

DISCUSSION PAPER SERIES

IZA DP No. 17981

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on Social Capital:  
Lessons from Post-War Czechoslovakia**

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## ABSTRACT

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# The Long-Term Impact of Church Activity on Social Capital: Lessons from Post-War Czechoslovakia\*

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. The heterogeneity of effects reveals that the longer a resident pastor served in a parish, the more civic capital emerged in the municipality after the Velvet Revolution, suggesting that the social interactions facilitated by pastors were crucial in establishing the foundational layer for social capital in church-hosting communities.

**JEL Classification:** D74, L31, N24, N44, N94, O15, Z12

**Keywords:** institutions, conflict, forced migration, social capital, religion, transition countries

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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. In contrast, authoritarian regimes may inhibit social engagement, thereby eroding the civic culture that binds communities together (Besley, 2020). This negative impact on social capital is evident in the case of European countries that were once Soviet satellites (Fidrmuc and Gërxhani, 2008, Lichter et al., 2021; Nikolova et al., 2022). Gaining insights into the resilience of civic culture in the face of authoritarian constraints is crucial for devising effective strategies to nurture social capital in hostile environments.

This paper uses a historical experiment that occurred in the Czech Republic (part of Czechoslovakia between 1918 and 1992)<sup>1</sup> 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 combined census data from 1930 to 2011 with 1930 and 1950 newly and previously digitized administrative data on self-reported religious affiliation. We then augmented this dataset with manually collected information on the distribution of church buildings across municipalities from 1945 to 1989. Finally, we built a battery of municipality-level social capital indicators based on data collected by the Czech Statistical Office from 1989. Our identification strategy exploits the cross-sectional variation in the municipal exposure

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<sup>1</sup>The historical Czech lands (approximately corresponding to the present-day Czech Republic) were part of the Austro-Hungarian Empire until the end of World War I. Following the empire’s dissolution, they became part of the newly independent state of Czechoslovakia, together with present-day Slovakia and Transcarpathia. Czechoslovakia was dismantled during World War II but reconstituted after the war, this time without Transcarpathia, which was incorporated into the Soviet Union and later became part of Ukraine. On January 1, 1993, Czechoslovakia peacefully split into two independent states: the Czech Republic and Slovakia.

to Catholic churches in 1945 to identify the impact of church activity in the long-term accumulation of social capital.

Focusing on areas where at least 90 per cent of the population was German—regions that were almost entirely depopulated due to ethnic cleansing, resulting in a complete reset of the social fabric—we show that municipalities with a church built before 1945 (i.e., before the end of the war and the beginning of communist rule) developed significantly higher levels of social capital under communist rule. This effect persisted beyond the dissolution of Czechoslovakia in 1993 and into the current days.

To address self-selection concerns and gain a more nuanced understanding of the mechanism of transmission of the treatment effects, we gathered data regarding the domiciles of pastors—the priests responsible for overseeing parishes—within the principal Czech dioceses. This work has enabled us to piece together a historical record of the pastoral residency within the municipalities of Sudetenland throughout our period of analysis. Under the communist rule, the scarcity of clergy and the restrictions on movement imposed by the repression of the Catholic church resulted in many parishes being left without the stewardship of an in-residence pastor. The regime’s stringent oversight of clerical activities meant that non-resident pastors were often restricted to visiting their parishes solely to lead Mass. This limitation curtailed the potential for broader social activities in municipalities that, despite having a church building, lacked a resident pastor. In contrast, municipalities with resident pastors were more likely to witness the nurturing of interpersonal relationships conducive to the development of an ‘underground’ social capital. This sequence of events was entirely unforeseeable—particularly in our setting, which focuses on small municipalities in the Sudetenland where, prior to the ethnic cleansing, 90 per cent of the population was German. It is therefore implausible that resettlers could have selected their destination based on the prospective social value of a resident pastor, as such appointments occurred only years after resettlement had taken place.

Our analysis of the heterogeneity of the treatment effects reveals a notable pattern: the duration of a resident pastor’s presence at a municipality’s church under the communist regime had a pronounced effect on the subsequent development of civic capital following the Velvet Revolution. This finding implies a cumulative advantage — the longer a community hosted the church activity prompted by a resident pastor, the greater the number of civic organizations after the fall of communism, suggesting that church activity

laid a foundational layer for the burgeoning of social capital in municipalities with church facilities.

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 activity 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 homogeneous, with the main exceptions being the distribution of the church buildings constructed before 1945 and the presence of resident pastors. 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).

The heterogeneity of the effects based on the distribution of resident pastors across Sudetenland parishes further addresses concerns about self-selection. While individuals who valued being part of a religious community might have chosen to settle in municipalities with a church building, they could not have anticipated the subsequent shortage of priests caused by the communist regime’s persecution of the Catholic Church. This persecution left many parishes without a resident pastor. Consequently, resettlers could not have effectively self-selected into municipalities based on the long-lasting presence of a resident pastor, as this outcome was driven by events that unfolded years later.

These circumstances support the interpretation that the higher levels of social capital observed in municipalities hosting a church building with a resident were the result of church activities rather than the self-selection of resettlers.

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) illustrated 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) documented that current differences in trust levels within Africa can be traced back to the routes of the slave trade. Bracco et al. (2015) provided evidence that Southern Italian municipalities that hosted Albanian refugees escaping the Ottoman invasion of the Balkans in the 16<sup>th</sup> century exhibit higher trust and civic capital today. In the North of Italy, the Middle Ages events still resonate in the distribution of social capital across municipalities. For example, Guiso et al. (2016) showed 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) demonstrated that the exposure to 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 has provided more recent historical experiments for studying the drivers of social capital accumulation. Transition studies documented 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 (Jacob and Tyrell, 2010) and interpersonal and institutional trust (Lichter et al., 2021; Nikolova et al., 2022). A few recent studies specifically addressed the case of the Czech Sudetenland. Testa (2021) exploited 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 focused 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 communities. In the paper closest in spirit to ours, Grossmann et al. (2024) studied the long-lasting legacy of the minority of Germans who were allowed to stay in the borderlands after 1948. The authors found 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 exploited discontinuities across the Sudetenland border with interior Czechia, our study focuses on a discontinuity inside the borderlands. While Grossmann et al. (2024) took 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 distribution of church buildings across depopulated areas that were later resettled. This approach allowed us to capitalize on the Sudetenland experiment to study the role of church activity in the accumulation of social capital. Our results suggest that the social engagement fostered by the presence of a church potentially serves as the foundational bedrock for the development of social capital in small communities that are situated within institutionally and socially challenging settings. 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)<sup>2</sup>. 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; Braun and Mahmoud, 2014; 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 and religious activity. 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 suggested that religion may have different impacts depending on the religious denomination

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<sup>2</sup>See Dustman et al., 2017 and Becker and Ferrara, 2019 for a review of the literature.



and local historical and institutional features. For example, Putnam et al. (1993) argued that organized religion discouraged the flourishing of the civic community in Catholic Italy. According to the authors, the Italian Church continues to embody the legacy of the Counter-Reformation. This legacy is characterized by a strong emphasis on ecclesiastical hierarchy and the traditional virtues of obedience and acceptance of one’s societal role, factors which may dampen the propensity for civic engagement. By contrast, Guiso et al. (2016) claimed 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, 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, our study adds 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 preserve and develop 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. Section 5 delves deeper into the transmission mechanism of the treatment effects. In Section 6, 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 Czech lands in the 13<sup>th</sup> century, mainly gathering in the border regions later called the Sudetenland (see Figure 1). Despite the growing friction between the German and Czech populations after the collapse of the empires following World War I, the German minority was never subject to official discrimination (Glassheim, 2000; Spurny, 2015). Tensions between the two groups 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 Czechoslovakia 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 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). Except for the relatively brief period of German annexation, the Sudetenland has never had a distinct state or church administration. Instead, it has consistently shared the same public and religious institutions as the rest of Czechia. This historical continuity underscores the integrated nature of the Sudetenland within the broader Czech administrative and ecclesiastical framework, ensuring that any observed variations in social or religious dynamics are not attributable to differences in institutional structures.

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

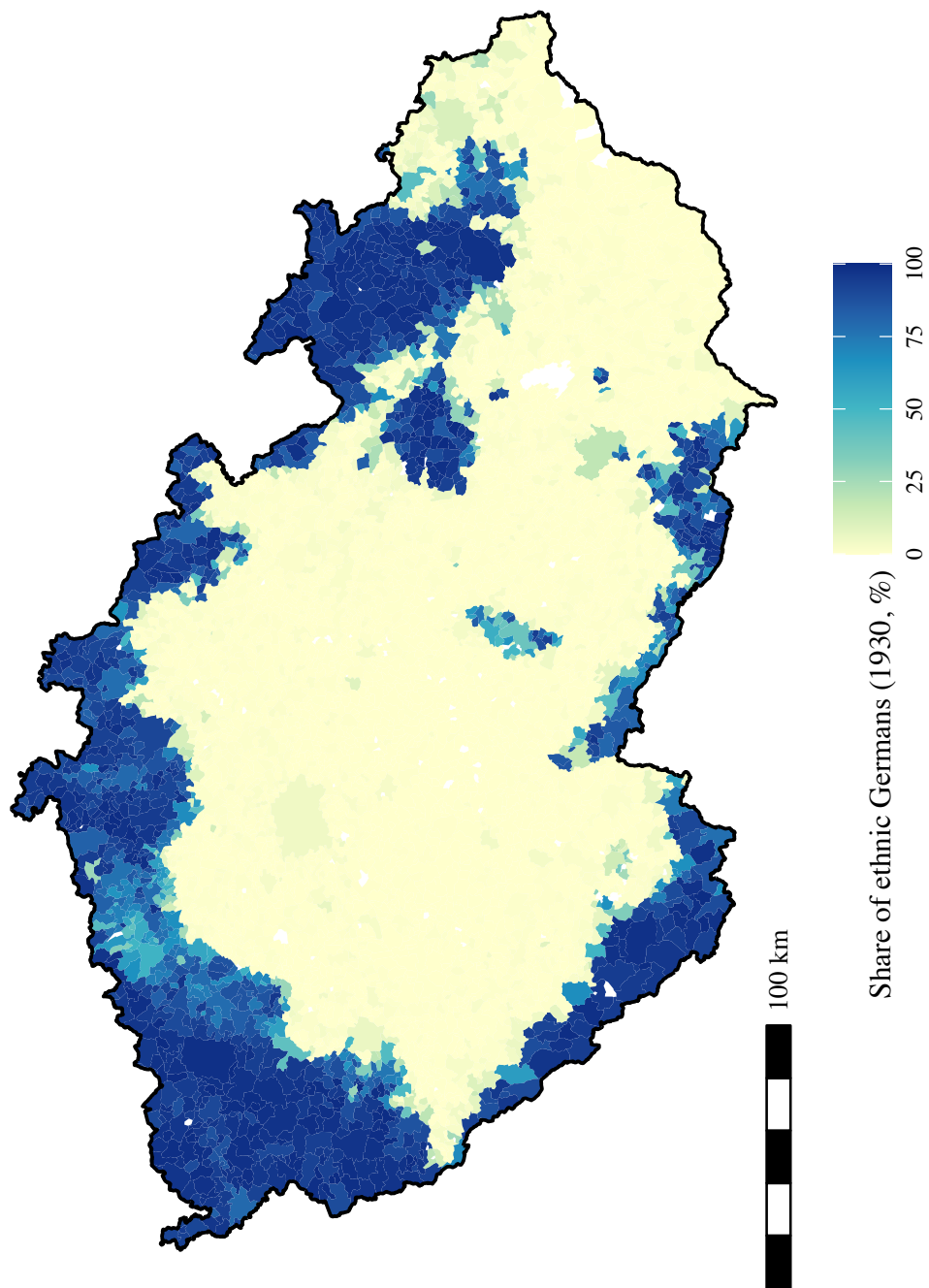


Figure 1: Share of ethnic Germans by municipality (1930)

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

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 socio-economic 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, after Sudetenland’s resettlement was nearly completed, the USSR-backed Communist party—which had 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 faced systematic persecution. The authorities dissolved voluntary associations and political parties, forcibly integrating them into state-controlled umbrella organizations that stripped them of their original identities and purposes. Particularly in the early Stalinist period (1948–1953), the government’s tactics included arbitrary arrests and incarcerations. The threat of being labeled an enemy of socialism loomed over citizens, exposing them to the risk of severe penalties, including long-term imprisonment or even execution (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 compounded with the disruption of the social fabric already reset by the ethnic cleansing, resulting in an unprecedented depletion of social capital.

In the 1930 census, 92.2% of Czechoslovakia’s population declared some religious affiliation, which slightly increased to 94.2% by the 1950 census, two years after the communist coup. Catholicism was the predominant denomination, comprising 78.5% of the population in 1930 and decreasing to 76.4% in 1950. It is essential to recognize that these census figures primarily captured affiliation with specific denominations and do not necessarily reflect religiosity. The depth of religious engagement might be more accurately represented through active participation in religious organizations and attendance at religious events such as masses. These behaviors, however, were not investigated by censuses. 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 onset of the communist rule, the regime targeted the Catholic church for repression, aiming for “political forced secularization” and transforming Czech citizens into “pure atheists,” mirroring efforts in 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, placed bishops under house arrest, and detained all monks and nuns. However, churches were never outlawed and could operate under strict government supervision, with official activities essentially bound to Mass celebrations. Catholic institutions were prohibited from freely appointing priests, operating schools and hospitals, or constructing new churches. These restrictions indicate that church initiatives were both limited and geographically confined, suggesting that any spillover effects are unlikely to bias the estimation of the treatment effects in our analysis.

Consequently, parishes lacking a resident pastor were restricted to minimal church activities, primarily limited to Mass celebrations. This restriction severely limited these parishes' roles in fostering community engagement beyond routine religious observances. Importantly, this scenario enables us to confidently rule out the possibility of resettlers self-selecting into parishes after the ethnic cleansing. The unpredictability of circumstances leading to the absence of a resident pastor meant that resettlers could not intentionally choose parishes that retained active church activities and a resident pastor in the years following the communist coup.

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 combined 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).<sup>3</sup> 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 augmented 1930 data on ethnicity digitized by Guzi et al. (2021) with newly digitized census data on self-reported religious affiliation. The first post-resettlement census 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.<sup>4</sup> 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.<sup>5</sup>

We complemented census data with a variable that indicates the presence of a church building in the municipality in 1945. We constructed 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.<sup>6</sup> We then manually verified this list using the online services Google Street View, Mapy.com, and other sources, such as municipalities' websites. We kept only the municipalities in which a church was built before 1989. Second,

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<sup>3</sup>CZSO (2015) (last accessed August 23, 2022).

<sup>4</sup>Aggregated 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.

<sup>5</sup>Designated channel for data requests and purchases of CZSO is [infoservis@csu.gov.cz](mailto:infoservis@csu.gov.cz).

<sup>6</sup>See <https://vdb.czso.cz/mos/> (last accessed on December 9, 2022).

we merged the dataset with an additional list of municipalities that hosted a church demolished after 1945. We drew information on demolished buildings from a dedicated website.<sup>7</sup> While our dataset does not allow us to observe the number of church buildings per municipality, the binary measure we use still captures a key institutional feature: the availability of dedicated, recognized gathering spaces for regular collective activity. Under the constraints of the Soviet regime, churches were among the very few venues where groups of people could assemble around shared values, which makes their presence a meaningful source of variation in civic exposure. Moreover, since our analysis focuses on municipalities with fewer than 750 inhabitants—extremely small communities—the likelihood that a municipality hosted more than one church is negligible.

The number of active NGOs, our measure of social capital, is constructed from the 2007 historical export of the Registry of Economic Subjects (RES) provided by the CZSO (CZSO, 2024). 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 could calculate the number of active NGOs for each municipality and year from 1990 to 2007. RES also gives the possibility to identify church-related NGOs as they were of a particular legal form.

Data concerning the residency of priests within individual parishes from 1948 to 1989 are detailed in Section 5, which focuses on the heterogeneity of the treatment effects.

The expulsion of ethnic Germans and the subsequent resettlement affected some municipalities more than others. We restricted our estimation sample to resettled municipalities whose pre-war share of ethnic Germans was at least 90%. This threshold allowed us to focus on the most affected municipalities where the population was almost entirely replaced and the original social capital destroyed. Within this subset, the larger municipalities were more likely to have a church building in 1945. Therefore, we further restricted our estimation sample to municipalities with a population below 750 inhabitants in the 1950 census (see Figure 2). We based 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 337 Sudetenland municipalities hosting churches (treated) and 122 municipalities without churches (not treated) (see Figure 3).

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<sup>7</sup>See <http://www.znicenekostely.cz/> (Valencik, 2024, last accessed on December 9, 2022).



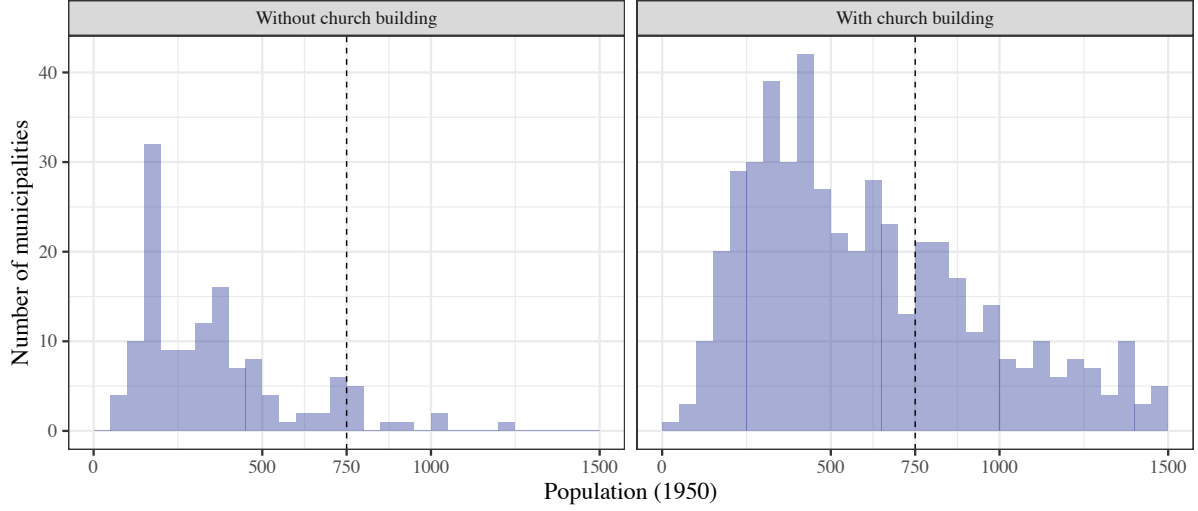


Figure 2: Population 1950 and presence of a church building in the municipality

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 exploited the variation in the distribution of church buildings across the Sudetenland’s municipalities with fewer 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 439 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 105 inhabitants. We tackled 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

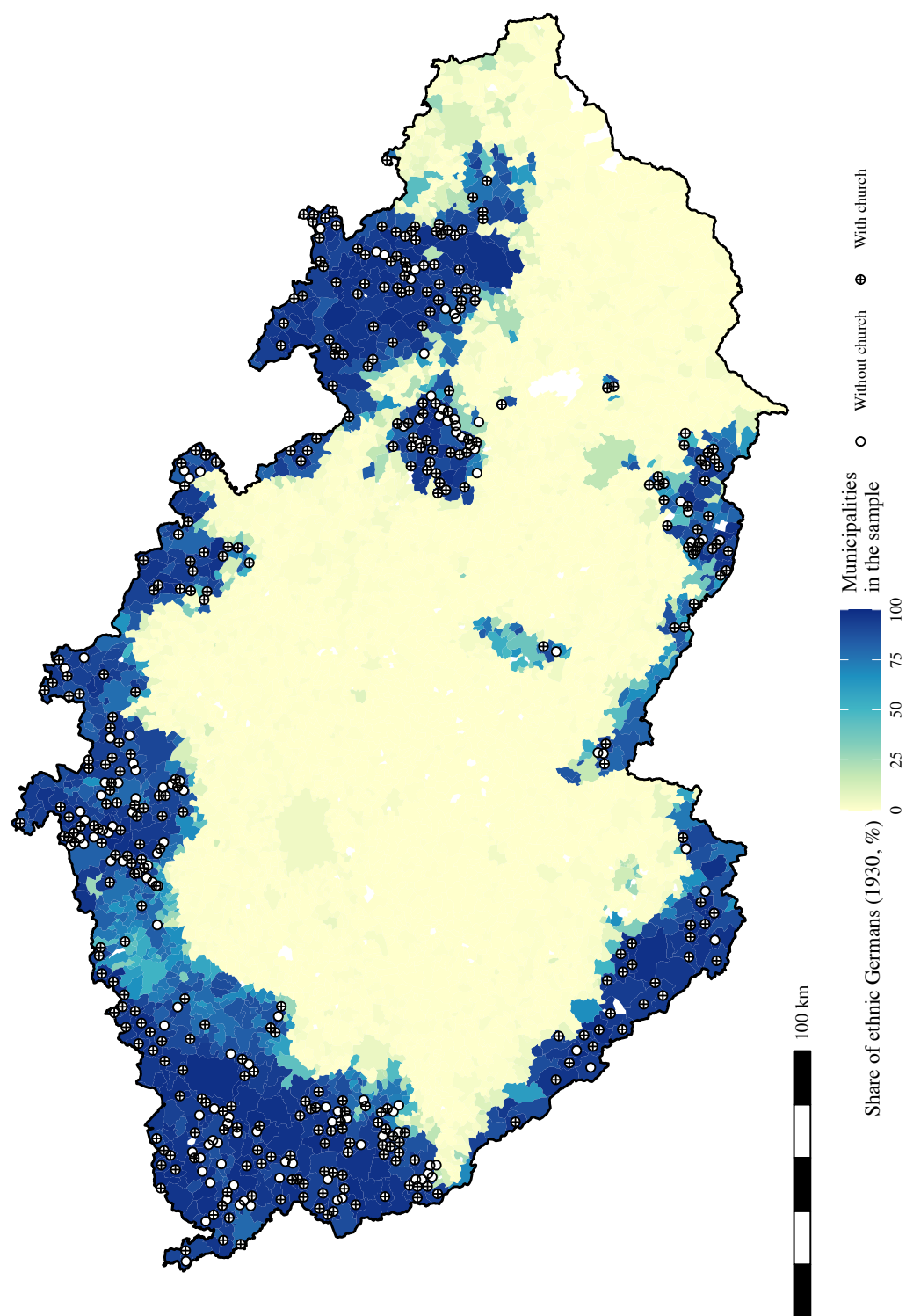


Figure 3: Municipalities in the estimation sample

restricted the sample to substantially similar municipalities in terms of population size by only considering villages with less than 750 inhabitants. Finally, we controlled 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.<sup>8</sup>

In 1950, the resettled municipalities in our estimation sample aligned with the national average regarding the share of people with religious affiliations. Despite the ongoing discrimination against Catholics and the regime’s explicit intent to promote atheism, census data from the first two years following the institutional transformation recorded only a slight decline in the proportion of people declaring a religious affiliation. Historical reports suggest that 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.

To further address self-selection concerns and to gain a more granular understanding of the mechanisms through which treatment effects operated, we developed a heterogeneity analysis based on newly collected data on the domiciles of parish pastors—the priests officially entrusted with parish leadership—across the main Czech dioceses. This effort allowed us to reconstruct the historical record of pastoral residency in Sudetenland municipalities over the period of interest. Under the communist regime, the repression of the Catholic Church, the tight restrictions on religious activity, and the resulting shortage of clergy left many parishes without a resident pastor. In such cases, visiting priests were typically allowed to enter the municipality only to celebrate mass, with little or no opportunity to engage in the broader life of the community. By contrast, in municipalities where pastors resided, they were more likely to foster local engagement among parishioners, strengthening interpersonal ties, and sustaining forms of “underground” social capital.

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<sup>8</sup>In the baseline specification, we controlled 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 ( $n = 337$ )		No ( $n = 122$ )		
	Mean	St. dev.	Mean	St. dev.	
	(1)	(2)	(3)	(4)	
<i>Census 1930</i>					
Population	1072.804	679.180	632.984	411.467	439.821**
Ethnic Germans (%)	96.241	2.581	96.521	2.616	−0.280
Religiosity: With relig. aff. (%)	99.413	10.257	97.626	4.993	1.788**
Religiosity: Roman Cat. (%)	97.822	11.715	95.706	9.068	2.116**
<i>Census 1950</i>					
Population	415.703	167.253	311.000	167.002	104.703***
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	405.858	173.639	312.697	173.071	93.161***
<i>Census 1970</i>					
Population	371.445	164.455	284.844	161.100	86.601***
<i>Census 1980</i>					
Population	333.685	164.622	258.402	156.865	75.284***
<i>Census 1991</i>					
Population	298.276	166.148	231.869	149.493	66.407***
Population 0–14 (%)	21.482	4.192	21.235	4.150	0.247
Population 15–64 (%)	66.628	4.251	66.123	4.510	0.505
Population ≥ 65 (%)	11.889	4.887	12.642	5.417	−0.752
Education: Primary (%)	49.454	7.189	50.109	8.836	−0.654
Education: Voc. training (%)	35.299	5.801	35.370	7.036	−0.071
Education: Secondary (%)	11.147	4.494	11.138	5.267	0.009
Education: Tertiary (%)	1.505	1.332	1.564	1.406	−0.059
Religiosity: With relig. aff. (%)	42.932	14.858	40.368	15.629	2.565
Religiosity: Roman Cat. (%)	38.779	15.405	36.137	15.700	2.642
<i>Census 2001</i>					
Population	312.593	172.500	248.131	160.130	64.462***
Population 0–14 (%)	17.483	3.650	17.588	4.328	−0.106
Population 15–64 (%)	71.101	4.209	70.495	4.104	0.606
Population 65+ (%)	11.994	3.894	12.269	4.247	−0.276
Education: Primary (%)	34.391	6.731	34.081	6.907	0.311
Education: Voc. training (%)	42.419	5.563	43.922	5.578	−1.503**
Education: Secondary (%)	16.934	5.261	17.048	6.537	−0.114
Education: Tertiary (%)	2.794	2.118	2.805	2.950	−0.010
Religiosity: With relig. aff. (%)	27.252	12.475	24.758	12.147	2.494*
Religiosity: Roman Cat. (%)	23.316	12.343	20.805	11.858	2.511**

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.

This aspect of the analysis helps mitigate concerns about self-selection, as pastoral residency could neither be anticipated nor influenced at the time of resettlement—particularly in our sample, which includes municipalities that underwent a complete social reset due to the expulsion of their predominantly German populations (over 90 per cent) and later hosted fewer than 750 inhabitants. Rather, it was shaped by contingent factors—such as clerical availability, state repression, and diocesan resource allocation—that materialized only after the initial population transfers. As a result, new settlers could not have selected into municipalities based on the long-term presence of a resident pastor, nor could they anticipate which churches would retain an active local clergy or for how long. This removes a key channel through which endogenous sorting could bias our estimates.

One potential concern is that our residency-based measure may be mechanically correlated with municipality size, especially if larger municipalities were more likely to host multiple churches and thus more likely to be assigned a resident pastor. However, by restricting the sample to municipalities with fewer than 750 inhabitants, our design effectively rules out the possibility that a given village hosted more than one active church. Several structural factors support this claim. First, the Catholic Church in Czechoslovakia—especially in rural settings—operated under substantial budgetary constraints, which were further intensified under communist rule. The costs of maintaining even a single church with regular liturgical functions (heating, lighting, vestments, basic maintenance, and clergy lodging) were often prohibitive for such small communities. A second church would have entailed redundant expenditures without a corresponding demographic or liturgical justification.

Second, under canon law and the diocesan administrative framework prevailing in Central Europe at the time, the establishment of parishes or subsidiary churches with regular services was conditioned on minimum population thresholds and clergy availability. In settlements below our threshold, the canonical norm was the presence of a single parish church—or, in some cases, only periodic access to a traveling priest from a neighboring village. These institutional and economic constraints make it highly implausible that villages in our sample hosted more than one church where mass could be regularly celebrated.

Furthermore, self-selection into municipalities with a church and a stronger potential for social capital formation is unlikely to have occurred even after the initial resettlement phase. Under the communist regime, internal migration was restricted by a state-

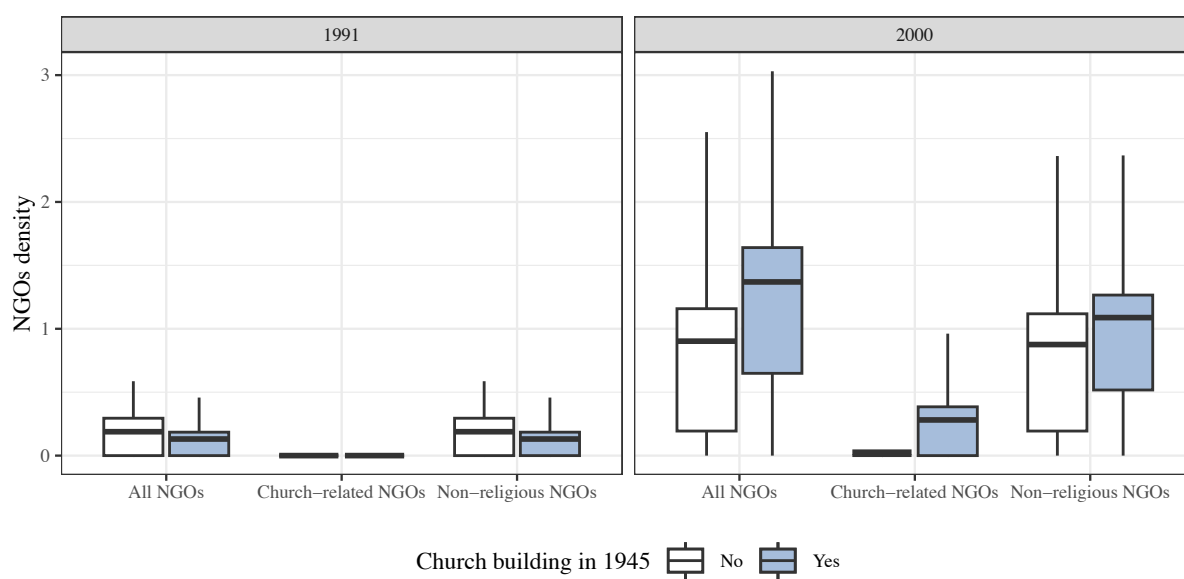
controlled system of job placements, which made it difficult for individuals to relocate once they had been assigned job and housing in a particular municipality. As a result, settlers had little freedom to move elsewhere, and their long-term exposure to local institutions—such as the presence of a resident pastor—was largely determined by the initial assignment, rather than by endogenous sorting dynamics.

The same institutional rigidity applied to the placement of churches: their construction was effectively frozen until 1989. These constraints imply that not only were individuals unable to self-select into municipalities based on the presence of a church or a resident pastor during or after resettlement, but also that churches themselves could not be selectively established in communities with particular social or civic characteristics. In other words, the location of religious infrastructure was both fixed and exogenously determined, ruling out the possibility that churches emerged in response to higher civic engagement or local demand for religious services.

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 people with religious affiliation 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, municipalities that had church buildings reported a notably higher share of residents claiming religious affiliation. However, this data requires cautious interpretation. Following the fall of the communist regime, the declaration of religious affiliation may have reflected more of an anti-communist and pro-democratic sentiment than a genuine sense of belonging to a religious denomination (Havlíček, 2006). This concern is underscored by the significant decrease—nearly half—in the proportion of individuals claiming religious affiliation from 1991 to 2001, as recorded in the census data.

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 1.5 percentage points in municipalities with a church building in 2001.

Figure 4: NGOs density after the fall of the communist regime



Note: Table contains descriptive statistics NGOs density defined as the number of NGOs per 100 inhabitants (as of 1991). Outliers are not plotted. Bold horizontal lines depict means.

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 followed the literature and focused 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 built 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:

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

Social capital is an inherently intangible and multidimensional concept, and the literature has offered a wide range of definitions and empirical strategies for capturing it. One of the most influential and encompassing definitions is that of Coleman (1988), who conceptualized social capital as the set of social structures that facilitate coordinated action toward shared goals. For Coleman, these structures are embedded in the web of interpersonal relationships. A natural implication is that the most direct and meaningful proxies for social capital are those that reflect the actual presence of such relationships—particularly those grounded in civic values and norms of reciprocity. Following Putnam et al. (1993), we argue that civic associations offer the most concrete institutional expression of these relationship networks.

Many commonly used proxies for social capital, such as crime rates, voter turnout in referenda, or other indicators of prosocial behavior, instead capture potential outcomes of social capital rather than the core mechanisms underlying it. As Fine (2001) pointed out, this approach risks tautology: if social capital is measured through its possible effects, then its presence is inferred wherever these effects are observed—undermining any attempt to empirically test whether social capital actually contributes to those same outcomes. Moreover, such behavioral indicators are often confounded by economic and political contingencies, making causal interpretation even more problematic.

By contrast, our measure—civic association density—avoids these pitfalls. It captures the relational structures at the heart of the concept and represents the most widely accepted proxy in the empirical literature (e.g., Knack and Keefer, 1997; Guiso et al., 2016; Geraci et al., 2022). While no single indicator can exhaustively reflect the complexity



of social capital, our approach offers a theoretically coherent and empirically grounded approximation of the interpersonal dynamics Coleman and others place at the center of the construct.

In the robustness checks, we used 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. 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 selected years 1991 and 2000—i.e., shortly after the fall of the communist regime and after ten years of economic and social transition—presented in Figure 4 show that, in 2000, the municipalities with a church building also had a higher density of non-religious NGOs by 0.13–0.21 NGOs per 100 inhabitants.

Assuming the quasi-random allocation of church buildings in 1945, we estimated 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  $\varepsilon$  is an error term. Specification also includes year ( $\zeta_t$ ) and diocese ( $\theta_r$ ) fixed effects that control for idiosyncratic shocks such as changes in the legal regulation of NGOs and diocese-specific differences. We estimated (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 correct standard errors for spatial and over-time correlation following Conley (1999) in all specifications.<sup>9</sup>

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

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<sup>9</sup>We use 70 km cutoff as it maximizes standard error of parameter of interest  $\gamma$  in regression (2) among all tested cutoffs (25, 30, 35, 40, 45, 50, 55, 60, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125 km)—see Appendix Figure A.1. Baseline results with standard errors clustered by municipality are reported in Appendix Table A.1.

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  $\gamma$  would identify the lower bound of the true effect.

In the panel specification (2), we estimated the average treatment effect in the period 1989–2006. To capture the dynamics, we modified (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 estimated the resulting specification (3) separately for each year.

## 4 Results

Results of the panel regressions presented in Table 2 show in column (1) a significantly higher NGOs density in municipalities hosting a church, where inhabitants have a 0.49 higher likelihood of being a member of a civil society organization. This difference in levels can 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 Figure 4).

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 ecclesiastical properties, their presence is not necessarily a reliable signal of social capital. 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 0.26 higher density of non-religious NGOs, suggesting that church activity 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 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,

Table 2: Baseline results from panel regression

	Dependent variable: NGOs density		
	All	Church-related	Non-religious
	(1)	(2)	(3)
Church in municipality (=1)	0.488*** (0.119)	0.231*** (0.034)	0.257*** (0.089)
Population (1991, hundreds)	−0.103** (0.050)	−0.030** (0.016)	−0.073** (0.036)
Share of population in 0–14 age category (1991, %)	−0.011 (0.016)	−0.002 (0.003)	−0.010 (0.014)
Share of population in 15–64 age category (1991, %)	−0.013* (0.023)	0.000 (0.008)	−0.013 (0.016)
Longitude	−0.417 (1.177)	−0.142 (0.377)	−0.275 (0.868)
Latitude	−47.069 (29.068)	−2.345 (8.495)	−44.725** (22.207)
Longitude squared	0.011 (0.037)	0.004 (0.012)	0.007 (0.027)
Latitude squared	0.472 (0.291)	0.023 (0.085)	0.449** (0.223)
Year fixed effects	Yes	Yes	Yes
Diocese fixed effects	Yes	Yes	Yes
Observations	7,859	7,859	7,859

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

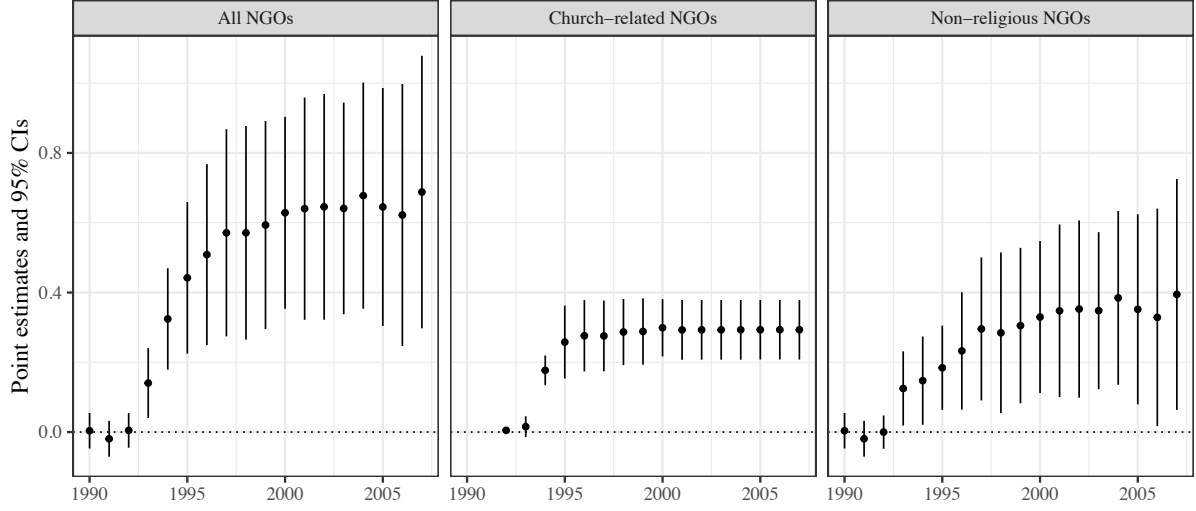


Figure 5: Dynamics of church activity effect on NGOs' density

Note: Figures depict estimates of parameter  $\gamma$  from regression (3) and their 95% confidence intervals based on Conley standard errors.

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 tested this hypothesis by estimating 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). Results reported in column (1) of Table (3) show 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 non-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. This finding reinforces the notion that church-related activities may have played a distinctive role in fostering social capital in the resettled borderland municipalities, though this influence was not uniformly observed across all areas.

## 4.2 Sensitivity tests

In the first set of sensitivity tests, we modified 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.<sup>10</sup>

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 tested the sensitivity of our results by estimating regression (2) on samples defined by alternative threshold settings: (d) 1950 population below 1,000, (e) below 500, and (f) pre-war share of ethnic Germans above 75%. The estimates reported in Table (4) are in line with our baseline results.

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<sup>10</sup>Terrain ruggedness is captured by the mean Terrain Ruggedness Index (TRI) calculated using remotely sensed SRTM data (NASA, 2000) 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 (ArcData Praha, 2016) for the definition of administrative borders and for all spatial visualizations.

Table 3: Falsification test

	Dependent variable: NGOs density		
	All	Church-related	Non-religious
	(1)	(2)	(3)
Church in municipality (= 1)	0.137*** (0.033)	0.109*** (0.010)	0.028 (0.030)
Population (1991, hundreds)	−0.055*** (0.007)	−0.004** (0.002)	−0.051*** (0.007)
Share of population in 0–14 age category (1991, %)	−0.013*** (0.002)	−0.001 (0.000)	−0.012*** (0.002)
Share of population in 15–64 age category (1991, %)	−0.003 (0.004)	−0.001* (0.001)	−0.002 (0.003)
Longitude	0.178 (0.303)	0.087 (0.061)	0.091 (0.262)
Latitude	−1.988 (9.602)	0.086 (0.094)	−2.075 (8.911)
Longitude squared	−0.006 (0.010)	−0.003 (0.002)	−0.003 (0.009)
Latitude squared	0.020 (0.097)	−0.001* (0.001)	0.021 (0.090)
Year fixed effects	Yes	Yes	Yes
Diocese fixed effects	Yes	Yes	Yes
Observations	58,914	58,914	58,914

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

Table 4: 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)	0.483*** (0.135)	0.235*** (0.039)	0.248** (0.100)
Observations	7,859	7,859	7,859
<i>Panel B: Controlling education structure</i>			
Church in municipality (= 1)	0.502*** (0.117)	0.232*** (0.036)	0.270*** (0.084)
Observations	7,859	7,859	7,859
<i>Panel C: Controlling for remoteness and inaccessibility</i>			
Church in municipality (= 1)	0.460*** (0.124)	0.224*** (0.038)	0.237*** (0.090)
Observations	7,859	7,859	7,859
<i>Panel D: 1950 population &lt; 1,000</i>			
Church in municipality (= 1)	0.474*** (0.094)	0.223*** (0.030)	0.251*** (0.067)
Observations	9,721	9,721	9,721
<i>Panel E: 1950 population &lt; 500</i>			
Church in municipality (= 1)	0.457*** (0.121)	0.242*** (0.040)	0.215** (0.090)
Observations	5,900	5,900	5,900
<i>Panel F: 1930 share of ethnic Germans &gt; 75%</i>			
Church in municipality (= 1)	0.467*** (0.098)	0.233*** (0.035)	0.234*** (0.068)
Observations	10,269	10,269	10,269

Note: The table contains estimates of parameter  $\gamma$  from regression (2) in full specification and Conley standard errors reported in parentheses: \*, \*\* and \*\*\* denote statistical significance at 10%, 5% and 1% level.

## 5 Mechanism

Our empirical analysis reveals that Sudetenland municipalities hosting churches established before 1945 saw a notable increase in the density of non-religious civic organizations following the collapse of communism. This evidence points towards the role of church activities as a catalyst in the formation of social capital. By fostering informal social interactions, churches may have laid the groundwork for the emergence of more organized civic initiatives once the repression of civil society was lifted. Pastors were pivotal in mobilizing believers in post-war Czechoslovakia, a time when the regime permitted no formal religious activities beyond the conduct of Mass and persecuted any form of civic organization.

To gain insight into the transmission mechanism of the treatment effect and further address self-selection concerns, our study takes advantage of the application of the 1917 Pio-Benedictine Code of Canon Law in the unique context of post-war Czechoslovakia. This code, governing pastoral responsibilities following the Second World War,<sup>11</sup> mandates that a parish be led by a priest or a moral entity like a parochial vicar, with the pastor required to reside in a parochial house near his church. The code typically prescribes one pastor per parish, but in exceptional circumstances, such as a pronounced shortage (*penuriam*) of priests, the local ordinary may authorize the pastor to live elsewhere, and a pastor may be entrusted with the administration of more than one parish. Multiple appointments entail the obligation to perform Mass in each of the governed parishes on prescribed days, imposing significant time constraints on the pastors.

As outlined in Section 2, the post-war landscape of Czechoslovakia presented exceptional circumstances. The communist regime's persecution led to a critical shortage of priests. Consequently, following the Code of Canon Law in force, some pastors were compelled to manage parishes from afar, with priests' mobility remaining under strict surveillance. The country's administrative structure, characterized by the small dimension and high number of municipalities, exacerbated the disparity between the number of parishes and available priests. This situation resulted in the practice of appointing a non-resident pastor (*administrator excurrendo*) in many parishes. Logistic and time constraints, combined with the rigorous state surveillance of priestly activities, signif-

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<sup>11</sup>the 1917 Pio-Benedictine Code of Canon Law (*Codex Iuris Canonici*) was in force until 1983, when it was replaced by the 1983 Code of Canon Law, also called the Johanno-Pauline Code. The 1983 code did not change the appointment procedures and the responsibilities of pastors in any significant way.



icantly restricted the movements of non-resident pastors, confining their visits to non-residential parishes solely to the duration necessary for conducting masses. Under these circumstances, non-resident pastors faced severe limitations in their ability to promote activities involving social interaction within parishes located outside their municipality of residence. As a result, it is plausible that churches contributed meaningfully to the accumulation of social capital only in those municipalities where a resident pastor was present.

To delve deeper into the role of pastors, we retrieved data regarding the residency status of pastors from the six principal Czech dioceses, namely Prague, Olomouc, České Budějovice, Brno, and Litoměřice (see Figure 6). We compiled records detailing the residency of priests within individual parishes from 1948 to 1989.<sup>12</sup> It is worth mentioning that the historical context in which the original data were collected resulted in archival gaps, allowing us to reconstruct only a lower-bound estimate of the actual duration of pastors' residency.

Utilizing this data, we determined the cumulative length of priestly residency for each municipality within the post-war years, 1948 to 1988. Figure 6 illustrates the total length of pastors' residency between 1948 and 1989 in our estimation sample. This measure enabled us to gauge the intensity of the treatment through the capacity of pastors to initiate or promote socially interactive activities within their parishes. We posited two fundamental premises: firstly, that such capacity was exclusive to resident pastors; and secondly, that it constitutes a primary channel through which the presence of a church structure may have facilitated the growth of social capital throughout the communist period, resulting in a higher density of civic organizations after the collapse of the regime.

In our regression model (4), the term  $(P_i \in [0, 40])$  represents the number of years a municipality's parish was under the guidance of a resident pastor. By definition  $P_i = 0$  when  $C_i = 0$

$$D_{i,t} = \alpha + \gamma P_i + \beta \mathbf{X}_i + \theta_r + \zeta_t + \psi_{i,t} \quad (4)$$

Regression results are reported in Table 5. The heterogeneity of the treatment effects indicates that extended periods during which a municipality's church was led by a resident pastor throughout the communist era are associated with a higher likelihood of developing

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<sup>12</sup>Municipalities hosting a chapel of ease are considered not to have a resident pastor.

civic capital after the Velvet Revolution. This pattern suggests that the capacity of priests to foster social interaction via church activities played a crucial role in the formation of social capital within municipalities that housed churches.

These results further alleviate concerns about self-selection. While it is conceivable, albeit unlikely, that resettlers might have chosen to settle in municipalities with church buildings, they could not have predicted which municipalities would have long-residing pastors. At the time of resettlement, new settlers had no means of foreseeing which church-hosting municipalities would retain or lose a pastor, nor the duration of such circumstances. Consequently, they could not have strategically self-selected into parishes led by long-term resident priests based on their propensity for social participation. This unpredictability underscores the robustness of our findings and supports the argument that the observed outcomes are not merely a result of self-selection but are significantly influenced by the presence of church activities and pastoral leadership.

## 6 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 provided new evidence that the borderland 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. The heterogeneity of treatment effects reveals that the longer the local parish was served by a resident pastor, the greater the civic capital that emerged after the dissolution of Czechoslovakia, suggesting that the church activity facilitated by pastors was crucial in establishing the foundational layer for the later development of social capital in church-hosting communities. The unpredictability surrounding the presence and tenure of resident pastors enables us to confidently rule out the possibility that resettlers could have self-selected into church-hosting municipalities with long-term resident pastors based on their propensity for civic engagement. Given that the duration of a pastor's residency was influenced by unforeseeable events, resettlers could not have strategically chosen their locations with the expectation of sustained pastoral leadership. This inherent uncertainty strengthens

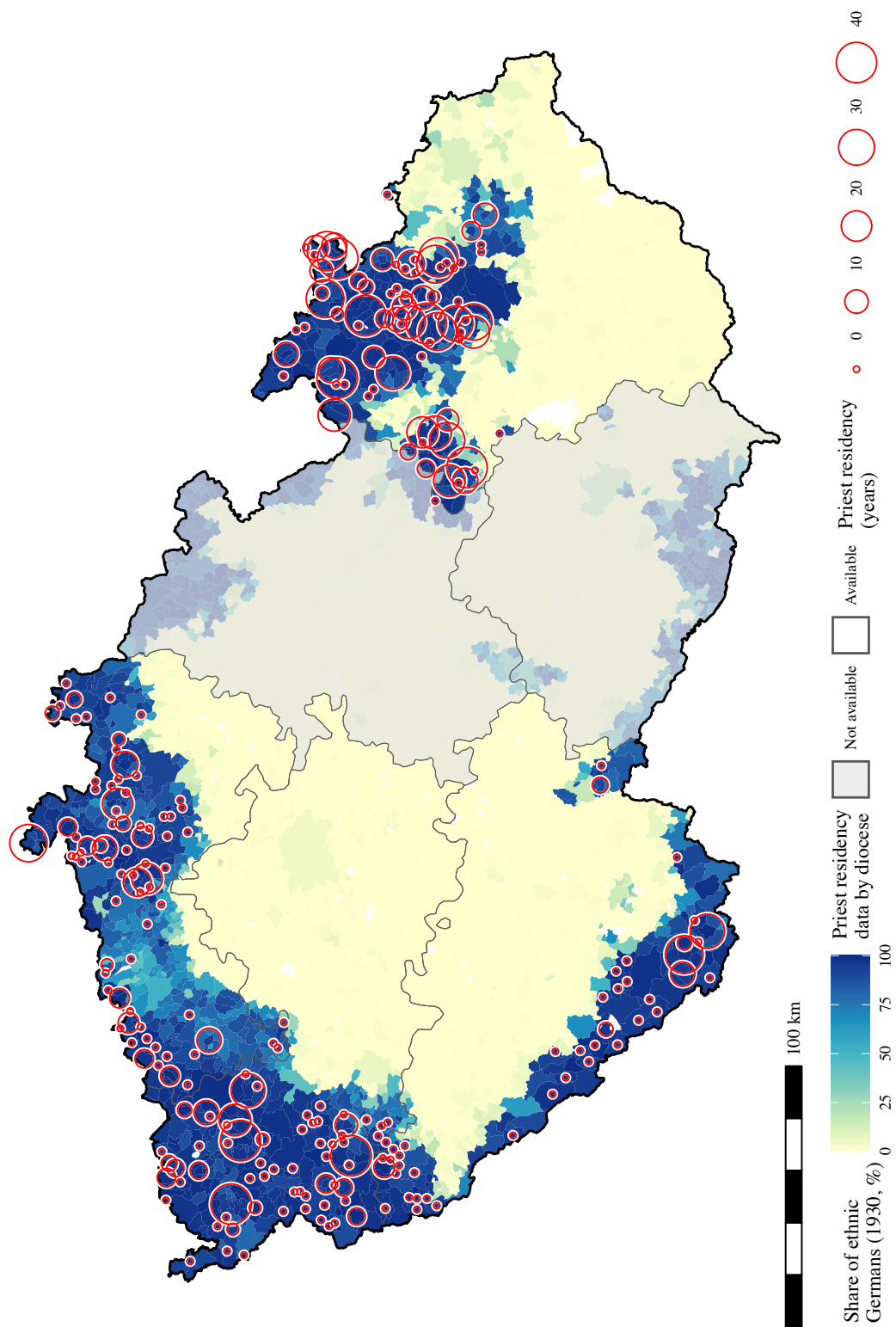


Figure 6: Municipalities with sacral building in 1945 in our estimation sample and total length of pastors' residency between 1948 and 1989

Table 5: Church activity and NGOs density

	Dependent variable: NGOs density		
	All	Church-related	Non-religious
	(1)	(2)	(3)
Priest residency (years)	0.015*** (0.002)	0.010*** (0.001)	0.005** (0.002)
Population (1991, hundreds)	−0.113* (0.062)	−0.042** (0.019)	−0.072 (0.044)
Share of population in 0–14 age category (1991, %)	−0.026 (0.018)	−0.003 (0.005)	−0.023* (0.013)
Share of population in 15–64 age category (1991, %)	−0.013 (0.028)	0.002 (0.009)	−0.015 (0.020)
Longitude	−1.082 (1.528)	−0.326 (0.513)	−0.756 (1.069)
Latitude	−68.840 (44.011)	−9.705 (13.213)	−59.135* (32.875)
Longitude squared	0.031 (0.047)	0.009 (0.016)	0.022 (0.033)
Latitude squared	0.691 (0.441)	0.097 (0.133)	0.594* (0.330)
Year fixed effects	Yes	Yes	Yes
Diocese fixed effects	Yes	Yes	Yes
Observations	6,374	6,374	6,374

Note: Estimates of regression (4) with Conley reported in parentheses: \*, \*\* and \*\*\* denote statistical significance at 10%, 5% and 1% level.

the validity of our findings by suggesting that the observed levels of civic engagement are unlikely to be the result of self-selection, but rather are significantly impacted by the presence of church activities and stable pastoral leadership.

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, resulting in a higher density of civic organizations after the collapse of the communist regime. This process appears 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 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 weakened 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 (Figure 4). 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 forced migration and resettlement, where civil society experienced political repression as well, but at least people could retain their pre-war and pre-communist rule 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 activity 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 church activities 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) documented 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) argued 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)<sup>13</sup>. Instead, the post-war Czechoslovakia we examined 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

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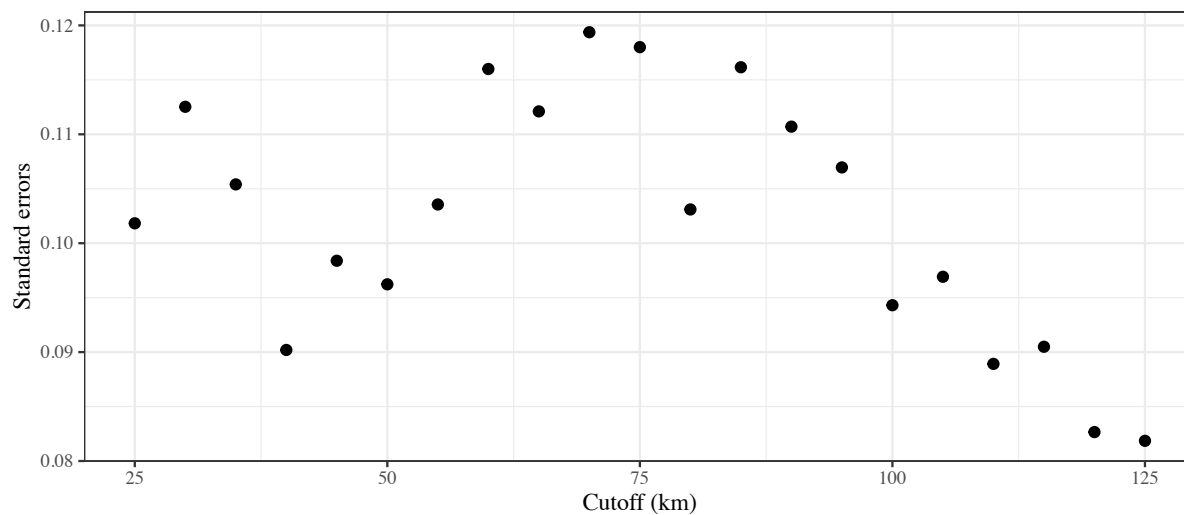
<sup>13</sup>For a review of the outcomes of religious denominations, see Basedau et al. (2018).

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 activity 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 activity 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.

# Appendices

## A Online Appendix

Figure A.1: Conley standard errors estimated with cutoffs between 25 and 125 km



Note: Figure depicts standard errors of the parameter of interest  $\gamma$  in regression (2) with density of all NGOs being the dependent variable.



Table A.1: Baseline results from panel regression with standard errors clustered by municipality

	Dependent variable: NGOs density		
	All	Church-related	Non-religious
	(1)	(2)	(3)
Church in municipality (=1)	0.488*** (0.099)	0.231*** (0.027)	0.257*** (0.089)
Population (1991, hundreds)	−0.103*** (0.031)	−0.030*** (0.009)	−0.073*** (0.027)
Share of population in 0–14 age category (1991, %)	−0.011 (0.014)	−0.002 (0.004)	−0.010 (0.012)
Share of population in 15–64 age category (1991, %)	−0.013 (0.024)	0.000 (0.007)	−0.013 (0.019)
Longitude	−0.417 (0.910)	−0.142 (0.316)	−0.275 (0.790)
Latitude	−47.069** (22.669)	−2.345 (7.544)	−44.725** (19.673)
Longitude squared	0.011 (0.028)	0.004 (0.010)	0.007 (0.024)
Latitude squared	0.472** (0.227)	0.023 (0.076)	0.449** (0.197)
Year fixed effects	Yes	Yes	Yes
Diocese fixed effects	Yes	Yes	Yes
Observations	7,859	7,859	7,859

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

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