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The long-term impact of religion on social capital: lessons from post-war Czechoslovakia*

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Abstract

We exploit a historical experiment that occurred in Czechoslovakia after World War Two to study the drivers of social capital accumulation in an extremely unfavorable environment. Between 1945 and 1948, the Sudetenland became the scene of ethnic cleansing, with the expulsion of nearly three million German speakers and the simultaneous influx of nearly two million resettlers. Focusing on the areas where at least 90% of the population was forced to leave, we show that the municipalities hosting a church built before 1945 developed significantly higher social capital under the communist rule, which persisted after the dissolution of Czechoslovakia and the current days.

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1 Introduction

Democracy and freedom of expression are preconditions for a vibrant civil society that supports the accumulation of social capital. By contrast, authoritarianism can discourage social participation weakening a society’s civic culture (Besley, 2020). European Soviet satellites offer examples of the social capital deprivation of politically repressive countries (Fidrmuc and Gërxhani, 2008, Lichter et al., 2021; Nikolova et al., 2022). Understanding how civic culture can thrive under the pressure of an authoritarian regime is key to developing social capital investment strategies in hostile environments.

This paper uses a historical experiment that occurred in Czechoslovakia after World War Two to study the drivers of social capital accumulation in extremely unfavorable conditions. Between 1945 and 1948, the Sudetenland became the scene of ethnic cleansing, with the expulsion of nearly three million German speakers and the simultaneous influx of nearly two million resettlers. In most municipalities, forced migration and resettlement destroyed any pre-existing social structure. When the Communist Party seized power in 1948, the regime pursued a policy of repression against any form of civil society association, including religious organizations. The building of new churches was prohibited, while the existing ones were allowed to function only under the state’s strict control.

To study the long-term determinants of social capital in this historical framework, we combine census data from 1930 to 2011 with 1930 and 1950 newly and previously digitized administrative data on self-reported religious affiliation. We then augment this dataset with manually collected information on the distribution of church buildings across municipalities from 1945 to 1989. Finally, we build a battery of municipality-level social capital indicators based on data collected by the Czech Statistical Office from 1989. Our identification strategy exploits the discontinuity in the municipal exposure to Catholic churches to identify the impact of religious participation in the long-term accumulation of social capital.

Focusing on the areas where at least 90% of the population was German, which were almost entirely epopulated by the ethnic cleansing, we show that those municipalities that hosted a church built before 1945 developed significantly higher social capital under the communist rule, which persisted after the dissolution of Czechoslovakia and the current days.

Estimating the impact of the attitudes, norms, and behavior stimulated by the presence of a church is difficult for several reasons. The main challenge to identification is disentangling the role of church-related activities from other local characteristics that may have simultaneously affected the formation of social capital, such as the pre-existing culture, norms, and networks, and the sorting of the population into a particular location along specific individual features. The historical experiment we use in this paper helps tackle these identification issues, as the ethnic cleansing that occurred in 1945 entirely reset the social fabric of the sampled municipalities. Provided that the regime strongly discouraged religious participation after the resettlement, we present descriptive evidence suggesting that resettlers did not self-select into church-hosting municipalities along specific cultural traits such as their religious denomination. In addition, we document that the distribution of churches across inner Czech territories—not affected by post-war expulsion and resettlement directly—is independent of municipality-level indicators of civic engagement, suggesting that the allocation of church buildings was orthogonal to local characteristics that may favor the accumulation of social capital. Finally, we show that the Sudetenland areas we account for in our study are remarkably homogenous, with the main exception being the distribution of the church buildings constructed before 1945. Churches were evenly distributed across Czech and German-speaking regions, as dioceses were traditionally orthogonal to the ethnic divisions of the country (Rabas, 1982). Since the regime forcibly prevented autonomous civic participation everywhere and given the complete reset that resettled municipalities experienced in 1945, the accumulation of social capital could not build on the activity of any pre-existing civil society organization in specific locations (Gerlach, 2017).

Our study is nested in the literature on the roots of social capital. Previous work has analyzed the role of historical circumstances in the accumulation and long-term persistence of the attitudes, beliefs, and norms that support cooperation. Tabellini (2010) illustrates a robust relationship between the features of the political institutions in place over the past centuries and today's indicators of trust and pro-social behavior across European regions. Nunn and Wantchekon (2011) document that current differences in trust levels within Africa can be traced back to the routes of slave trade. Bracco et al. (2015) provide evidence that Southern Italian municipalities that hosted Albanian refugees escaping the Ottoman invasion of the Balkans in the 16th century exhibit higher trust and civic capital today. In the North of Italy, Middle Ages events still resonate in the distribution of

social capital across municipalities. For example, Guiso et al. (2016) show that cities that achieved self-government before 1300 are richer in civic capital today, with locations of episcopates having a higher probability of transforming into a free city-state. On a similar note, Buonanno et al. (2022) demonstrate that the exposure to the different types of republican rule in pre-industrial Italy continues to shape local public good provision and tax compliance.

The collapse of the Soviet bloc provided more recent historical experiments for studying the drivers of social capital accumulation. Transition studies document the long-term impact of the communist rule and ideological repression in East Germany on preferences for redistribution (Alesina and Fuchs-Schündeln, 2007), voter turnout and civic engagement (Jacob and Tyrell, 2010), interpersonal and institutional trust (Lichter et al., 2021; Nikolova et al., 2022), and students' labor market outcomes (Fuchs-Schündeln and Masella, 2016). A few recent studies specifically address the case of the Czech Sudetenland. Testa (2021) exploits the forced migration of ethnic Germans to show that the municipalities left behind developed a persistent disadvantage in population density, educational attainment, and sector composition. Guzi et al. (2021) similarly focus on resettled municipalities to provide evidence that the forced migration of ethnic Germans prompted a persistently higher propensity to migrate among the resettlers, suggesting a lower attachment of residents to their land. In the paper closest in spirit to ours, Grossmann et al. (2022) study the long-lasting legacy of the minority of Germans that were allowed to stay in the borderlands after 1948. The authors find that local variation in the number of German stayers significantly predicts communist party support, party cell frequencies, and far-left values. Differently from Guzi et al. (2021) and Testa (2021), who exploit discontinuities across the Sudetenland border with interior Czechia, we focus on a discontinuity inside the borderlands. While Grossmann et al. (2022) take advantage of the demarcation line between the US army and Red Army-liberated Czechoslovakia as a key factor in the forced migration of Germans, our study exploits the exogenous variation in the distribution of church buildings in the depopulated lands hosting the resettlers. This approach allows us to capitalize on the Sudetenland experiment to study the role of religion in the accumulation of social capital. Our results suggest that the social engagement connected to the activity of churches may support the generation of social capital. This finding helps uncover social capital dynamics in hostile environments, such as those plagued by a lack of democracy, conflict, and coordination failures that often characterize

low-income countries (e.g., Rohner et al., 2013; Jennings and Sanchez-Pages, 2017).

We also connect to the literature on the economic and societal outcomes of forced migration. The existing evidence suggests that migration may impoverish human capital in the place of origin while threatening the social cohesion of the communities of destination (Waldinger, 2010; Akbulut-Yuksel and Yuksel, 2015; Becker et al., 2020)¹. The disruptive effects of relocation may be even more pronounced in the case of forced migration, which obliges displaced refugees to break their ties abruptly and resettle in improvised ways (Bauer et al., 2013; Steinmayr, 2021). The main identification challenge of this literature is disentangling the direct effect of the cause for migration from the effects generated by the inflow and outflow of potentially self-selected groups of individuals. Our contribution builds on the Sudetenland experiment to overcome selection issues by studying the interplay between forced migration, religion, and social capital in the territories that refugees left behind.

Finally, this paper speaks to the literature on the economic outcomes of religion. Previous work has analyzed the role of religious participation and institutions in fertility (De la Croix and Delavallade, 2018), social preferences (Guiso et al., 2008), and coping with exogenous shocks (Bentzen, 2019). Social capital studies suggest that religion may have different impacts depending on the religious denomination and local historical and institutional features. For example, Putnam et al. (1993) argue that organized religion discouraged the flourishing of the civic community in Catholic Italy. According to the authors, the Italian Church retains much of the legacy of the Counter-Reformation, including the emphasis on the ecclesiastical hierarchy and the traditional virtues of obedience and acceptance of one's situation in life, which discourage civic engagement. By contrast, Guiso et al. (2016) claim that the presence of a bishop in Middle Ages Italian cities helped overcome coordination issues, thereby supporting the institutional transition to democracy and the accumulation of social capital in the long run. Our case study innovates the literature by addressing a completely different institutional framework. In the modern Italy analyzed by Putnam et al. (1993), institutions supported Catholicism as the official religious denomination of the country. On the other hand, the episcopates studied by Guiso et al. (2016) were on the verge of theocracy. More generally, religion has often been used to legitimize political power, *de facto* weakening democracy (Chaney, 2013; Belloc et al., 2016; Bentzen and Gokmen, 2022). Instead, in the post-war Sudetenland we

¹See Dustman et al., 2017 and Becker and Ferrara, 2019 for a review of the literature.

deal with in this paper, communist institutions openly persecuted Catholic participation while oppressing secular civil society organizations after the ethnic cleansing had entirely reset the social fabric of the region. Focusing on these unique historical circumstances, we add to the literature by catching another fragment of the complex relationship between religion and social capital. In a social capital deprived context governed by autocratic, secular institutions, the relational engagement connected to the activity of churches may help to develop and preserve the attitudes and values that promote cooperation.

The paper proceeds as follows. Section 2 provides the background of the forced migration and the subsequent resettlement in the Sudetenland between 1945 and 1948. In Section 3, we describe our data and strategy. Section 4 presents the results of the empirical analysis. In Section 5, we discuss our findings in light of the literature and offer insights for policy.

2 Historical background

This section provides a brief historical background highlighting some key elements of the radical historical experiment we exploit in this paper.

2.1 Expulsion of Germans and resettlement of the Sudetenland

Before World War Two, the Czech Republic was a multi-ethnic country, with German-speaking inhabitants accounting for nearly a third of the population. Germans began settling in Bohemia in the 13th century, mainly gathering in the border regions called the Sudetenland (see Figure 1). Despite the growing friction between the two groups after the collapse of empires following World War One, the German minority was never officially discriminated (Glassheim, 2000; Spurny, 2015). Tensions between Czechs and Germans substantially intensified during the interwar economic crisis and the rising popularity of German separatist political parties. The Munich Agreement in 1938 established the breakup of the Czechoslovak Republic and the annexation of the Sudetenland to the German Reich, putting an end to the equality of citizens regardless of nationality. After the invasion of the remaining Czech territory and the establishment of the Protectorate of Bohemia and Moravia in March 1939, the Nazi regime graduated civil rights based on

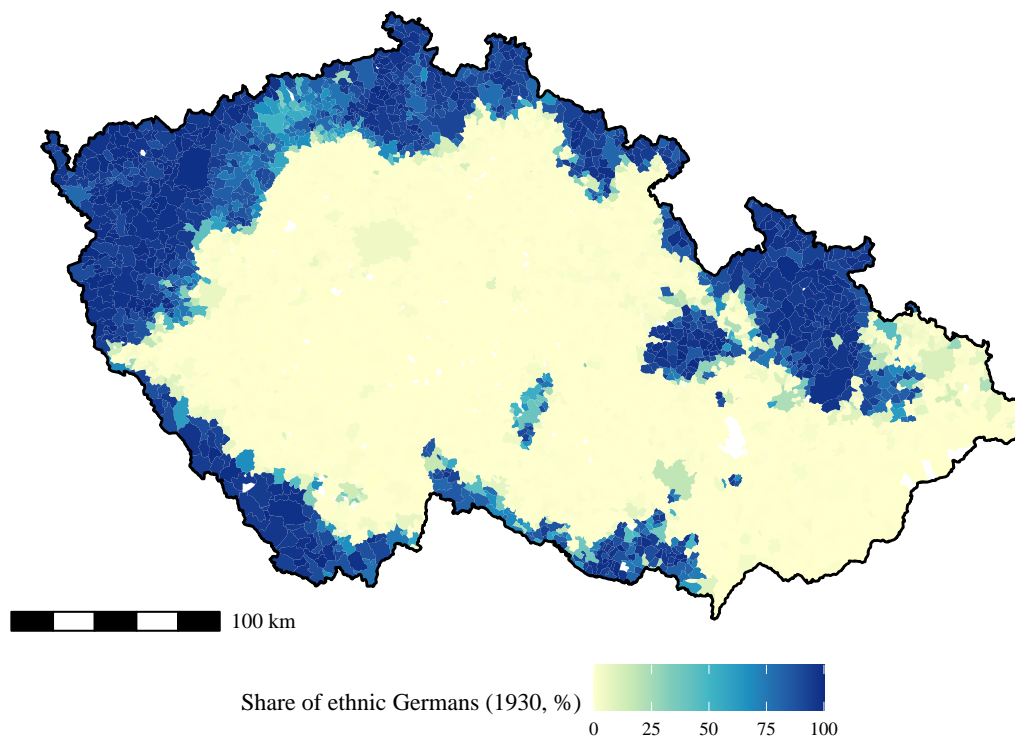


Figure 1: Share of ethnic Germans by municipality (1930)

Note: The ethnic German population is defined according to the primarily spoken language. The 1930 municipality-level data on ethnic Germans is harmonized with the 6168 municipalities defined in the 2011 census by using matching rules provided by the CZSO. Source: Guzi et al. (2021)

ethnic-racial criteria, with citizens of the Reich being the only ones who enjoyed full legal status, while Czech inhabitants were given the inferior status of “citizens of the Protectorate” Spurny, 2015). Apart from the relatively short period of the German annexation, the Sudetenland never had a separate state or church administration.

After the war ended in May 1945, the Czech borderlands became a site of a radical historical experiment. German-speaking inhabitants were held collectively responsible for the atrocities of war and forced to leave. This plan was supported by all political parties without regard to their ideology (Frommer, 2005). Initially, hundreds of thousands were expelled by acts of violence (the so-called “wild expulsion”). From January to October 1946, other millions were “transferred” in a more organized way following the agreements of the Potsdam Conference (Wiedemann, 2016). The mass deportation reduced the German-speaking population from nearly three million to approximately 200-

300 thousand (Gerlach, 2017). As a result, the share of ethnic Germans in the Czech population decreased from 29.5% (based on the 1930 census) to 1.8% based on the first postwar census in 1950 (CZSO, 2014). Those who were allowed to stay in the country (e.g., anti-fascists or irreplaceable experts) were often forced to relocate (Dvořák, 2013). This period of ethnic cleansing made the Czech Republic one of the most ethnically homogeneous countries in Europe (Glassheim, 2015). Deported Germans had to renounce all their properties—except for up to 50 kilograms of personal belongings—without any compensation. The houses and physical capital abandoned by displaced people were left intact and available for resettlers.

In parallel to the expulsion, Czech resettlers swiftly poured into the borderlands to take control of confiscated German homes, farms, and businesses (Gerlach, 2017). The weak regulation and chaotic nature of the resettlement make it difficult to map the socioeconomic characteristics of settlers. The available evidence suggests that resettlers were on average young and married, owned no land, and had limited prospects of inheriting family properties (Skoll, 1983; Capka et al., 2005; Wiedemann, 2016). Data collected by Skoll (1983) also highlight that settlers primarily moved in small groups that were heterogeneous in the municipality of origin (Guzi et al., 2021). Historical accounts suggest that new settlers did not self-select into specific areas based on pre-existing connections and their cultural values. Instead, they lacked solidarity and connection to the natural and social landscape, resulting in relational alienation and a widespread neglect of the public good (Abrams, 1995; Glassheim, 2015). Overall, the forced migration and resettlement entirely reset the social structure of the borderlands. The empirical analysis in this paper focuses on the municipalities where 90 percent of the population was German-speaking, which had to rebuild their social structures from the beginning after the ethnic cleansing.

2.2 Communist rule, liquidation of civil society, and persecution of churches

In February 1948, the USSR-backed Communist party—which won the 1946 parliamentary elections—seized power with a coup d'état and started transforming Czechoslovakia into a soviet satellite state. The government immediately began mass repressions against any organization that could threaten the regime's authority. Democratic parties, civil society organizations, and churches were systematically persecuted. The regime disbanded voluntary associations and political parties, forcing them to merge into government-controlled umbrella organizations that cut any linkage with their original identity and purpose. In the early Stalinist period (1948–1953), the regime arrested and incarcerated people almost at random. Few citizens were secure from the accusation of being an enemy of socialism and the threat of persecution, which often resulted in heavy jail or even death sentences (Evanson, 1986). The literature documents how soviet-inspired witch hunts destroyed trust, civic engagement, and pro-social attitudes in Eastern Europe (Alesina and Fuchs-Schündeln, 2007; Lichter et al., 2021; Nikolova et al., 2022). In the Sudetenland, these policies added to the reset of the social fabric caused by the ethnic cleansing, causing an unprecedented state of social capital deprivation.

At the time of the coup d'état, the population of Czechoslovakia was overwhelmingly religious, with 92.2 % of inhabitants declaring themselves “religious” in 1930. According to 1950 census data, the share of religious people raised to 94.2 percent two years after the communist coup. Catholicism was the dominant denomination, with 78.5% of the population in 1930 and 76.4% in 1950. In 1948, the Catholic church was a large country-wide organization with 7,042 priests, 2,856 monks, and 12,095 nuns (Kalous, 2013). In addition, they ran 134 schools, 133 newspapers and magazines, and many charitable organizations (Jäger, 2009).

From the very beginning, the Catholic church was one of the primary targets of repression, with the regime openly pursuing “political forced secularization” and the transformation of Czech citizens into “pure atheists” in parallel with the other soviet countries (Meulemann, 2004). On the other hand, Catholic institutions clearly distanced themselves from the Czech government by excommunicating communist party members and collaborating priests in mid-1949. In the first two years after the coup, the regime confiscated church properties, house-arrested bishops, and detained all monks and nuns. However,

churches were never outlawed and could operate under strict government supervision, with official church activities essentially bound to masses celebrations. Catholic institutions were not allowed to freely appoint priests, run schools and hospitals, or build new churches. These circumstances suggest that church initiatives were limited and had a narrow spatial scope, implying that spill-over effects are not likely to bias the estimation of the treatment effects. The government later tolerated the informal activities of church members. Still, participants were always at risk of criminal charges or other forms of persecution, such as losing their jobs, discrimination in access to education, and harassment by the secret police.

After the fall of the communist regime in 1989, the democratic government fully restored freedom of religion, and established a liberal legal framework for civil society building. A key law from March 1990 stipulates that people can register any non-governmental organization compliant with the constitutional order and laws. A special law for the registration of churches and church organizations was later adopted in July 1991.

3 Data and Identification

This section provides an overview of the municipality-level data we employ in the empirical analysis and the identification strategy we adopt to assess the long-term impact of churches activities on social capital.

3.1 Data sources and estimation sample

We combine three municipality-level partial data sets. Data from decennial censuses from 1930, 1950, 1991, 2001, and 2011 provide information on the municipal population, its education, ethnic and demographic structure, and respondents' self-reported religious affiliation. Data from all censuses (1869–2011) are freely available on the website of the Czech Statistical Office (CZSO).² The availability of other variables differs from census to census. The 1930 census is a data source for pre-expulsion and pre-resettlement shares of ethnic Germans. We augment 1930 data on ethnicity digitized by Guzi et al. (2021) with newly digitized census data on self-reported religious affiliation. The first post-resettlement cen-

²See <https://www.czso.cz/csu/czso/historicky-lexikon-obci-1869-az-2015> (last accessed August 23, 2022).

sus took place in 1950. The 1950 census was also the last communist-time census that included questions on self-reported religious affiliation. However, municipality-level data are available only for two regions: Ústí nad Labem and Liberec.³ The Czech Statistical Office restored religion-related questions into the census questionnaire in 1991, after the fall of the communist regime in 1989. Modern censuses (i.e., 1991, 2001, and 2011 waves) providing detailed information on the population structure are available upon request from CZSO.

We complement census data with a variable that indicates the presence of a church building in the municipality in 1945. We construct this variable using two principal data sources. First, we drew a list of municipalities hosting a “sacral building” from the MOS database we purchased from CZSO.⁴ We then manually verified this list using the online services Google Street View, Mapy.cz, and other sources, such as municipalities’ websites. We keep only the municipalities in which a church was built before 1989. Second, we merge the dataset with an additional list of municipalities that have hosted a church demolished after 1945. We draw information on demolished buildings from a database of the Ministry of Culture and a dedicated website.⁵

The number of active NGOs, our measure of social capital, is constructed from historic exports from the Registry of Economic Subjects (RES) provided by the CZSO. RES contains essential information for all juridical persons in the Czech Republic, allowing us to identify NGOs and obtain information on the address (municipality) of their headquarters, their legal form and incorporation date, and the date on which the NGO eventually ended its activities. Using the available RES data, we can calculate the number of active NGOs for each municipality and year from 1990 to 2007. RES also allows us to identify church-related NGOs as they were of a particular legal form.

The expulsion of ethnic Germans and the subsequent resettlement affected some municipalities more than others. We restrict our estimation sample to resettled municipalities whose pre-war share of ethnic Germans was at least 90%. This threshold ensures that we focus on the most affected municipalities where the population was almost entirely replaced and the original social capital destroyed. Within this subset, the larger munic-

³Aggregated records for other regions were lost in the 2000s, and original census documents will be made available to researchers in 2055. The 1950 municipality-level data were kindly provided by the Czech Statistical Office.

⁴See <https://vdb.czso.cz/mos/> (last accessed on December 9, 2022).

⁵See <http://www.znicenekostely.cz/> (last accessed on December 9, 2022).

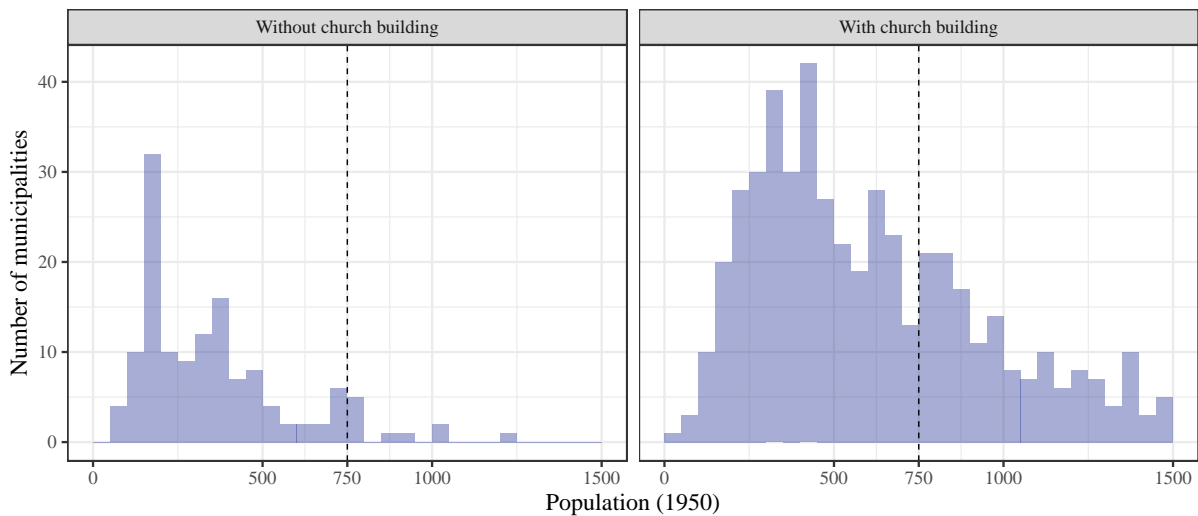


Figure 2: Population 1950 and presence of a church building in the municipality

ipalities were more likely to have a church building in 1945. Therefore, we restrict our estimation sample to municipalities with a population below 750 inhabitants in the 1950 census (see Figure 2). We base our estimation sample selection criteria on the 1950 population because the 1950 census was the first to happen after the resettlement. The final estimation sample contains 335 Sudetenland municipalities hosting churches (treated) and 124 municipalities without churches (not treated) (see Figure 3). Due to administrative changes in the early 1990s, data on some municipalities are not available for this period. Therefore, the resulting dataset is an unbalanced panel with 7,859 observations.

3.2 Empirical strategy and descriptive evidence

To identify the effect of church activity on social capital, we exploit the variation in the distribution of church buildings across the borderlands municipalities with less than 750 inhabitants in 1945. Therefore, our identification relies on the fact that the allocation of churches is orthogonal to other factors that may have affected the accumulation of social capital in the same subsample. With respect to the 1930 population, churches were allocated to substantially larger municipalities, suggesting some selection in the building of churches or the sorting of inhabitants in the course of previous centuries. Descriptive statistics in Table 1 show that, on average, municipalities had more than

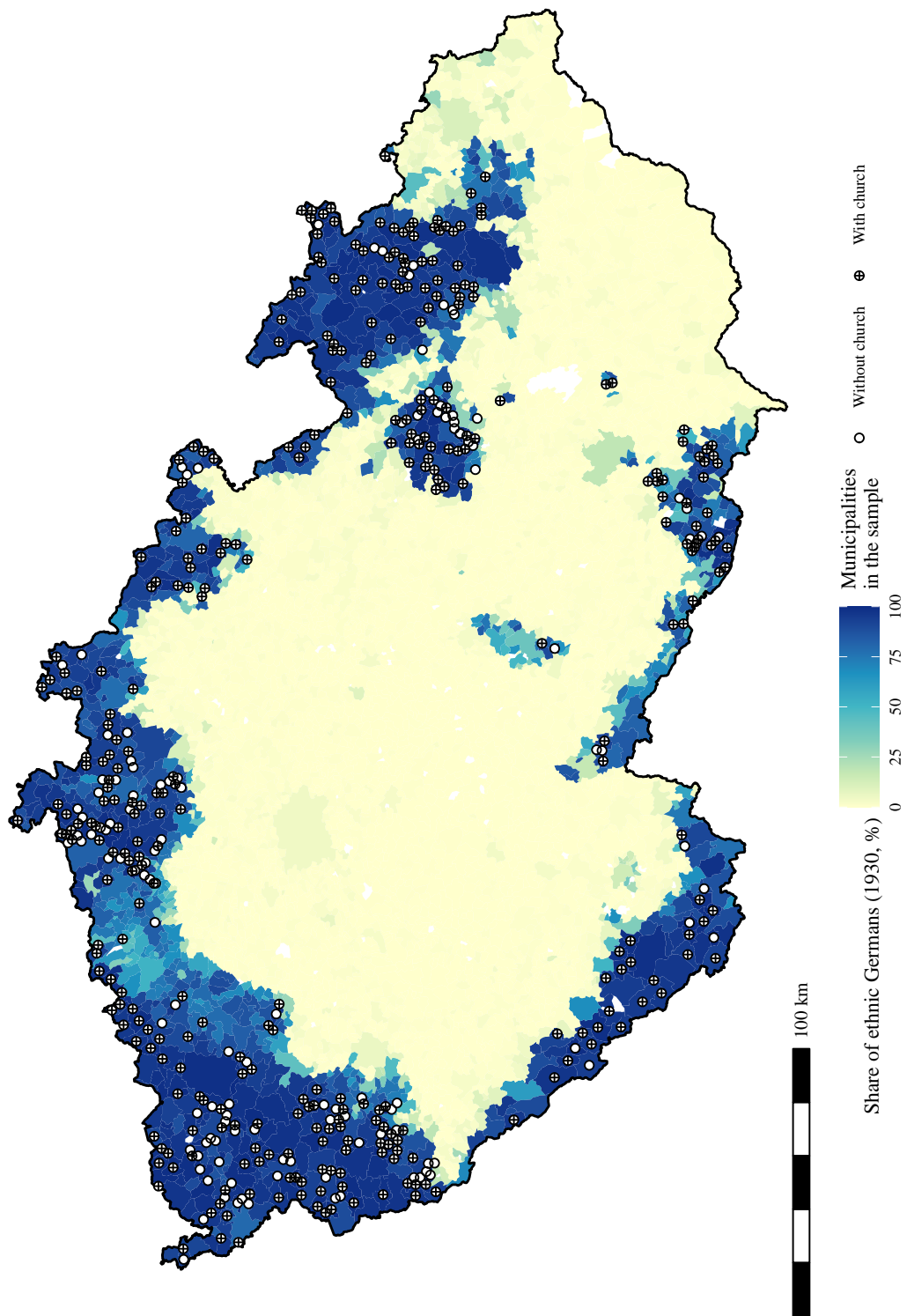


Figure 3: Municipalities in the estimation sample

425 inhabitants in 1930. However, the ethnic cleansing that followed World War Two dramatically reduced the original population, destroying the local social capital in the process. In 1950, the average population gap between the resettled municipalities that hosted a church and those that did not was reduced to 103 inhabitants. We tackle selection concerns by focusing on the resettled municipalities where at least 90% of the population was forced to leave, virtually resetting the social fabric. In addition, we restrict the sample to substantially similar municipalities in terms of population size by only considering villages with less than 750 inhabitants. Finally, we control for the population size in all regressions. In Section 4.1, we provide additional evidence supporting the identification strategy, documenting that the distribution of churches is orthogonal to indicators of civic capital throughout Czech inner territories.⁶

In 1950, the resettled municipalities in our estimation sample did not deviate from the country's means in the share of people with religious affiliation. After the first two years of institutional transformation, census data registered a limited decline in religiosity, despite the discrimination against Catholics was already begun, and the regime had made clear its intention to promote atheism. Immigrants to the borderlands were not particularly religious, and they did not manage to create a religious identity in the resettled lands (Havlíček, 2006). The share of Roman Catholics was slightly higher—but not in a statistically significant way—in municipalities without church buildings. Overall, historical accounts and the distribution of Catholics across the borderlands suggest that the new settlers were not self-selecting based on their religious denomination, either into the borderlands or into the resettled municipalities that hosted church buildings. Under the communist rule, people were free to move, but church activities were limited, and no new churches could be built until the fall of the regime in 1989, at least ensuring the absence of self-selection in the building of churches in resettled municipalities.

Forty years of communist rule, church oppression, and anti-Catholic propaganda contributed to the decline in religiosity (Müller and Neundorf, 2012). According to 1991 census data, the share of religious people dropped to 43% in municipalities hosting a church building and 40% in municipalities without a church. Catholicism remained the dominant denomination, with 39% and 36% of the population in municipalities with and without churches, respectively. In 1991, the municipalities with a church building had a

⁶In the baseline specification we control for the 1991 population. Still, results hold using the population size registered in the 1950 and the following censuses before 1991.

Table 1: Characteristics of municipalities in 1930–2001 censuses

	Presence of a church building in the municipality in 1945				Difference (1)–(3)
	Yes ($n = 335$)		No ($n = 124$)		
	Mean	St. dev.	Mean	St. dev.	
	(1)	(2)	(3)	(4)	
<i>Census 1930</i>					
Population	1070.836	680.720	645.395	419.597	425.441***
Ethnic Germans (%)	96.228	2.584	96.551	2.606	−0.323
Religiosity: With relig. aff. (%)	99.411	10.288	97.660	4.959	1.752**
Religiosity: Roman Cat. (%)	97.815	11.749	95.760	9.005	2.055**
<i>Census 1950</i>					
Population	415.752	167.244	312.556	167.471	103.196***
Religiosity: With relig. aff. (%)	94.240	3.428	94.574	2.741	−0.334
Religiosity: Roman Cat. (%)	72.372	9.254	74.276	10.162	−1.904
<i>Census 1961</i>					
Population	405.119	173.795	316.194	174.101	88.926***
<i>Census 1970</i>					
Population	370.899	164.605	287.718	161.889	83.181***
<i>Census 1980</i>					
Population	333.397	165.010	260.395	156.542	73.002***
<i>Census 1991</i>					
Population	297.881	166.346	234.008	149.883	63.873***
Population 0–14 (%)	21.477	4.202	21.253	4.126	0.224
Population 15–64 (%)	66.609	4.248	66.184	4.518	0.425
Population ≥ 65 (%)	11.914	4.890	12.563	5.412	−0.649
Education: Primary (%)	49.397	7.149	50.254	8.886	−0.858
Education: Voc. training (%)	35.320	5.790	35.310	7.042	0.010
Education: Secondary (%)	11.171	4.497	11.075	5.248	0.095
Education: Tertiary (%)	1.510	1.334	1.550	1.402	−0.040
Religiosity: With relig. aff. (%)	42.975	14.882	40.294	15.539	2.681*
Religiosity: Roman Cat. (%)	38.817	15.428	36.076	15.617	2.741*
<i>Census 2001</i>					
Population	312.173	172.684	250.306	160.455	61.867***
Population 0–14 (%)	17.475	3.659	17.607	4.297	−0.132
Population 15–64 (%)	71.098	4.221	70.512	4.073	0.586
Population ≥ 65 (%)	12.006	3.900	12.232	4.228	−0.227
Education: Primary (%)	34.352	6.731	34.192	6.907	0.160
Education: Voc. training (%)	42.433	5.576	43.860	5.557	−1.426**
Education: Secondary (%)	16.967	5.259	16.956	6.523	0.011
Education: Tertiary (%)	2.802	2.119	2.785	2.937	0.017
Religiosity: With relig. aff. (%)	27.284	12.505	24.711	12.055	2.573**
Religiosity: Roman Cat. (%)	23.344	12.370	20.769	11.779	2.576**

Note: Religiosity measures from 1950 census are based only on data from two regions (69 municipalities with and 36 without a church building). Column (5) contains difference in means and t -test results: *, ** and *** denote statistical significance at 10%, 5% and 1% level.

Table 2: NGOs density after the fall of the communist regime

	Presence of a church building in the municipality in 1945				Difference (1)–(3) (5)
	Yes ($n = 335$)		No ($n = 124$)		
	Mean	St. dev.	Mean	St. dev.	
	(1)	(2)	(3)	(4)	
	<i>Year 1989</i>				
All NGOs	0.004	0.032	0.000	0.000	0.004*
Church-related NGOs	0.000	0.000	0.000	0.000	
Non-religious NGOs	0.004	0.032	0.000	0.000	0.004*
	<i>Year 1995</i>				
All NGOs	0.964	1.002	0.621	0.677	0.342***
Church-related NGOs	0.242	0.449	0.030	0.192	0.213***
Non-religious NGOs	0.721	0.789	0.591	0.584	0.130*
	<i>Year 2000</i>				
All NGOs	1.371	1.364	0.906	0.980	0.465***
Church-related NGOs	0.282	0.476	0.029	0.191	0.252***
Non-religious NGOs	1.089	1.134	0.877	0.916	0.213**
	<i>Year 2007</i>				
All NGOs	1.829	1.680	1.398	1.415	0.432***
Church-related NGOs	0.282	0.475	0.037	0.206	0.245***
Non-religious NGOs	1.548	1.474	1.361	1.314	0.186

Note: Table contains descriptive statistics NGOs density defined as number of NGOs per 100 inhabitants (as of 1991). Column (5) contains difference in means and t -test results: *, ** and *** denote statistical significance at 10%, 5% and 1% level.

significantly higher religiosity. However, 1991 religiosity data should be interpreted with caution. Soon after the fall of the communist regime, the self-reporting of religious affiliation could have been more an expression of anti-communist and pro-democratic stances than a reliable feeling of belonging to a religious denomination (Havlíček, 2006). This concern is supported by the fall in religiosity by almost a half that we observe between 1991 and 2001 based on census data. However, the differences between municipalities with and without church buildings remained unchanged during the 1990s.

As for the socio-demographic characteristics, the sample is well-balanced. Data from modern-day censuses show that both the types of municipalities did not differ in age and educational structure in the 1991 and 2001 waves (Table 1). The only exception is the share of people with vocational training, which was lower by 1.4 percentage points in municipalities with a church building in 2001.

As mentioned in Section 2, the communist regime did not oppress only churches and religious organizations. It also targeted the entirety of civic organizations (NGOs), which were virtually wiped out in our estimation sample as of 1989. To measure social capital, we follow the literature and focus on the so-called Putnam’s instrument, i.e., the density of civil society organizations (Putnam et al., 1993; Knack and Keefer, 1997; Geraci et al., 2022), which approximates the probability of being a member of a civil society organization. We build the indicator of NGO density (D) as the number of active NGOs (NGO) in year t and municipality i per 100 inhabitants as of 1991 census:

$$D_{i,t} = \frac{NGO_{i,t}}{\frac{P_{i,1991}}{100}} \quad (1)$$

In the robustness checks, we use alternative measures of the population drawn from different waves of census data. In 1989, there were only 0.004 NGOs per 100 inhabitants in municipalities with churches and none in municipalities without a church building (see Table 2). The NGOs density grew throughout our observation period (1989–2007) and reached 1.8 and 1.4, respectively, in 2007. A part of this statistically significant difference could have been driven by the establishment of church-related NGOs. Their density was indeed higher in municipalities with a church building. However, the descriptive statistics for four selected years, 1989, 1995, 2000, and 2007 presented in Table 2 show that, in the 1990s and the 2000s, the municipalities with a church building also had a higher density of non-religious NGOs by 0.13–0.25 NGOs per 100 inhabitants. This difference is statistically significant in all years except for 2007.

Assuming the quasi-random allocation of church buildings in 1945, we estimate the effect of church activities on social capital using the following regression:

$$D_{i,t} = \alpha + \gamma C_i + \beta \mathbf{X}_i + \theta_r + \zeta_t + \varepsilon_{i,t} \quad (2)$$

where the variable of interest C is an indicator capturing the presence of a church building;

\mathbf{X} is a vector of controls from the 1991 census (population in hundreds, share of population below 15, and between 15 and 64 years of age) and longitude, latitude, and squared longitude and latitude, and ε is an error term. Specification also includes year (ζ_t) and region (θ_r) fixed effects that control for idiosyncratic shocks such as changes in the legal regulation of NGOs and region-specific differences. We estimate (2) with OLS for three outcome variables: (a) density of all NGOs, (b) density of church-related NGOs, and (c) density of non-religious NGOs. We cluster standard errors by municipality in all specifications.

Our variable of interest, C , captures the allocation of churches in 1945—i.e., at the beginning of expulsion and resettlement and before the communist coup. No new churches were opened until the early 1990s but some of them were very likely closed—i.e., some municipalities with a church building were not treated or were at least less treated. In that case the coefficient γ would identify the lower bound of the true effect.

In the panel specification (2), we estimate the average treatment effect in the period 1989–2006. To capture the dynamics, we modify (2) by removing time dimension and year fixed effects:

$$D_i = \alpha + \gamma C_i + \beta \mathbf{X}_i + \theta_r + \eta_i \quad (3)$$

We estimate the resulting specification (3) separately for each year, with standard errors clustered by region.

4 Results

Results of the panel regressions presented in Table 3 show in column (1) a significantly higher NGOs density in municipalities hosting a church, where inhabitants have a 0.45 higher likelihood of being a member of a civil society organization. This difference in levels could also be interpreted as a difference in growth, as the NGOs density was close to zero in both types of municipalities at the beginning of the observation period (see Table 2).

The difference between treated and non-treated municipalities could be driven by church-related NGOs, which are more likely to thrive in municipalities that host a church. Since church-related NGOs may serve to manage and maintain church buildings and other religious properties, their presence is not necessarily a reliable signal of social capital.

Table 3: Baseline results from panel regression

	Dependent variable: NGOs density		
	All	Church-related	Non-religious
	(1)	(2)	(3)
Church in municipality (= 1)	0.448*** (0.098)	0.230*** (0.028)	0.218** (0.086)
Population (1991, 100s)	-0.100*** (0.033)	-0.030*** (0.010)	-0.069** (0.027)
Share of population in 0–14 age category (1991, %)	-0.012 (0.014)	-0.003 (0.005)	-0.010 (0.013)
Share of population in 15–64 age category (1991, %)	-0.011 (0.024)	-0.0007 (0.007)	-0.011 (0.019)
Longitude	-1.237 (1.333)	-0.068 (0.463)	-1.168 (1.132)
Latitude	-49.789 (30.421)	6.333 (9.045)	-56.122** (25.821)
Longitude squared	0.033 (0.045)	0.001 (0.016)	0.032 (0.038)
Latitude squared	0.502 (0.307)	-0.064 (0.091)	0.566** (0.260)
Year fixed effects	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes
Observations	7,859	7,859	7,859

Note: Estimates of regression (2) with standard errors clustered by municipality are reported in parentheses: *, ** and *** denote statistical significance at 10%, 5% and 1% level.

Results in Column (2) show a 0.23 percent higher density of religious organizations in municipalities hosting a sacral building. However, column (3) shows that municipalities hosting a church also have a 0.22 higher density of non-religious NGOs, suggesting that church activities contributed to the accumulation of local social capital.

Estimates from regression (3) presented in Figure 4 show that there were no differences in NGOs density in the first years after the Velvet Revolution and the fall of the communist regime in 1989, despite the new liberal legislative framework for NGOs adopted in 1990. The gap between municipalities with and without a church building started to develop approximately in 1993. In the case of church-related NGOs, the gap reached its peak

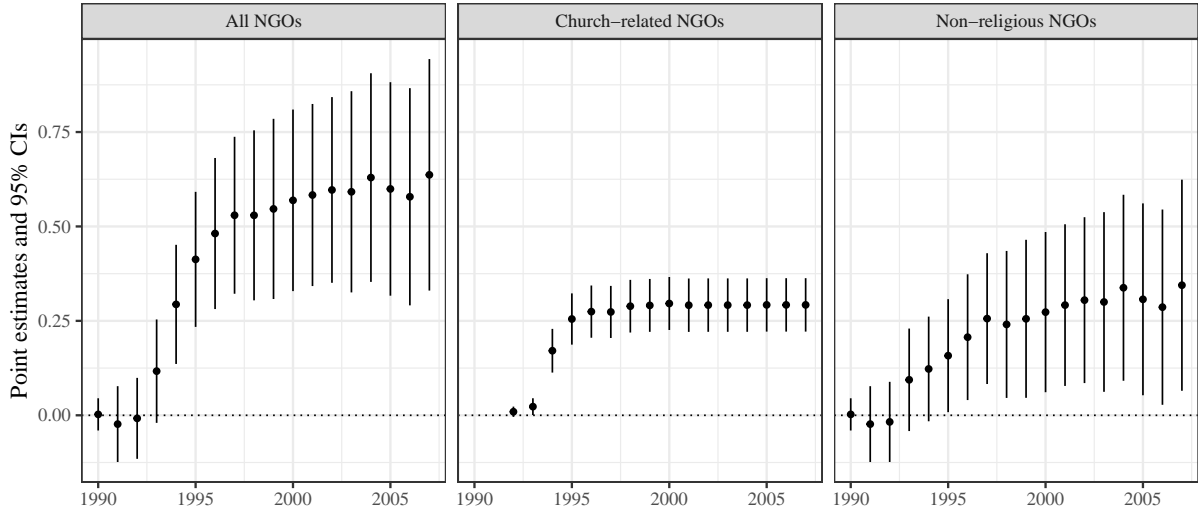


Figure 4: Dynamics of church activity effect on NGOs' density

Note: Figures depict estimates of parameter γ from regression (3) and their 95% confidence intervals based on robust standard errors.

soon after 1995 and remained stable until the end of the observation period. The gap for non-religious NGOs stabilized much later after 2000. However, starting in 1995, the density of non-religious NGOs was significantly higher in municipalities without a church building.

4.1 Falsification test

The baseline results indicate that municipalities hosting a church building developed higher social capital than those without churches. This finding may be biased by the non-random allocation of churches across municipalities before the resettlement. Unobservable characteristics may make a municipality more suitable to host a church building and, at the same time, more supportive of the accumulation of social capital. Religious institutions could have the incentive to exclusively build churches in those areas whose time-invariant characteristics may facilitate social aggregations, resulting in a spurious correlation between the presence of a church and a higher density of NGOs. If this is the case, we should observe the same relationship throughout the Czech inner lands, suggesting that the result we observe in the borderlands could be driven by religious institutions' choices or municipality-level unobservable characteristics. We test this hypothesis by es-

timating regression (2) on a sample of not resettled municipalities (i.e., the municipalities with a share of ethnic Germans below 10% in 1930 and with a population below 750 inhabitants in 1950. Result reported in column (1) of Table (4) shows that the density of all NGOs is higher in municipalities hosting a church building in the alternative sample of not resettled municipalities. However, this effect is entirely driven by church-related NGOs. Results reported in Column (3) show that the density of non-religious NGOs does not differ in not resettled municipalities with and without a church, suggesting that churches were not selectively built in municipalities that were intrinsically more supportive of the development of associational activities before 1945.⁷ This finding implies that church-related activities may have played a unique role in the context of the borderlands resettled municipalities, but not everywhere.

4.2 Sensitivity tests

In the first set of sensitivity tests, we modify the baseline specification (2) by (a) controlling for the 1950 instead of 1991 population, (b) adding controls for the education structure (i.e., the share of the population with secondary and tertiary education) in 1991, and (c) controlling for remoteness and inaccessibility of municipalities measured by the distance from the country border and terrain ruggedness.⁸

Our main estimation sample is limited to municipalities with 1950 population below 750 and a pre-war share of ethnic Germans above 90%. This sample specification ensures that we only consider the municipalities where the ethnic cleansing destroyed the original local social capital. Both thresholds are, however, to some extent arbitrary. Therefore, we test the sensitivity of our results by estimating regression (2) on samples defined by alternative threshold settings: (d) 1950 population below 1,000, and (e) pre-war share of ethnic Germans above 75%. The estimates reported in Table (5) are in line with our baseline results.

⁷For year-by-year estimates of regression (3) see Figure 5 in the Appendix.

⁸Terrain ruggedness is captured by the mean Terrain Ruggedness Index (TRI) calculated using remotely sensed SRTM data resampled to 0.0005555556/0.0002777778 grid (lon/lat WGS 84). Distance from the country border is defined as the distance in kilometers between municipality reference points and the country border. We use ArcCR500 map collection in version 3.3 (<http://download.arcdata.cz/data/ArcCR500-3.3-windows-installer.zip>) for definition of administrative borders and for all spatial visualizations.

Table 4: Falsification test

	Dependent variable: NGOs density		
	All	Church-related	Non-religious
	(1)	(2)	(3)
Church in municipality (= 1)	0.139*** (0.021)	0.110*** (0.007)	0.029 (0.020)
Population (1991, 100s)	-0.054*** (0.006)	-0.004** (0.002)	-0.051*** (0.006)
Share of population in 0–14 age category (1991,%)	-0.013*** (0.003)	-0.001 (0.001)	-0.012*** (0.003)
Share of population in 15–64 age category (1991, %)	-0.002 (0.003)	-0.001 (0.001)	-0.001 (0.003)
Longitude	0.651* (0.395)	0.202** (0.102)	0.448 (0.372)
Latitude	-1.028 (7.868)	-1.350 (1.657)	0.322 (7.672)
Longitude squared	-0.022* (0.013)	-0.007** (0.003)	-0.016 (0.012)
Latitude squared	0.009 (0.079)	0.014 (0.017)	-0.004 (0.077)
Year fixed effects	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes
Observations	58,914	58,914	58,914

Note: Estimates of regression (2) using sample of not resettled municipalities with standard errors clustered by municipality are reported in parentheses: *, ** and *** denote statistical significance at 10%, 5% and 1% level.

Table 5: Sensitivity analysis

	Dependent variable: NGOs density		
	All	Church-related	Non-religious
	(1)	(2)	(3)
<i>Panel A: Controlling for 1950 population</i>			
Church in municipality (= 1)	0.441*** (0.102)	0.236*** (0.030)	0.205** (0.089)
Observations	7,859	7,859	7,859
<i>Panel B: Controlling education structure</i>			
Church in municipality (= 1)	0.464*** (0.098)	0.232*** (0.028)	0.231*** (0.086)
Observations	7,859	7,859	7,859
<i>Panel C: Controlling for remoteness and inaccessibility</i>			
Church in municipality (= 1)	0.425*** (0.098)	0.225*** (0.028)	0.200** (0.086)
Observations	7,859	7,859	7,859
<i>Panel D: 1950 population < 1,000</i>			
Church in municipality (= 1)	0.441*** (0.094)	0.223*** (0.026)	0.218*** (0.082)
Observations	9,721	9,721	9,721
<i>Panel E: 1930 share of ethnic Germans > 75%</i>			
Church in municipality (= 1)	0.434*** (0.083)	0.231*** (0.023)	0.203*** (0.074)
Observations	10,269	10,269	10,269

Note: The table contains estimates of parameter γ from regression (2) in full specification and standard errors clustered by municipality are reported in parentheses: *, ** and *** denote statistical significance at 10%, 5% and 1% level.

In our baseline estimates we cluster standard errors by municipality. This approach is not immune from spatial autocorrelation in the error terms that might lead to underestimation of standard errors. In an alternative approach, we use standard errors adjusted à la Conley (1999), with a cutoff at 150 km.⁹ Results reported in Table (6) in the Appendix show that all parameters remain statistically significant even when standard errors are adjusted for spatial autocorrelation.

5 Discussion and conclusion

This article bridges the growing fields of studies addressing the roots of social capital and the economic impact of religion. Exploiting the historical experiment that took place in Czechoslovakia after World War Two, we provide new evidence that the borderlands municipalities that hosted a church built before 1945 developed significantly higher social capital than those lacking a church building. The falsification test shows that the presence of churches did not have the same supporting effect in the rest of the country, which did not experience the social reset associated with the ethnic cleansing.

Taken together, our results suggest that the opportunities for social interaction created by church activities could have supported the accumulation of social capital in the wake of the ethnic cleansing. This process seems to have occurred exclusively in the Sudetenland, where new inhabitants settled in a relatively uncoordinated way, in a sort of rush to take possession of the properties left behind by refugees. Historical accounts suggest that settlers did not have a precise cultural identity and, in most cases, lacked any sense of belonging (Abrams, 1995; Glassheim, 2015). The interplay between the exceptional resettlement conditions created by the ethnic cleansing and the anomie of the new citizens resulted in social fragmentation and isolation, limited bonds with the new land, and a profound detachment from the public (Glassheim, 2015). In addition, the inhabitants of the borderlands shared the burden of the Communist persecution of civic engagement with the rest of the country. Not only the new settlers broke their previous ties migrating to the abandoned lands and found themselves in competition with each other and the few stayers for the seizure of German properties (Gerlach, 2017). They also were under

⁹Among tested cutoffs (50, 75, 100, 125, 150, 175, 200, 225, 250, 275, 300, 325, 350, 375, and 400 km) the 150 km cutoff maximize standard error of parameter of interest γ in regression (2) for density of all NGOs (see Appendix Figure 6).

the constant threat of charges with anti-communist sentiments and behavior, with the competition for abandoned properties encouraging tipping-off behavior (Evanson, 1986). The soviet-style witch hunt nurtured a climate of mutual suspicion that further worsened social trust strengthening the barriers to cooperation and civic engagement (Evanson, 1986). This lethal combination of historical circumstances *de facto* zeroed the social capital of the borderlands, as our measurement of NGOs density in 1991 confirms (Table 2). In such an unfavorable scenario, church activities allowed people to meet others and nurture common beliefs that may have helped share some sense of belonging and a higher attachment to the public. In the socially devastated scenario of the borderlands, these rare, though small, opportunities for participation may have made a difference in the long-term development of social capital. On the other hand, we cannot observe the same treatment effect in the inner lands, not affected by the migration and resettlement, where civil society experienced political repression as well, but at least people could retain their pre-war networks of relations. In interior Czechia, the existing social networks and cultural identity were not entirely wiped out by the post-war events and the regime's repressive policies. Therefore, church activities did not stand out as the only occasion for establishing connections. These different circumstances likely prevented churches from making a difference in supporting the accumulation of social capital. In the borderlands, instead, the exceptional conditions created by the ethnic cleansing and resettlement likely invested Catholic churches with the unintended role of social capital building facilitators.

Our finding that church activities supported the development of social capital must be understood in light of the literature on the behavioral and societal impact of religious institutions. Previous studies pointed out that religious denominations are not all alike in their impact on social preferences and behavior. Guiso et al. (2010) document that the regular attendance of Catholic and Protestant services is associated with significantly higher social trust among World Values Survey respondents. Catholics who received their religious education after 1960 (when the Second Vatican Council reformed the official doctrine and teaching making them more open to dialogue) manifest a particularly higher propensity for prosocial behavior. Survey-based and experimental evidence has provided support for the thesis that Catholics are, on average, more inclined to trust others, behave in a trustworthy manner (Chuah et al., 2016; Kirchmaier et al., 2018), and invest more in human capital (Bhalotra et al., 2014), even if they contribute less to public goods in a public good game (Benjamin et al., 2016). However, religious participation is unlikely

to play a beneficial role under any condition. For example, Putnam et al. (1993) argue that the Catholic church constrained the development of the civic community in Italy and generally obstacles civic engagement. Still, the Italian context analyzed by Putnam et al. (1993) is dramatically different from the Sudetenland we address in our study. In contemporary Italy, Catholicism is the country’s official denomination, and religious institutions often have tight connections with political power (Putnam et al., 1993). Historical and development studies found that, when religious institutions are deeply intertwined with authoritarian political power, they contribute to crystallizing the status quo, often supporting illiberal regimes and, more generally, weakening democratic participation (Chaney, 2013; Belloc et al., 2016; Bénabou et al., 2022; Bentzen and Gokmen, 2022)¹⁰. Instead, the post-war Czechoslovakia we examine in our study was the theatre of a stark contrast between political and religious authorities, with the former detaining all power and forcibly constraining the latter. The regime openly promoted political secularization with the aim to transform its citizens into “pure atheists” while brutally suppressing any civil society structure and openly discouraging people from collective actions and informal gatherings (Meulemann, 2004). Given these circumstances, religious participation in post-war Czechoslovakia was entirely spontaneous and hardly dictated by opportunistic motivations or social obligations. The finding that church activities supported the accumulation of social capital in post-war Czechoslovakia allows us to catch another aspect of a complex picture. In a society deprived of any preexisting social structure, where a secular, autocratic regime prohibits any form of civil aggregation, church activities may plant the seeds for creating ties, nurturing shared values and a sense of belonging, potentially encouraging interest in public affairs and the willingness to contribute to the common good. The general relevance of this finding lies in the importance of building social capital in the many socially deprived contexts that resemble the post-war Sudetenland. Backward societies whose social structures have been deprived by conflict, authoritarianism, and mass migration would benefit from the strengthening of civil culture and participatory processes (Besley, 2020). In these places, preserving simple forms of aggregation could make a difference in the long run.

¹⁰For a review of the outcomes of religious denominations, see Basedau et al. (2018).

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Appendix

Table 6: Baseline estimates with Conley standard errors

	Dependent variable: NGOs density		
	All	Church-related	Non-religious
	(1)	(2)	(3)
Church in municipality (= 1)	0.448** (0.191)	0.230*** (0.015)	0.218** (0.109)
Population (1991, 100s)	-0.100 (0.119)	-0.030 (0.030)	-0.069 (0.077)
Share of population in 0–14 age category (1991, %)	-0.012 (0.014)	-0.003 (0.007)	-0.010 (0.019)
Share of population in 15–64 age category (1991, %)	-0.011 (0.035)	-0.001 (0.027)	-0.011 (0.035)
Longitude	-1.237 (0.977)	-0.068 (0.261)	-1.168 (0.909)
Latitude	-49.789*** (10.094)	6.333 (4.871)	-56.122*** (0.120)
Longitude squared	0.033 (0.036)	0.001 (0.011)	0.032 (0.033)
Latitude squared	0.502*** (0.104)	-0.064 (0.050)	0.566*** (0.006)
Year fixed effects	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes
Observations	7,859	7,859	7,859

Note: Estimates of regression (2) with Conley standard errors (100 km cutoff) reported in parentheses: *, **, and *** denote statistical significance at 10%, 5% and 1%.

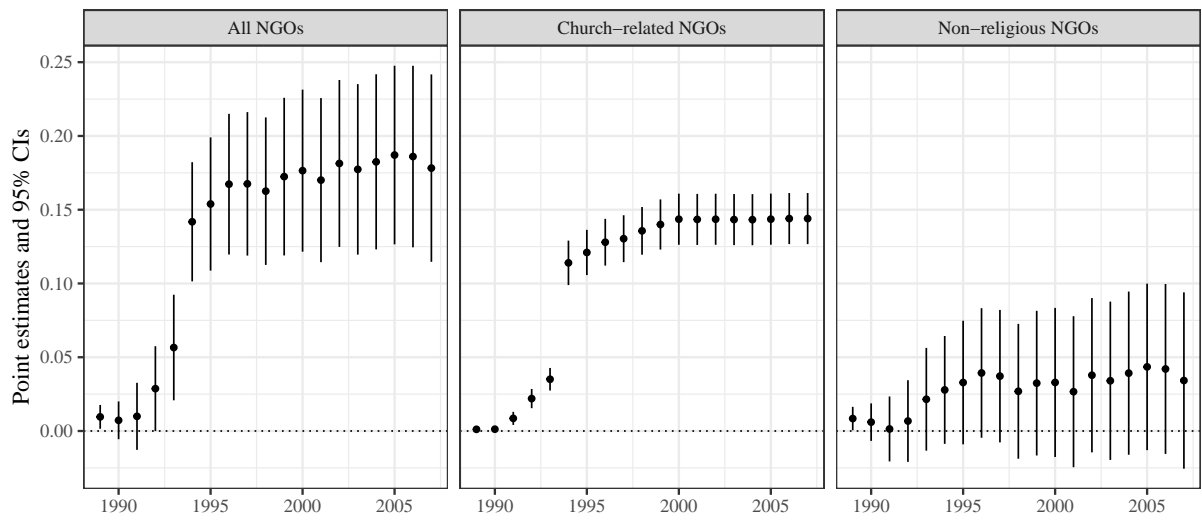


Figure 5: Dynamics of church activity effect on NGOs' density in sample of not resettled municipalities

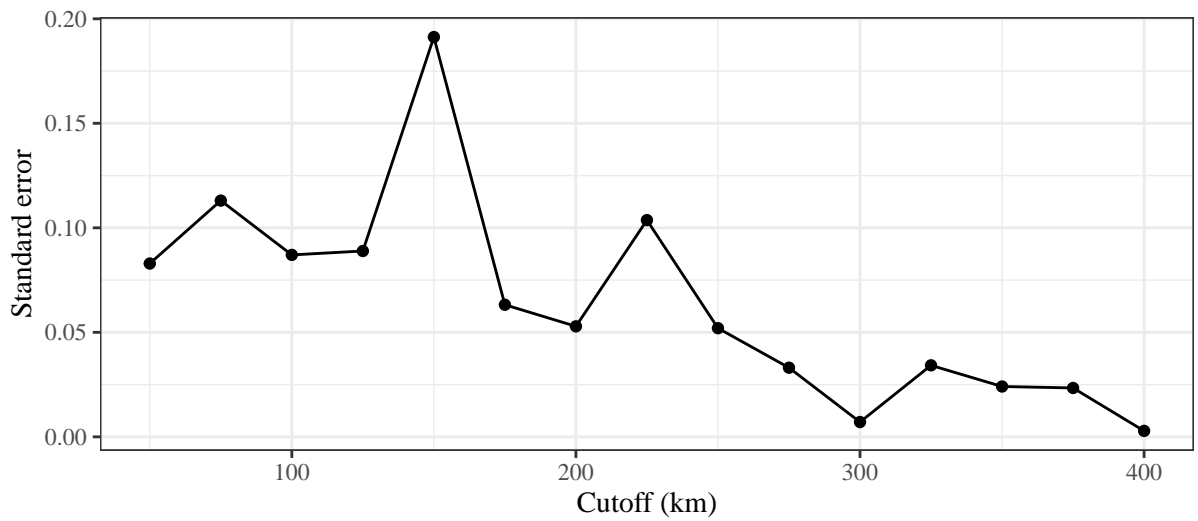


Figure 6: Conley SE with different cutoffs

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