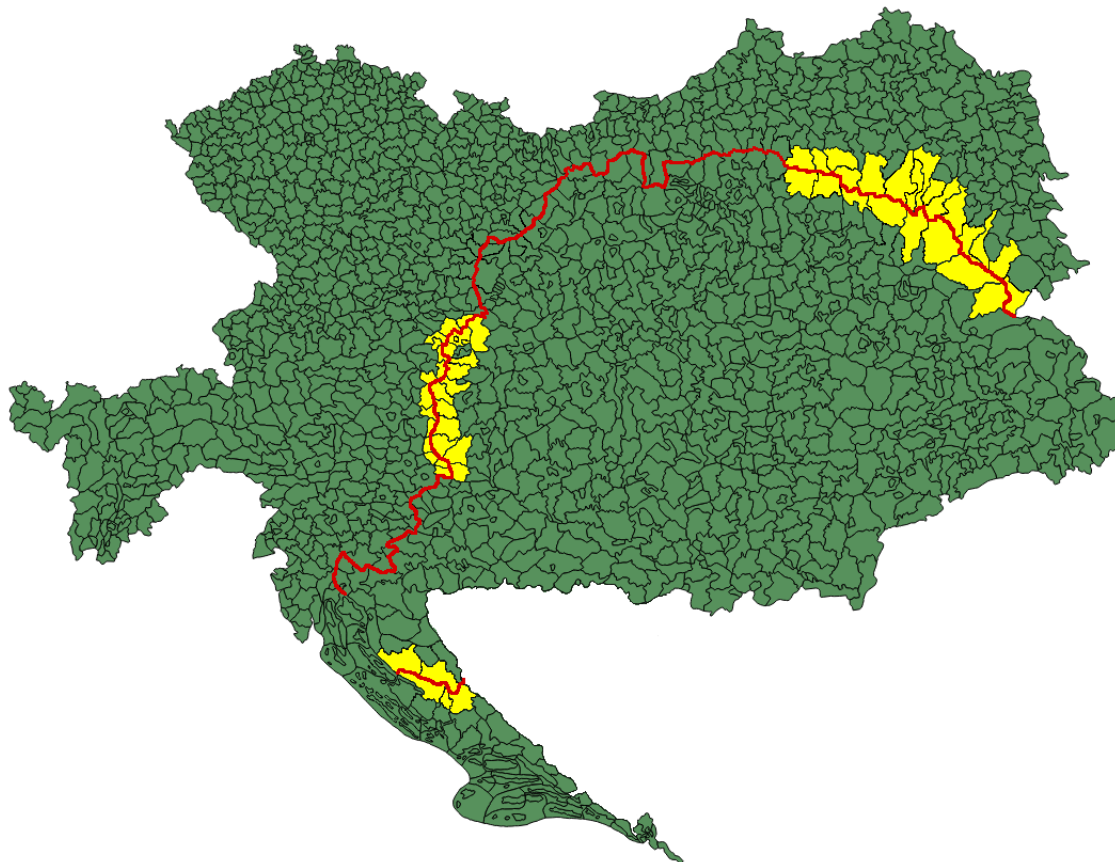


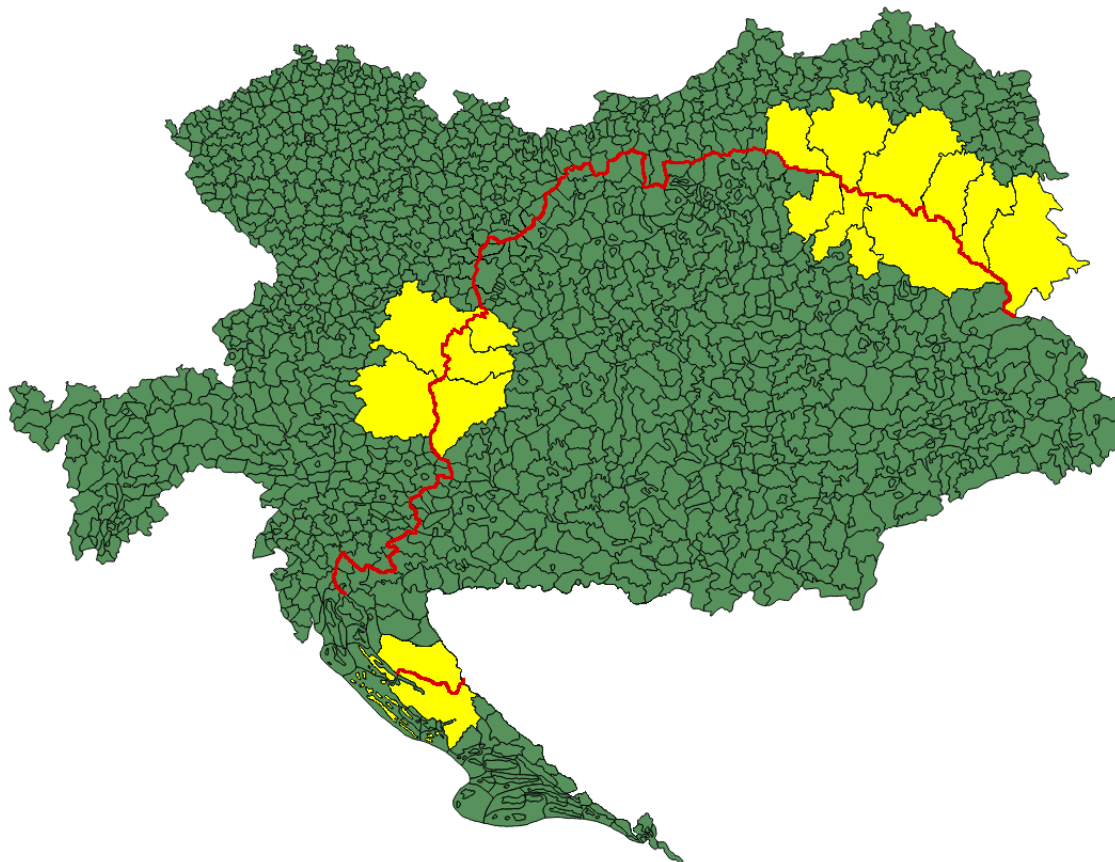
Figure 4: *Kreise* of interest in yellow.

Table 1. Summary statistics

	No. Obs.	Mean Total	Std. Dev.	Mean Austria	Mean Hungary
<i>Population in 1857</i>	42	38871	17843	51273	26468
<i>Population in 1880</i>	42	44390	20381	58286	30494
<i>Population in 1910</i>	42	58987	29817	79521	38453
<i>Urbanization Rate in 1857</i>	42	0.0389	0.0138	0.0449	0.0329
<i>Urbanization Rate in 1880</i>	42	0.0527	0.0156	0.0607	0.0447
<i>Urbanization Rate in 1910</i>	42	0.1094	0.0255	0.1475	0.0714
<i>Railways in 1857</i>	42	7.6	4.36	13.33	1.86
<i>Railways in 1880</i>	42	23.15	6.67	35.36	10.95
<i>Railways in 1910</i>	42	56.78	9.12	78.4	35.16

Table 2.

	(1) Urbanization Rate	(2) Railways
<i>Austria</i>	0.156** (0.0035)	10.94 (11.28)
<i>Compromise</i>	0.232 (0.0202)	19.83** (4.36)
<i>Austria*Compromise</i>	0.226* (0.0077)	24.6** (2.97)
<i>_cons</i>	0.035** (0.008)	2.39 (2.15)
<i>N</i>	252	252
<i>adj. R<sup>2</sup></i>	0.036	0.199

Standard errors in parenthesis clustered according to re-

gions: Dalmatia, Burgenland, and Galicia.

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

Table 3.

	(1) Urbanization Rate	(2) Railways
<i>Austria*Year 1857</i>	-0.0072 (0.0074)	1.07 (1.07)
<i>Austria*Year 1880</i>	-0.0032 (0.0028)	14* (4.53)
<i>Austria*Year 1890</i>	0.0025 (0.003)	24.94*** (1.8)
<i>Austria*Year 1900</i>	0.02* (0.0062)	28.78** (5.93)
<i>Austria*Year 1910</i>	0.0569** (0.0098)	32.84*** (1.72)
<i>_cons</i>	0.1852** (0.0217)	33.61** (5.63)
<i>Time FE</i>	Yes	Yes
<i>District FE</i>	Yes	Yes
<i>N</i>	252	252
<i>adj. R<sup>2</sup></i>	0.086	0.199

Standard errors in parenthesis clustered according to regions: Dalmatia, Burgenland, and Galicia. Baseline year 1869.

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



# Prussia and German Militarism

Marco Lavoratornovovo

## Abstract

The establishment of the German Empire in 1871 led to the spread of Prussian ideology, institutions, and bureaucracy in Western Germany. According to some scholars, this resulted in an exacerbation of militarism and authoritarianism in German public opinion. We would like to test this hypothesis. Our unit of observations will be towns in western Germany which were exposed to the Prussian ideology in different degrees and from different years. As proxies for militarism and nationalism we would like to use the number of members in patriotic associations, a set of clubs extremely popular in the 19th century.

## Introduction

In this draft we make a proposal to analyze the long-run effects of a change in institutions on a society. In 1871 the German Empire was founded thanks to the military power of the Prussian army and the diplomatic skills of Bismarck. The hegemony of Prussia in the new state and her new prestige led to the spread of Prussian institutions and ideology west of the Elbe. This part of Germany has been traditionally closer culturally to France and England and it proved to be a bastion of liberalism in the period following the Congress of Vienna (1815). German *bourgeoisie* tried to unify Germany along Western values, creating a constitutional state respectful of human rights, but the failure of the revolution of 1848 represented the tombstone of German liberalism. On the other hand, Prussia was an authoritarian state ruled by a class of landowners, proud of their traditional values. According to some scholar, Prussia's hegemony resulted in a increasing of militarism and authoritarianism in German public opinion. We would like to test this hypothesis. Our unit of observations will be towns in western Germany which were exposed to the Prussian ideology in different degrees and from different years. As proxies for militarism and nationalism we would like to use the number of members in patriotic associations, a set of clubs extremely popular in the 19th century.

## History Background

The invasion of Germany by the French army during the Napoleonic wars shocked the German people. The disastrous battle of Jena (1806), in which Napoleon wiped out the armies of Prussia and Saxony, represents a watershed in German history. The reaction to the French occupation spurred a new sense of national identity, expressed in the poems of Ernst Arndt and in the *Addresses to the German Nation* of Fichte. Historians look at this moment as the starting point of the German nationalism. The new movement led to the creation of gymnastic societies and of volunteer units which fought Napoleon in the following victorious War of Liberation, culminated in the battle of Leipzig (1813). In the Congress of Vienna, Prussia acquired a foothold in the Rhineland, from that base she went on to dominate Germany. The supremacy of Prussia will have fateful consequences for all Europe, as it inhibited the expansion of liberalism in favour of a strong state and an authoritarian worldview.

During the course of the 19th century, the debate on how to achieve the unification of Germany, namely the German question, became more and more passionate. Austria and Prussia, liberals and conservatives, noble landowners and the new *bourgeoisie* clashed repeatedly for the dominion over Germany. At the beginning, an evolution of Germany along the lines of France and of England seemed natural and inevitable, the German liberals had the upper hand and with the revolution of 1848 they aimed at establishing a modern and centralized nation-state based on popular sovereignty and human rights. The "March demands" of the Berlin people to King Frederick William IV consisted of free-



dom of the press, freedom of speech and of public assembly, amnesty for political prisoners, equal political rights for all citizens, reduction of the standing army, parliamentary elections, and a constitution. However, liberals were not able to find an agreement to level out their social and ideological heterogeneity in the Frankfurt Parliament. In particular, the growing nationalist sentiments proved impossible to rule out. When the 1848 revolution collapsed there was no shortage of other solutions and while liberals became progressively less relevant, Prussia and his Chancellor Bismarck took the lead. Among the various German states, Prussia stood apart. It was founded by the Teutonic order in what at the time was seen as the border between civilization and savagery, with the scope of conquering and Christianize the last pagan peoples of Europe. Over the centuries, Prussia remained a stronghold of authoritarianism, militarism, and aristocracy. It was ruled by the *Junker*, a class of nobles owners of latifundia-style estates and of inherited positions in the army, in the Protestant clergy, and in bureaucracy. The reign of Frederick the Great in the 18th century exacerbated these characteristic. While the upper class in the rest of Germany was influenced by Western values, Prussian society appeared static and reactionary. However, the prestige of Prussia greatly improved during the War of Liberation. The Prussian army fought bravely against the French army, while Austria, Bavaria, and lesser German states seemed to be at the mercy of Napoleon. As a consequence of the failure of the 1848 revolution, part of the German *bourgeoisie* now looked at Prussia to fulfill their hope of a unified German state. On his side, Bismarck was concerned with broadening Prussia's power base and consolidating her position in a revolutionary Europe, his aim was to establish Prussian hegemony in Germany at Austria's expense. The alliance between Bismarck and the right-wing of the liberal was crucial for the success of Bismarck's plan. He could not rely on the *Junker* who thought that an enlargement to the West would weaken their power base. However once the unification of Germany was completed in 1871 with the proclamation of the German Empire at Versailles, Bismarck had no scruples in overturning his alliance system. Now liberals and their beliefs in human rights and parliamentarism were too dangerous for the old system. The market crash of 1873 and the following depression discredited liberal economics and policies, while the rising nationalism further divided the liberals. Bismarck went back to the landed aristocracy, in return for their support he guaranteed them the control over Prussia, which in turn, controlled Germany. The German Empire consisted of 26 states: Kingdom of Prussia, Kingdom of Bavaria, Grand Duchy of Baden, Duchy of Brunswick, Free City of Lübeck, etc. In practice, the Empire was dominated by Prussia, which alone counted for two third of the area and 60% of the population. The Prussian parliament was based on a three-class franchise system, men over 21 were divided by their direct tax revenue into three separate classes. The first class was formed by the 33% richest individuals, the third class by the 33% poorest, and the second one by those in the middle. Each class elected one third of the representatives. There was no secret ballot, voting took place in public and was oral. Obviously, *Junker* and, increasingly, industrialists were overrepresented in the parliament. The Empire had his own parliament called

the *Reichstag*, but it held no real power, it could not appoint or dismiss the Chancellor, it could not reject the national budget, and it had no voice in the foreign policy. The *Reichstag* had essentially a consultative role.

Over the following decades, the German Conservatives relied on their position of predominance east of the Elbe to expand their influence over the rest of the Empire. This success was largely due to the creation of an effective ideology which since an early stage was composed by a mixture of extreme nationalist, *Blut und Boden* (blood and soil) mythology, militarism, and antisemitism. Maybe the first example of modern political antisemitism in Germany was the Christian-social Party, founded by the Imperial Court Chaplain Stocker. He merged the old antipathies among the nobility with middle-class and peasant sentiments directed against Jewish moneylenders and livestock brokers. It shows us clearly how nationalism was rapidly penetrated by the spread of racialist beliefs. Although the openly antisemitic parties could attract only a very small share of votes in the pre-war elections, in the long run it is noteworthy that antisemitism, with Bismarck's approval, became widespread among the conservatives, in this way, it found a foothold into the old elites and in right-wing associations. Another consequence of Prussian domination was the spread of military thinking in all social groups. While militarism was a distinctive aspect of Prussia since the time of the Teutonic Order, it could not be said the same for the other German states. The growing importance of the army is one of the most visible aspects of "Prussification" of Germany. In the social scale, military officers occupied the highest step and they permeated the whole society with their ways of thinking, values, and notions of honor. Revealing signs are numerous, for example, every imperial Chancellor in Germany wore a uniform when appearing in the Reichstag. The success of the landowning aristocracy in preserving their privileges and in converting to their ideology and worldview the majority of the *bourgeoisie* was remarkable, the only opposition came from the Social Democratic Party. The control over German society was so complete that only at the very end of World War I, in the autumn of 1918, when Germany was on the brink of social and military collapse, the representatives of the German upper class agreed in abolishing the Prussian three-class franchise system and in increasing the powers of the *Reichstag*. It was a last-minute attempt to get back the trust of the German people and to avoid the incoming revolution.

The spread of nationalism, militarism, and racism in the second half of the 19th century was not only a German phenomenon. Actually, these characteristics were common to all European States of the time. For example, in the case of antisemitism, we have the *Dreyfus affaire* in France and the explosions of *pogrom* in Russia. This leads to a question, how much of the diffusion of extreme nationalistic sentiments west of the Elbe was due to the spread of Prussian institutions, bureaucracy, and ideology; and how much was simply a consequence of the *weltanschauung* of the time.

## Patriotic Societies

Over the 19th century, patriotic associations represented an important aspect of German political life. Although it was not just a German phenomenon, they were nowhere as popular, large, and active as in Germany. Neither they had such an important influence on government's decisions, nor the government, on its side, created and used them to generate popular consensus on question of foreign policy or to weaken domestic tensions. The first phase of German associations corresponds roughly to the period between 1806 and 1819. The battle of Jena was perceived as a national catastrophe and it triggered the establishment of gymnastic, choral, and sharp-shooting societies. While choral associations focused mainly on culture and tradition, gymnastic and sharp-shooting societies were specifically created for militaristic purposes. The aim was to liberate Germany from the French occupation, their members trained themselves to be physically fit and combat-ready. Their efforts were rewarded, many of them fought in the battle of Leipzig (1813), which led to the first fall of Napoleon and to the withdraw of the French army. Over the following decades, an explosion of associative life accompanied each major political events as the revolution of 1848 or the Unification Wars of the 1860s. In this paper, we will focus on the *Deutsche Turnerschaft* (German Gymnastic Association), the *Deutsche Kolonialgesellschaft - DKG* (German Colonial Association), and the *Deutscher Flottenverein* (Navy League). The Gymnastic Association was founded in 1860, it gathered in a Pan-German society all the existing gymnastic societies. *Turnvereine* (gymnastic unions) had as aim to provide a political education. In this sense, physical activity was promoted not only to improve overall health and fitness, but to be ready in case of war. In fact, many of their members took part in the Napoleonic Wars, as we said, in the revolution of 1848, and in the Unification Wars. The Navy League and the Colonial Associations are two of an handful of societies which characterized *fin de siècle* Germany, as the Army league, the All-German Association, or the German Eastern Marches Society. They had some common characteristics: they were founded between 1887 and 1906, they were extremely nationalistic, their aim was to direct and to influence German foreign policy, and they had the same social composition: businessmen, professionals, schoolteachers, civil servants, etc. German Colonial Association was the oldest, established in 1887, one of its purpose was to extend German colonial possessions. However, when the associations was founded the scramble for Africa was essentially over, acquiring new territories meant clashing with other European powers. A distinguishing characteristic of the *DKG* is that its members were principally bankers, industrialists, and merchants doing business in Africa and the Orient with strong links the with German government. On one side, this permitted them to exert a dominant influence over German policies and to direct public funds to their advantage. On other side, they had to maintain a pro-government facade to not endanger their special relationship. As result, the *DKG* appeared too moderate to many, especially given the heated debates about foreign policy and military expenditures in the last years before World War I. The German Naval Association was founded by a group of indus-

trialists, Hanse merchants, and shipbuilders with the approval of the Imperial War Office in 1898. Its aim was to press the government to divert some military expenditures toward the building of an huge war fleet. This would permit Germany to pursue a more aggressive foreign policy and to threaten directly England. The Navy League was easily the largest of the patriotic societies in pre-war Germany. Even if it was founded with the benevolence of at least part of the War Office, it became rapidly more and more radical and outspoken in its criticism of German government. The pace of naval construction was considered too slow and they emphasized the need for a more forceful German foreign policy. In conclusion, we think that the organizations we are focusing on could be considered as good proxies for militaristic and nationalistic sentiments, given their nature and scope.

## Hesse-Nassau

We would like to focus on the territories of the former Electorate of Hesse (Hesse-Nassau) and its surroundings (Figure 1 and 2). For the scope of this paper, this area had some interesting characteristics. The exposure to Prussian institutions was very different in towns only few kilometers away (see below). Moreover, this region was a stronghold of national liberalism, during the revolution of 1848, the representatives of the German people gathered in Frankfurt. The liberal constitution proclaimed here in March of 1849 was the model for the constitutions of the Weimar Republic and of modern Germany. After the Unification Wars, Prussia annexed several territories, as the Kingdom of Hanover or the Electorate of Hesse, which stood for Austria in the previous war. They were transformed in new Prussian provinces. The Prussian administrative system was extended to the new provinces, but Bismarck proved to be flexible and tactful, he permitted confederates states to retain their own symbols and institutions and he guaranteed to Prussian provinces some autonomy. This demonstrated to be a winning policy, most of German public opinion accepted the new rulers, while the simpler and more efficient form of Prussian administration quickly proved popular.

## Data and Identification Strategy

As unit of observations we would like to use towns in or around the former Electorate of Hesse, which was annexed and transformed in a Prussian province in 1871 (Figure 1 and 2). For the scope of this paper, this is an interesting region because in a limited area we can find:

- Towns that has been annexed by Prussia since 1815.
- Towns that were part of lesser German states from 1815 to 1871, and then they were incorporated in the German Empire in a new Prussian province.
- Towns that were part of lesser German states from 1815 to 1871, and then

they were incorporated in the German Empire in a confederate state.

The influence of Prussian institutions should have been higher for the first set of cities and lower for the third one. We would like to observe if this is linked to a higher degree of militarism and nationalism. As proxies for these cultural phenomena, we would like to use the proportion of inhabitants enrolled to patriotic associations: the German Gymnastic Association, the German Colonial Association, and the Navy League. The identification strategy is limited by our data. The German Gymnastic Association was founded in 1860, so in this case we can use a diff-in-diff strategy, having observations before 1871 and after. On other hand, the German Colonial Association and the Navy League was founded in 1890s, so we have to rely on an OLS strategy. Data are taken from annual reports (*Jahresbericht*) of the patriotic societies. The Colonial Association published the *Jahresbericht der Deutschen Kolonialgesellschaft* which contained data about the number of members in each city since 1896. The German Gymnastic Association published a *Statistisches Jahrbuch der Turnvereine Deutschlands* in 1863, 1865, and 1871 which contained detailed information about the number and composition of each of its chapter, unfortunately later reports are not so accurate, thus we need to search for publications of local branches.

## Conclusion

In this draft, we propose a way of testing the hypothesis that the spread of Prussian institutions and ideology to the west led to a growth in nationalist and military sentiments. We would like to focus on towns in western Germany, using as proxies for militarism and nationalism the number of members in patriotic societies, as the German Gymnastic Association or the German Colonial Association.

Figure 1: The German Confederation from 1815 to 1866.



Figure 2: The German Empire from 1871 to 1918.



## Primary Sources

- [1] *Jahrbuch des Deutschen Flottenvereins*. Berlin, 1900-1907.
- [2] *Jahresbericht der Deutschen Kolonialgesellschaft*. Berlin, 1888-1906.
- [3] Hirth Georg, *Statistisches Jahrbuch der Turnvereine Deutschlands*. Leipzig, 1863, 1865, 1871.

## References

- [1] Berdahl Robert M., *New Thoughts on German Nationalism*. The American Historical Review, 1972.
- [2] Gellner Ernest, *Nations and Nationalism*. Cornell University Press, 1983.
- [3] Gellner Ernest, *Nationalism*. NYU Press, 1997.
- [4] Schulze Hagen, *The Course of German Nationalism: From Frederick the Great to Bismarck, 1763-1867*. Cambridge University Press, 1991.
- [5] Shevin-Coetzee Marilyn, *The German Army League*. Oxford University Press, 1990.
- [6] Wehler Hans-Ulrich, *The German Empire 1871-1918*. Berg, 1985.