Brother Votes for Brother:
The Effects of Pentecostal Political Influence in Brazil*

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Abstract

Pentecostals are playing an increasingly important role in Latin American politics, supporting pastors and far-right candidates for elected office. In this paper, I use the staggered translation of the Bible into indigenous languages by the Summer Institute of Linguistics (SIL), a 20th century US evangelical organization, to isolate exogenous variation in the growth of the Brazilian Pentecostal movement. Focusing on municipalities in which indigenous languages are spoken, I find that the growth of Pentecostalism had substantial effects on political outcomes, increasing the vote share of far-right candidates in presidential elections and the vote share of candidates associated with evangelical churches.

Keywords: Far-right, Voting, Pentecostal Evangelicals, Bible translation, Brazil.
JEL Codes: D72, N36, Z12, Z13.

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1 Introduction

One of the most significant religious transformations in Latin America in recent decades has been the decline of Catholicism and the rapid expansion of Pentecostal evangelicalism. Pentecostal church leaders promote a socially conservative agenda and are strongly involved in politics. They exert political influence in several ways, from persuading their followers to support specific candidates to promoting pastors to run for elections. Political actors are increasingly aware of the power these organizations hold in mobilizing votes. This is exemplified by Brazil's far-right candidate, Jair Bolsonaro, who converted to Pentecostalism two years before winning the 2018 presidential election.

A growing body of research examines the diverse factors driving the rise of far-right movements globally, including migration patterns (Bazzi et al., 2023), exposure to refugees (Steinmayr, 2021), austerity reforms (Dal Bó et al., 2023), and trade flows (Autor et al., 2020). While the media regularly describes Pentecostalism as one of the driving forces in the rise of the far-right worldwide, reliable estimates of its causal impact on political outcomes remain scarce.[1]

In this paper, I develop a novel empirical strategy to estimate the causal effect of Pentecostal growth on political outcomes in Brazil. To establish causality, I exploit the staggered activities of the Summer Institute of Linguistics (SIL), a US evangelical organization founded in the 20th century with the primary mission of translating the Bible into all languages. As a first-stage result, I find that exposure to SIL activities increased the share of Pentecostal affiliations. Leveraging this variation, I show that Pentecostalism had substantial effects on political outcomes, increasing the vote share of far-right candidates in presidential elections and the vote share of candidates associated with evangelical churches.

Around 1960, SIL started translating the Bible into indigenous languages spoken across Brazil. The process of translating the Bible into an indigenous language is highly involved and typically takes around ten years. During this period, SIL missionaries spend time with the local communities to learn their languages. Although their presence in tribal areas is limited, as missionaries reside in central towns and are not allowed to establish churches or schools, they do have continuous contact with the indigenous population. It is likely that through these interactions, as well as through the legacy of having the Bible translated into the local language, SIL missionaries were able to spread their beliefs and conservative views representative of US evangelism.

To measure the timing of SIL activities, I collect novel data from the *Joshua Project*.

[1] See: "Of Bibles and ballots" *The Economist*, Jun 3rd 2021, and "Top Pentecostal leaders supported the far right in Brazil's presidential campaign" *Vox*, Oct 8, 2018. Retrieved on October 26, 2022.

This is a US evangelical organization that keeps records of when the Bible was translated into different languages across the world. It also provides a copy of the translation, which I used to verify that the copyright belongs to SIL. To the best of my knowledge, this data had not been used before in any empirical study. I use the timing of the translation of the Bible as a proxy to measure SIL exposure in each municipality. For this purpose, I combine information on the year of translation into each language from the *Joshua Project* with geo-localized data on the indigenous languages spoken in 1980 in Brazil from the *Ethnologue*. Next, I map the data from the language to the municipality level by using detailed data on population count by each 100-meter square in Brazil. This procedure allows me to measure the population speaking each indigenous language at the municipality level.

Focusing the analysis on municipalities where indigenous languages are spoken, I first implement a Difference-in-Differences empirical strategy that compares outcomes before and after the first translation of the Bible into a local indigenous language. This analysis allows me to verify that there are no pre-existing trends in the outcomes of interest. This supports the assumption that the timing of SIL translations is as good as randomly assigned, conditional on controls. Next, I construct a time-varying municipality-level measure of exposure to SIL from 1980 to 2010. This measure considers two additional sources of variation: (i) that some municipalities speak more than one indigenous language and (ii) the indigenous population that speaks each language. For each municipality and year, I add the population speaking indigenous languages with a Bible translation over the municipality's total population. I fixed the population measures to those in 1980. Hence, all the time-variation in this measure of SIL exposure is driven by the timing of Bible translations. This is my main regressor of interest in a specification that includes controls for municipality-fixed effects, year-fixed effects, and year-fixed effects interacted with municipalities' characteristics from 1980, such as mean income, urbanization rate, school attendance rate, and ethnicity composition.

Despite there being no evidence that SIL targets municipalities where Pentecostals were already growing, there remain some potential threats to the identification strategy. For instance, a potential concern could be that areas where SIL has easier access may also be more accessible to politicians. Therefore, to further strengthen the identification strategy, I construct a measure of expected SIL exposure based on linguistic similarities with languages that had already undergone a Bible translation. Specifically, I construct this measure by substituting the actual timing of Bible translations with that of languages spoken outside Brazil with linguistic similarities. Given the effort required to translate the Bible into a specific language, it is reasonable to expect that a translation is more likely if linguistic similar languages already have one.

The first set of results indicates that exposure to SIL increased the share of Pentecostal affiliations in municipalities where indigenous languages are spoken. This increase appears to stem from a substitution across religious affiliations, rather than the conversion of a single group. To further understand the impact of SIL's presence, I classify the Pentecostal population by ethnic group, as defined in the Brazilian census. The results indicate that the effect of SIL's presence on Pentecostal affiliations is primarily observed among indigenous and brown populations. Additionally, I find that the effect of SIL exposure is larger in more urbanized municipalities, suggesting that SIL may influence not only the specific indigenous group but also surrounding populations. I obtain similar estimates when replacing the actual timing of SIL exposure with the expected SIL exposure, using linguistic similarities as a key determinant of Bible translation timing.

I use the increase in the share of Pentecostal affiliations induced by SIL exposure to study its effect on two main voting outcomes: the vote share obtained by far-right candidates in the presidential elections and the vote share obtained by candidates associated with evangelical churches in the federal elections. I follow an IV approach, instrumenting the share of Pentecostals with SIL exposure. I find that Pentecostal growth has strong effects on political outcomes in municipalities where indigenous languages are spoken. Specifically, a 10 percentage point (p.p.) increase in the share of the Pentecostal population, approximately the mean increase from 1990 to 2010, results in a 13 p.p. increase in the vote share of candidates associated with evangelical congregations and a 2 p.p. increase in the vote share of far-right candidates. This result is based on the assumption that SIL exposure affects political outcomes exclusively through its influence on Pentecostal affiliations. Consistent with this, SIL exposure does not have a significant effect on different socioeconomic outcomes, such as urban population share, agricultural employment, literacy rates, or school attendance. This aligns with the fact that SIL is not allowed to establish schools, and according to the 2010 Brazilian census, the indigenous population is predominantly bilingual, with 78.5% being literate.

Next, I analyze the extent to which Pentecostal growth driven by exposure to SIL contributed to Bolsonaro's electoral success. While survey evidence indicates that nearly 70% of evangelicals voted for Bolsonaro in Brazil's 2018 presidential election, this correlation may be influenced by underlying population characteristics. Due to the lack of comparable candidates in previous elections and the absence of Census data beyond 2010, a panel data approach is not feasible. Instead, this analysis employs a cross-sectional approach to assess the impact of Pentecostal growth, driven by the increase in SIL exposure, on Bolsonaro's vote share across municipalities. The results suggest that Bolsonaro received around 9.8 p.p. more votes in municipalities that experienced a one standard deviation larger increase in the share of the Pentecostal population.

The results described above refer to municipalities where indigenous languages are spoken, which account for 26.4% of Brazil's population. Next, I examine whether SIL activity in indigenous speaking municipalities generates spillovers in other regions, for instance through the influence of commuters or migrants. By following a market access approach, for each municipality I calculate an indirect SIL exposure measure, as a weighted average of SIL exposure in other municipalities, with weights given by geographical distance to each of them.

Indirect effect estimates indicate that SIL activity generated spillovers, increasing the share of Pentecostal affiliation in municipalities where no indigenous language is spoken. Leveraging this variation, I study the implied elasticity of Pentecostalism on voting outcomes in these municipalities. Assuming that the effect on voting outcomes resulting from the variation in Pentecostal populations due to direct and indirect SIL exposure is comparable, elasticities across different samples can be examined. I find that while Pentecostal political influence is strong in municipalities with non-indigenous speakers, the effect is smaller than in municipalities with indigenous speakers, especially for evangelical candidates' vote share.

Different mechanisms may drive the strong elasticity between Pentecostals and support for evangelical candidates. Churches' organizational advantage can be instrumental in election campaigns, as Pentecostals frequently attend ceremonies where pastors discuss voting issues, evaluate candidates, and even invite them to special blessing ceremonies. To explore this mechanism, I test whether a candidate's church affiliation affects their ability to secure Pentecostal votes. I exploit the fact that Pentecostal churches in Brazil vary significantly in structure and size (Cammett, Novaes, and Tuñón, 2022), which may lead to different intensities of political influence. I categorize these churches into two groups: major and small Pentecostal churches. The major churches have well-developed institutional networks that can be leveraged for political mobilization, whereas smaller Pentecostal churches, with less infrastructure and organizational capacity, face limitations in coordinating electoral strategies. Results indicate that candidates endorsed by major Pentecostal churches capture more Pentecostal votes than other evangelical candidates, a finding especially relevant given Brazil's campaign finance reform, which imposed spending limits (Avis et al., 2022).

This paper contributes to several strands of literature. First, it builds on research on the rise of Pentecostal evangelicals. Costa, Marcantonio, and Rocha (2023) and Buccione and Mello (2024) explore how economic downturns and church-affiliated TV increased Pentecostal affiliations and support for Pentecostal-linked candidates. Corbi and Sanches (2021) examine tax subsidies for Pentecostal churches in Brazil and their political impact. My contribution here is to propose a novel strategy to estimate the causal effect of

Pentecostal growth on voting outcomes, with potential for broader application in regions with SIL activity, like Latin America, Africa, and Asia.

Second, it relates to literature on culture and individual preferences, particularly how religion shapes work ethic, risk-taking, consumption, moral norms, and attitudes (Scheve and Stasavage, 2006; McCleary and Barro, 2006; Renneboog and Spaenjers, 2012; Cantoni, 2015; Campante and Yanagizawa-Drott, 2015; Iyer, 2016; Carvalho, Iyer, and Rubin, 2019; Bryan, Choi, and Karlan, 2021; Valencia Caicedo, Dohmen, and Pondorfer, 2021; Montero and Yang, 2022). Regarding voting, Basten and Betz (2013) and Gerber, Gruber, and Hungerman (2016) show how religion influences voting behavior, while Bazzi et al. (2023) and Giuliano and Tabellini (2020) explore how culture shapes voting patterns. Also related, Buccione and Knight (2024) investigate the rise of the religious right in the context of the Moral Majority and Jimmy Carter, the first US evangelical President. I contribute by isolating the effect of socially conservative religious beliefs on the vote share for far-right and religious candidates.

Third, this paper also contributes to the literature on the rise of populism across the world, summarized by Guriev and Papaioannou (2022). The empirical literature studied different factors that led to the rise of populist movements, such as austerity reforms, migration patterns, and economic shocks (Fetzer, 2019; Fetzer, Sen, and Souza, 2019; Alabrese et al., 2019; Autor et al., 2020; Dal Bó et al., 2023). My contribution here is to provide evidence of how Pentecostal growth contributed to support for Brazil's far-right populist candidate, Jair Bolsonaro.

Fourth, it builds on the literature on missionary legacies. Nunn (2010), Waldinger (2017), and Valencia Caicedo (2019) explore the impact of missionary work on religious beliefs in colonial times. Cagé and Rueda (2016) look at Protestant missionaries' early introduction of the printing press in Africa.[2] I contribute to this literature by examining how a small intervention by a 20th century missionary society, still active today, can spread religions with significant political influence.

Finally, the paper contributes to the literature on foreign influence. Beath, Christia, and Enikolopov (2017), Berger et al. (2013), Bursztyn and Cantoni (2016), Dell and Querubin (2018), and Gagliarducci et al. (2020) explore foreign influence on internal matters. I contribute to this literature by providing the first empirical study of SIL, a major international organization that translated the Bible into more than 1,350 languages and was active in 104 countries.

The rest of the paper is structured as follows: Section 2 provides background on SIL, in-

[2]Also related, Brown (2023) and Okada da Silva (2024) explore the long-term effects of Bible translations and Protestant missionary activity in sub-Saharan Africa.

digenous tribes in Brazil and the Pentecostal rise; Section 3 outlines the data used; Section 4 details the empirical strategy and presents results on voting for far-right and evangelical candidates, including Bolsonaro's 2018 vote share; Section 5 examines spillover effects across Brazil; Section 6 explores potential mechanisms; Section 7 presents robustness checks; and Section 8 concludes. An appendix and an online appendix gather additional figures and tables referenced throughout the main text.

2 Background

This section provides background on several aspects relevant to this study. First, it explains how SIL carried out its activities and promoted its religious beliefs, highlighting key aspects of their procedures that support the setup of the paper. Second, it discusses the linguistic and cultural diversity of the indigenous tribes in Brazil. Finally, the section discusses the rise of Pentecostalism in Brazil and its political involvement.

2.1 Summer Institute of Linguistics

The SIL was founded in the US in the mid-1930s and is considered the largest 20th century evangelical missionary society in terms of members sent abroad.[3] Originally, SIL was a dual-organization: "Wycliffe Bible Translators (WBT) and the Summer Institute of Linguistics (SIL)." WBT focused on the religious aspect, maintaining the core principles of a traditional faith mission, which allowed the organization to raise funds and recruit missionaries in the US. In contrast, SIL emphasized the scientific and linguistic aspects, aiming to translate the Bible into various languages. To achieve this, SIL conducted fieldwork in foreign countries, studied numerous minority languages, and collaborated with language communities to translate the Bible into their native tongues.

There are several aspects of the procedures of SIL activities that are relevant for this study. First, most members of SIL belonged to the conservative wing of US evangelism, and therefore, intended to promote their values in the different regions they worked in (Hvalkof and Aaby, 1981).

Second, SIL had a limited presence in tribal areas, as it was not allowed to establish churches or schools in foreign countries. Furthermore, missionaries did not reside in tribal areas. In each country where SIL operated, it established a main base equipped with language labs, libraries, workshops, air bases, radio stations, hospitals, and schools for missionaries' children.[4] SIL members could commute from the main base to the tribal

[3]The Summer Institute of Linguistics is referred to nowadays as SIL International. https://www.sil.org/.

[4]As an example, Figure III in the Online Appendix presents a map showing the location of the indigenous tribes reached by SIL by 1995, along with the location of the SIL base in Brazil (Colby and Dennett, 1996).

area by taking advantage of aviation services provided by the Jungle Aviation and Radio Service (JAARS) organization. JAARS was founded by SIL's creator, with the mission to "provide logistical solutions that help make Bible translation possible."[5]

Third, SIL missions are carried out by a small team of trained missionaries who work closely with local informants. Before receiving their field assignments, SIL members had to complete three summer courses in linguistics and survival training (Stoll, 1982). Once in the field, typically working in pairs, their primary objective was to collect ethnographic and ethnolinguistic data to understand the culture and language of the tribe they have been assigned to. Their approach usually involves selecting informants who assist in exchange for payment. During the fieldwork, SIL's members seek to build a relationship of trust with the informant and other members of the community in order to facilitate their work.[6]

Fourth, the informants, who frequently become the first to convert, often start working as salaried teachers in their tribes, spreading SIL-prepared educational material in the native language (Stoll, 1982; Hvalkof and Aaby, 1981). Therefore, it is through native intermediaries that SIL begins a campaign of religious conversion. Usually, SIL has complete control over the production of written material, which facilitates steering the community in the desired direction. Typically, the first written materials to be circulated are sections of the Bible and Christian hymns. Hvalkof and Aaby (1981) point out that SIL not only uses written material, but also distributes cassette tape recorders together with tapes containing Biblical stories, Christian hymns and US hymns in the native language of the tribes.

Finally, the work in a language group is considered to be concluded once the translation of the New Testament is completed and the missionaries have been able to create a group of believers who are capable of reading the Bible and spreading its message. Once the whole language project is concluded, which often takes around 10 years, SIL missionaries must leave to work on other language groups (Hvalkof and Aaby, 1981).

The organization emphasizes that it aims to translate the Bible into all existing languages, which are considered to be equally relevant. In other words, SIL does not indicate a priority for any particular language. Therefore, given the work it requires to translate the Bible into a specific language, it is natural to think that it is more likely that the Bible is translated into a particular language if there already exist other Bibles translated into similar languages spoken in other regions or in other countries. The main rationale behind this prediction is that translating the Bible into a specific language will be less

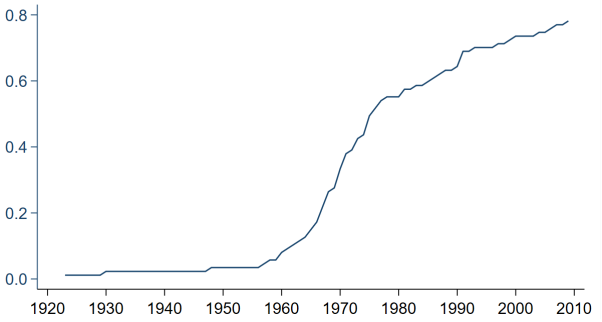
[5]See more on JAARS at //www.jaars.org/.

[6]Part of the translation work is usually done from the main base, where SIL members may bring their informants. Figure IV in the Online Appendix presents a set of pictures illustrating SIL activities.

costly if there exists a previous translation into another similar language.

SIL expanded extremely rapidly, reaching 308 linguistic groups by 1962 (Hvalkof and Aaby, 1981). Although Latin America is SIL's oldest and largest field of operation, it has also worked among many tribes located in countries from Asia and Africa. Around 1960, SIL missionaries started their work in Brazil, having already settled among tribes located in other Latin American countries, e.g. Mexico, Peru, Bolivia, Guatemala and Honduras.[7] Figure 1 illustrates the share of languages spoken in Brazil into which the Bible was translated from 1920 to 2010. Notably, the number of languages with a Bible translation has been steadily increasing since 1960, reaching 78% of all languages spoken in Brazil by 2010.[8]

Figure 1: Bible Translation Timing



Note: The graph illustrates the share of languages spoken in Brazil into which the Bible was translated from 1920 to 2010.

2.2 Indigenous Tribes in Brazil

The indigenous tribes located in Brazil are quite heterogeneous. Some have an indigenous language as their first language, and others have Portuguese. There are around 180 indigenous languages spoken in Brazil, with significant linguistic diversity, both in terms of the organization of sound systems and grammatical structure. Of these 180 languages, only 24 have more than 1,000 speakers, 108 languages have between 100 and 1,000 speakers, and 50 languages have fewer than 100 speakers (Gaspar, 2009). Brazil's 2010 Census identified that in indigenous lands, 57.3% of the indigenous population spoke an indigenous language at home, and 28.8% did not speak Portuguese.

The diversity that exists among indigenous tribes does not just come from their different languages and cultures. The relationship they have with the non-indigenous population is also different (Instituto Socioambiental, 2018). They can have direct contact with the non-indigenous population of the region (for instance, as farmers, illegal settlers,

[7]For more details on which countries SIL has worked see Hvalkof and Aaby (1981).
[8]This specifically refers to the number of New Testament translations.

fishermen, or lumberjacks) or they can have contact through an institution (governmental or non-governmental). There are also indigenous groups established in urban centers, for instance, in the outskirts of Manaus or in the city of São Paulo (Instituto Socioambiental, 2018). There are also some isolated indigenous groups living in Brazil, for whom there is very little information.

2.3 Pentecostal Upsurge and Political Involvement in Brazil

Pentecostalism is a branch of evangelical Christianity that originated in the US in the early 20th century. Pentecostalism and related charismatic movements represent the fastest-growing segments of global Christianity, accounting for at least a quarter of the world's Christian population (Pew Research Center, 2006). This growth is primarily concentrated in Latin America, Asia, and Africa.

Pentecostals and Catholics differ on several relevant aspects (Pew Research Center, 2006; Costa, Marcantonio, and Rocha, 2023; Buccione and Mello, 2024). Pentecostals tend to support more traditional Christian practices, being particularly conservative with respect to matters such as abortion or LGBTQI rights. They emphasize the reliability of the Bible and the "gifts of the Holy Spirit", such as speaking in tongues, faith healing, and prophesying.[9] Also, Pentecostals are more likely to attend church, read the Bible daily, and report God being the most important aspect of life. Finally, Pentecostals tend to have specific political preferences, supporting political leaders with strong religious beliefs (Pew Research Center, 2006).

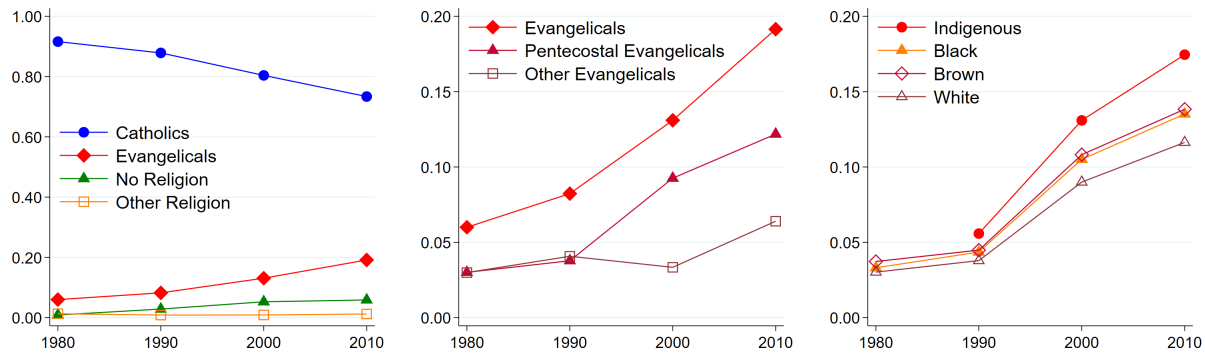
Historically, over 90% of Brazil's population identified with the Roman Catholic church. However, the percentage of Catholics in the population has been dropping at an accelerating rate since 1980, while the share of evangelical affiliations has been growing. Within the evangelicals, this growth seems to be mainly driven by the increase of Pentecostalism, which started to gain strength after 1980. Figure 2 illustrates Brazil's religious composition change over the last decades. Pentecostals represented around 13% of Brazil's population in 2010, accounting for more than 60% of all evangelicals in Brazil.[10] Figure 2c shows that Pentecostal growth is a generalized phenomenon across all ethnic groups, being even more pronounced among the indigenous population in Brazil.

Although there had been early attempts at expanding the Pentecostal movement in Brazil, it was not until the 1980s that it started to gain strength. The last and most successful Pentecostal wave in Brazil arrived in the 1980s, with the foundation and rapid expansion of independent churches, which are often referred to as Neopentecostals (Fre-

[9]Speaking in tongues refers to direct communication with God in a language only He understands.

[10]According to Datafolha (2016), Pentecostal affiliation has continued to increase, reaching 22% of the population in 2016.

Figure 2: Religious Trends in Brazil



(a) Religious Composition (b) Evangelical Composition (c) Pentecostal Share within Ethnic Group

Note: Figures 2a and 2b show the evolution of the share of the population that identifies with each religious affiliation. "Other Religion" includes Buddhist, Hindu, Jewish, Muslim, and other religions. "Other Evangelicals" include historical evangelicals and unclassified evangelicals. Figure 2c presents the evolution of the share of Pentecostal population among each ethnic group. *Source: IPUMS.*

ston, 1994, 2004). While Brazilian Pentecostalism was formerly regarded as apolitical, with its leaders' motto being "the believer does not meddle in politics" (Schmidt and Engler, 2016), by the end of the 20th century, it revealed a clear political and ideological orientation. Pentecostal leaders began to focus on influencing Brazil's political agenda and public sphere, adopting the new motto, "brother votes for brother". Despite Brazilian law separating church and state, Pentecostal churches have become aggressively involved in politics.

In 1986, an evangelical Caucus was formed consisting largely of Pentecostals.[11] The evangelical Caucus grew from 4% of the Parliament in 1987 to 15% in 2010, becoming the third largest force in Parliament. This group focuses not only on guaranteeing equal religious treatment but also on protecting Christian morals and the institutional interest of the churches (Schmidt and Engler, 2016). Furthermore, Political actors are increasingly aware of the influence these organizations have in mobilizing votes. This is exemplified by Brazil's far-right candidate, Jair Bolsonaro, who converted to Pentecostalism two years before winning the 2018 presidential election and received public support from Pentecostal leaders. Another example is the mayor of Rio de Janeiro, who is also a Bishop in one of Brazil's major Pentecostal churches. Additionally, the 2016 impeachment of President Dilma Rousseff was led by a Pentecostal congressman. Given this context, to avoid the risk of electoral drawback, Brazilian candidates started to take into consideration the demands of Pentecostal groups in their political strategy (Schmidt and Engler, 2016; Burity, 1997).

[11]Evangelical Caucus is an organized group of evangelical lawmakers in the Brazilian government and legislature.

Pentecostals have gained political influence not only in Brazil, but also in other countries from Latin America. For instance, Pentecostals from Chile have also been campaigning to raise their own candidates to congress and to support right-wing candidates to stop progressive policies. Moreover, in Colombia, the Pentecostal vote was an important factor in the victory of the 'no' option in the 2016 Peace Agreement referendum that intended to end the war with FARC (Revolutionary Armed Forces of Colombia). The agreement not only established the possibility of FARC integrating into the political system, but also considered issues like gender inclusion and LGBTQI demands.

3 Data

3.1 Data Source: SIL Exposure

Although there is no data on the missions carried out by SIL, there is data available on the languages into which the Bible has been translated and the year of the translation. These data is obtained from the *Joshua Project*, a evangelical organization based in the US.[12] *Joshua Project* seeks to coordinate the work of missionary organizations to identify the ethnic groups of the world which have the fewest evangelical followers. For each language spoken in the world, the *Joshua Project* provides information on whether the Bible, or at least some portions, has been translated and the year in which the translation was made. Furthermore, it provides access to a copy of the translated Bible. This enables me to verify whether the copyrights belong to SIL. After verifying the copyrights of a random selection of Bibles translated into indigenous languages from Brazil, I find that all were produced by SIL.

Joshua Project presents the year in which the first and the last edition of the Bible has been published, for both the Old Testament and the New Testament. For the purpose of this project, I will consider the year in which the first edition of the New Testament was published.[13]

Information on the geographic location of each spoken indigenous language in Brazil, and its population, is obtained from the 14th edition of *Ethnologue*, published in 2000 (Grimes and Grimes, 2000). *Ethnologue* is an active research project which catalogs all the known languages in the world. For each language spoken in Brazil, *Ethnologue* defines specific polygons indicating the geographic location where it is spoken. The exact year in which the data for the 14th edition of *Ethnologue* was gathered varies across different

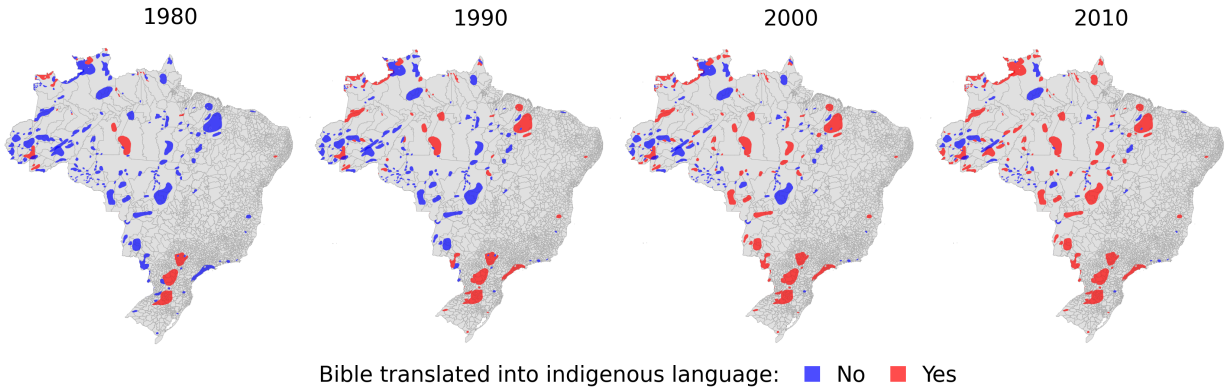
[12]The web page of the organization is https://joshuaproject.net/.

[13]Figure V in the Online Appendix presents an image of the data provided by *Joshua Project* for a particular indigenous language. In the example, the first edition of the New Testament was published in 1984. Note that for some languages, while the complete translation of the New Testament is not published, there are some portions of the Bible which have been translated and are published.

languages, but it is generally close to 1980. Figure 3 presents maps of Brazil showing the geographic locations of different indigenous-speaking communities and whether the Bible was translated into their languages, for each decade since 1980.[14]

Finaly, the data offered by Giuliano and Nunn (2018) cleanly categorizes languages into distinct linguistic families and subfamilies. I use this data to measure linguistic similarities between languages.

Figure 3: Indigenous Language Location & Bible Translation



Note: Each polygon represents the geographic region of a distinct language spoken in Brazil. Red polygons indicate languages with a Bible translation, while blue polygons represent those without one.

3.2 Data Source: Voting Outcomes

The voting outcomes considered in the study are: (i) the vote share obtained by far-right candidates in the presidential elections and (ii) the vote share obtained by candidates associated with evangelical churches in the federal elections. *Tribunal Superior Eleitoral (TSE)* provides official data at the municipality level on all election results in Brazil since 1994. Specifically, this dataset contains the number of votes received by each candidate, the number of voided and blank votes. To classify far-right candidates in the presidential elections, I followed existing candidates' classifications and checked their political speech through articles from newspapers around the election period. Table A1 in the Appendix presents a list of the candidates who have been classified as "far-right".

Since Brazil's records lack candidates' religious affiliation, they are classified as associated with evangelical congregations following Lacerda (2018). This classification relies on religious designations in candidacy names, literature review associating candidates with churches, direct contact with the major Pentecostal churches, and website searches of the major national and regional newspapers. The main caveat of Lacerda (2018)'s classification is that selection can be biased toward the identification of the most popular

[14]Figure II in the Online Appendix illustrates the data on Bible translations for all countries located in Latin America, showing a significant geographical and time variation.

candidates. Additionally, I use data provided by Gomes (2021), which includes information about the specific Pentecostal church affiliation of each evangelical candidate elected from 1994 to 2018.

3.3 Data Source: Religion and Socioeconomic Information

The *Brazilian Demographic Census*, obtained from *IPUMS*, provides individual-level information on religious affiliation and socioeconomic variables such as literacy, ethnicity, and income. This data is aggregated at the municipality level, using *IPUMS* consistent boundaries over time. Using micro-census data enables me to measure the share of the population identifying with each religious congregation by ethnic group across time-municipalities. Finally, I obtain population estimates from *WorldPop*. This provides population counts for every 100-meter grid cell.[15]

3.4 Data Construction

I construct a municipality-level panel dataset using *IPUMS* consistent boundaries for 1980, 1991, 2000, and 2010. The main datasets, census micro-data and voting data, are aggregated at the municipality-year level. Voting data is mapped to municipalities using Power and Rodrigues-Silveira (2019).

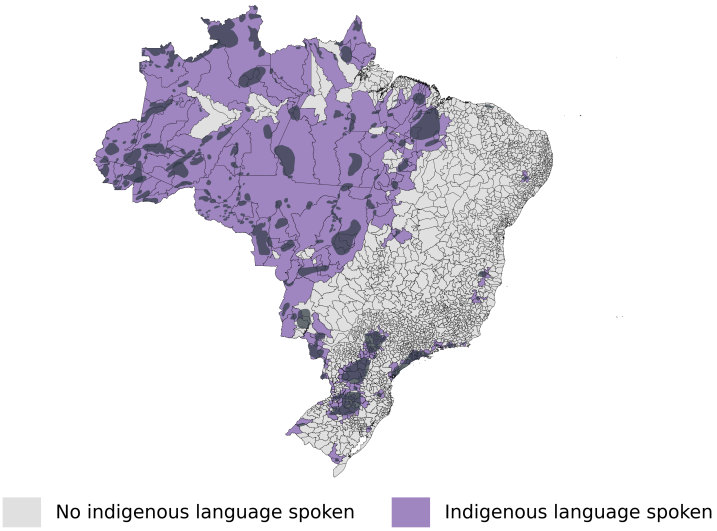
Since the census data does not include information on the languages spoken in households, a key empirical challenge is identifying the indigenous languages spoken in each municipality and estimating their respective populations. To address this, I follow a three-step process. First, I assess whether each *Ethnologue* geo-located polygon overlaps with a municipality, establishing the potential presence of an indigenous language within the municipality's boundaries. Second, I verify the presence of a population within these overlapping areas using data from *WorldPop*. Third, I combine the 100-meter *WorldPop* population counts with the share of the indigenous population in 1991 at the municipality level, as provided by *IPUMS*. A municipality is considered to speak a particular indigenous language if it overlaps with an *Ethnologue* polygon, and, within the overlapping area, the interaction of the population count and the share of the indigenous population is greater than zero. Note that this is a static measure based on data gathered by *Ethnologue* around 1980.

Carrying out this process, it follows that indigenous languages are spoken in 275 municipalities, shown in Figure 4. These municipalities account for 26.4% of Brazil's population

[15] WorldPop provides the estimated total number of people per grid-cell in 2000. *"The projection is Geographic Coordinate System, WGS84. The units are the number of people per pixel with country totals adjusted to match the corresponding official United Nations population estimates prepared by the Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat (2019 Revision of World Population Prospects). The mapping approach is Random Forest-based dasymetric redistribution."*

and are my sample in the main analysis. Table 1 presents summary statistics comparing Brazilian municipalities where indigenous languages were spoken and not spoken in the 1980s. On average, excluding the municipalities of Rio de Janeiro and São Paulo, municipalities where indigenous languages are spoken tend to have lower population density and lower levels of urbanization. However, education levels are quite similar. Finally, Figure 5 illustrates that the time series of demographic statistics evolves similarly in Brazilian municipalities where indigenous languages are spoken and those where they are not.

Figure 4: Municipalities Where Indigenous Languages are Spoken



Note: A municipality is considered to speak an indigenous language if it overlaps with an *Ethnologue* polygon, and within the overlapping area, the product of the population count and the share of the indigenous population is greater than zero.

Having categorized municipalities based on the presence of indigenous languages, I determine the number of people who speak each indigenous language in each municipality. This is done by estimating the distribution of each indigenous language speakers within each *Ethnologue* polygon. The *Ethnologue* polygons provide speaker counts for each language at the polygon level. I create weights by combining the *WorldPop* 100-meter population grid with the share of the indigenous population at the municipality level given by *IPUMS*. The data is then aggregated to the municipality level to match the unit of analysis. This allocation method offers the advantage of accounting for the sparse population density characteristic of many regions in Brazil. Figure A1 in the Appendix provides an example of the data used to estimate the distribution of the indigenous population within each *Ethnologue* polygon.

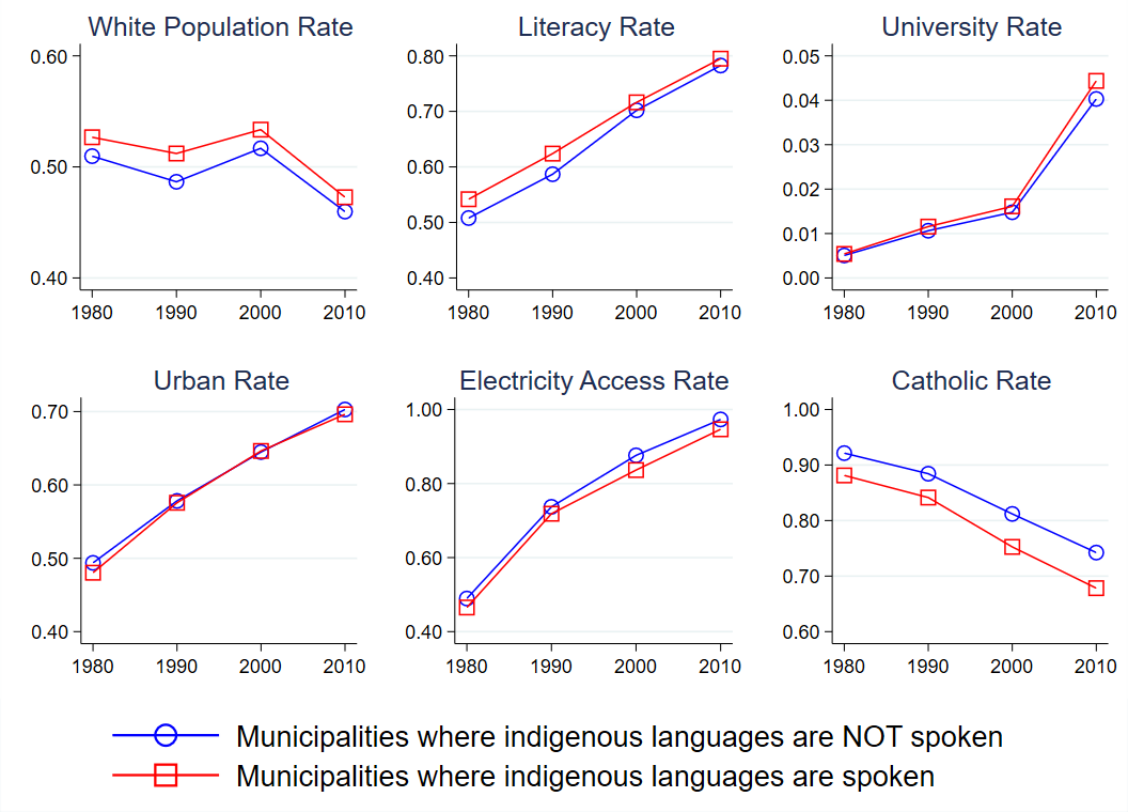
By combining this data with the *Joshua Project*, I estimate the number of languages at the municipality-year level that have a Bible translation, as well as the number of

Table 1: Summary Statistics Across Municipalities in 1980

Municipalities where indigenous languages are	All Brazil		Exc. São Paulo & Rio	
	Not Spoken	Spoken	Not Spoken	Spoken
	(1)	(2)	(3)	(4)
Nº of municipalities	1,765	275	1,470	208
Brazil's population	73.6%	26.4%	60.5%	8.9%
Population density	98.5	314	87.5	18
Pentecostal affiliations share	2.8%	4.5%	2.4%	4.2%
Literacy rate	50.8%	54.2%	47.4%	50.2
Urban rate	49.4%	48.0%	45.3%	37.9%
Indigenous population share*	0.0%	1.7%	0.1%	2.2%
White population share	51.0%	52.7%	45.7%	48.0%
Number of TVs per population	36.7%	35.2%	30.0%	23.6%

Note: This table presents summary statistics for municipalities in Brazil in 1980, distinguishing between those with and without indigenous languages spoken. Columns 1 and 2 include all states of Brazil, while columns 3 and 4 exclude the states of Rio de Janeiro and São Paulo. *Statistics from 1990.

Figure 5: Summary Statistics Across Municipalities



indigenous speakers who have the Bible translated into their native language. Table A3 reports, for each period, the number of municipalities in the sample where the Bible has not been translated into any indigenous languages, where there has been one Bible

translation, and where more than one Bible translation has been made. Additionally, it presents the share of the indigenous population, for each time period, whose native language has a Bible translation. Note that the only time variation comes from the translation of the Bible, while the population and the location of languages remain static to the 1980s.

4 Empirical Strategy and Results

The translation of the Bible into a specific indigenous language is used as a proxy to measure how exposed a municipality is to SIL's activity. Despite some of the indigenous groups understanding Portuguese, the translation of the Bible into the indigenous language provides evidence that SIL members had reached the population speaking the language. Then, the identification strategy exploits the staggered translation of the Bible into each language. Outcomes are compared before and after an additional Bible translation and across municipalities where the different languages are spoken. Therefore, the setting include municipalities of Brazil where indigenous languages are spoken.

In this section, I first present a simpler analysis that provides supporting evidence for the parallel trend assumption. Second, I introduce the main specification, where I define my primary measure of SIL exposure. Third, I present the main results, showing the effect of SIL exposure on different religious affiliations and voting outcomes. Next, I discuss the impact of Pentecostalism on support for far-right and evangelical candidates from 1990 to 2010. Finally, I examine the extent to which the growth of Pentecostalism contributed to Bolsonaro's victory in 2018.

4.1 Pre-Trend Evaluation

Before going to the main specification, I present a simpler analysis to provide some evidence for the parallel trend assumption. I estimate the following equation:

$$\begin{aligned} y_{mt} = &\sum_{p} \alpha_p YearSinceTrans_{mtp} \times Indigenous_{1980,m} \\ &+ \sum_{p} \beta_p YearSinceTrans_{mtp} + \gamma(\psi_t \times X_{m,1980}) + \psi_m + \psi_t + \epsilon_{mt} \end{aligned} \tag{1}$$

where y_{mt} is the outcome of interest for municipality m at time t, for instance the share of the population that identifies with Pentecostal affiliations. $YearSinceTrans_{mtp}$ takes value 1 if the first Bible translation in municipality m occurs p years away from the current year t, and zero otherwise; $p < 0$ refers to years before the first Bible translation and $p > 0$ to years after the first Bible translation. $Indigenous_{1980,m}$ is the share of the indigenous speaking population located in municipality m in 1980.

Furthermore, Equation 1 includes the interaction between time fixed effects and municipality characteristics from 1980 ($X_{m,1980}$). Initial characteristics include mean income, share of urban population, population density, share of black population, and school completion rate. Then, ψ_t refers to the time fixed effects that controls for any time-invariant unobserved determinant and ψ_m refers to the municipality fixed effects that capture changes over time that affect all municipalities in a similar way. Finally, ϵ_{mt} is an error term whose estimated standard errors are clustered at the language level.

Hence, β_p captures the effect of the number of years relative to the first translation for municipalities without indigenous populations. The parameters of interest are the α_p, that reflects the differential effect of the share of the population speaking indigenous languages in 1980, for each year relative to the year when the first Bible was translated in the municipality.[16]

As the specification captures the impact of the first Bible translation in each municipality, Equation 1 is estimated including only municipalities where at most two indigenous languages are spoken. This accounts for 95% of all municipalities with indigenous languages. While this approach results in some loss of variation, it allows for the investigation of potential pre-trends and provides a clearer understanding of the dynamic effects.

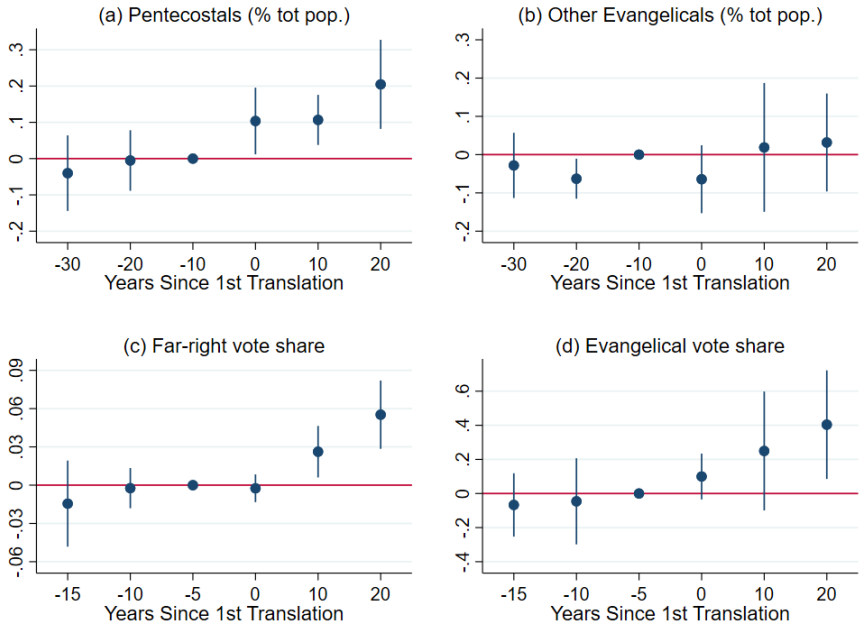
Equation 1 is estimated using both OLS and the imputation approach of Borusyak, Jaravel, and Spiess (2024). The latter approach allows for comparisons under heterogeneous treatment effects, while OLS estimations have implicit assumptions about treatment effect homogeneity across groups first treated at different times. Figure 6 plots the coefficients α_p using OLS, while Figure A2 in the Appendix plots the estimated coefficients using Borusyak, Jaravel, and Spiess (2024) imputation approach. Both estimations follow a similar pattern, but coefficients of the treatment effect are slightly larger when using OLS. This suggests that the potential heterogeneous effect across municipalities first treated at different times is not a big concern in this set-up.

In Figure 6-a, the dependent variable is the share of the Pentecostal population, while in Figure 6-b, it corresponds to the share of the population identifying with other, more traditional evangelical affiliations. In both cases, the results show no evidence of pre-trends. When the dependent variable is the share of Pentecostal affiliations, the coefficients increase as more years pass since the Bible was translated into at least one of the languages spoken in the municipality. Notably, no effect is observed for affiliations with other types of evangelical congregations.

[16] As the dependent variable is periodic over ten years, the number of years since the first Bible translation presents a lot of noise. To overcome this issue, the number of years since the first translation, p, are grouped into intervals. Figure VI in the Online Appendix presents three histograms showing the years since the first translation, displayed in three formats: year by year, grouped into 5-year intervals, and grouped into 10-year intervals.

The analysis of pre-trends in voting outcomes is limited by data availability. Election results are only available since 1994 at the municipality level. However, by grouping the number of years since first translation in intervals of 5 years I explore whether there is evidence of pre-trends in voting outcomes. In Figure 6-c the dependent variable is the vote share obtained by far-right candidates, while in Figure 6-d the dependent variable is the vote share obtained by evangelical candidates. The results show a similar pattern as before, suggesting no evidence of pre-trends and an increase in the coefficients after the first Bible translation.

Figure 6: Pre-trend Analysis - α_p Estimation



Note: These graphs report the α_p coefficients that result from estimating Equation 1 by OLS for different dependent variables (see Figure A2 for estimation using Borusyak, Jaravel, and Spiess (2024) imputation approach). The parameter α_p reflects the differential effect of the share of the population speaking indigenous languages in 1980, for each year with respect to the year when the first Bible was translated in the municipality. Confidence intervals are based on robust standard errors clustered at the language level.

4.2 Main Specification

Next, I present the main specification. There are two additional sources of variation that are exploited. First, the fact that some municipalities speak more than one language. Second, the size of the indigenous population that speaks each language. Then, the following equation is estimated

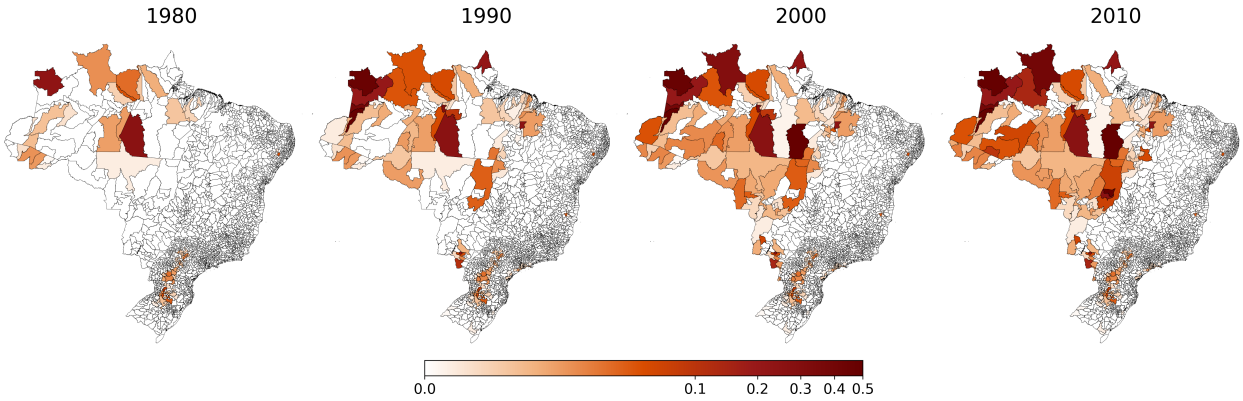
$$y_{mt} = \gamma_1 SILexposure_{mt} + \gamma_2(\psi_t \times X_{m,1980}) + \psi_m + \psi_t + \epsilon_{mt} \quad (2)$$

where y_{mt} is the outcome of interest for municipality m at time t, for instance the share of Pentecostal population. The main explanatory variable of interest, $SILexposure_{mt}$, is constructed as

$$SILexposure_{mt} = \frac{\sum_l Indigenous_{1980,ml} \times PostTrans_{lt}}{TotalPopulation_{1980,m}} \tag{3}$$

where $Indigenous_{1980,ml}$ is the indigenous population speaking language l, located in municipality m in 1980. $PostTrans_{lt}$ is a dummy variable that takes value 1 if the Bible is translated into language l at time t. Finally, $TotalPopulation_{1980,m}$ is the total population of municipality m in 1980. Notice that the only variation over time is given by the translations of the Bible into each language. Therefore, $SILexposure_{mt}$ is interpreted as the share of the population that has been exposed to SIL's activity in municipality m at time t. Figure 7 illustrates the variable $SILexposure_{mt}$ for the different time periods and municipalities. The main specification intends to capture the effect across municipalities of each additional Bible translation depending on the size of the population speaking the language.

Figure 7: SIL Exposure



Note: These maps illustrate SIL exposure defined by Equation 3 over time for each municipality.

Furthermore, Equation 2 includes time fixed effects (ψ_t), municipality fixed effects (ψ_m), and the interaction of time fixed effects with $X_{m,1980}$, as defined above. Finally, ϵ_{mt} represents the robust standard errors clustered at the language level. The specification is estimated including only those municipalities where indigenous languages are spoken.

Once again, interpreting γ_1 as the causal effect of SIL assumes parallel-trends: the outcomes of interest for municipalities which had the Bible translation earlier versus later would have evolved along parallel trends absent the difference in the Bible translation timing. In other words, I assume that, conditional on the baseline controls, there is no other variable that is correlated with both the outcome of interest and the timing of

the translation. Evidence to support the interpretation of γ_1 is provided by evaluating pre-trends in Section 4.1.

Despite there being no evidence that SIL targets municipalities where Pentecostals were already growing, there remain some potential threats to the identification strategy. For instance, there may be time-varying unobserved characteristics that might affect the timing of SIL translation or that might affect SIL and politician presence at the same time. In this sense, a potential concern could be that areas where SIL has easier access may also be more accessible to politician. To isolate the remaining endogenity concerns, I generate an expected measure of SIL exposure using language distance. I provide evidence that the timing of the translation of the Bible is associated with linguistic similarities to languages with the Bible already translated that are spoken outside Brazil.

SIL emphasizes that it aims to translate the Bible into all existing languages, all languages being equally relevant. In this regard, SIL does not prioritize any particular language. Therefore, considering the effort involved in translating the Bible into a specific language, it is reasonable to assume that the Bible is more likely to be translated into a language if other translations already exist in similar languages. The rationale behind this is that translating the Bible into language l will be less costly if a translation already exists for a language j similar to l. To test this hypothesis, I construct the measure $CloseTranslation_{lt}$ as a weighted average of the distances to all foreign languages for which the Bible had already been translated before time t. More specifically

$$CloseTranslation_{lt} = \frac{1}{J}\sum_{j} \mathbb{1}\{t > YearTran_j\} \times (1 - Distance_{lj}) \quad \text{for } j \neq l \tag{4}$$

where language l refers to any existing indigenous language in Brazil, while j refers to any existing language in the world, excluding Brazil. $Distance_{lj}$ represents the linguistic distance between language l and language j, which is computed following Desmet, Weber, and Ortuño-Ortín (2009) and Desmet, Ortuño-Ortín, and Wacziarg (2012).[17] $YearTran_j$ denotes the year the Bible was translated into language j. Using this measure, I estimate the following equation

$$PostTrans_{lt} = \varphi_1 CloseTranslation_{lt} + \varphi_2(\psi_t \times X_l) + \psi_l + \psi_t + \epsilon_{lt} \tag{5}$$

where $PostTrans_{lt}$ takes the value 1 if the Bible is translated into language l at time t. For comparability, the variable $CloseTranslation_{lt}$ is rescaled between 0 and 1. Moreover, X_l includes language characteristics: the population speaking language l and the geographic

[17] See the Online Appendix for details on how languages are interrelated and how the distance between them is calculated.

distance between speakers of language l and the North-Western corner of Brazil. ψ_l represents language fixed effects, and ψ_t represents time fixed effects.

Table A2 in the Appendix presents the estimates of Equation 5. Results suggest that the higher $CloseTranslation_{lt}$ is, the more likely the Bible has been translated into language l at time t. This suggests that linguistic similarities and existing Bible translations play an important role in the timing of the translation of the Bible. Then, I construct the following variable

$$ExpectedSILexposure_{mt} = \frac{\sum_l Indigenous_{1980,ml} \times CloseTranslation_{lt}}{TotalPopulation_{1980,m}} \tag{6}$$

where $CloseTranslation_{lt}$ is defined by Equation 4 and represents a weighted average of all foreign languages for which the Bible has been translated before time t. Then, $CloseTranslation_{lt}$ is interacted by the indigenous population speaking language l, located in municipality m in 1980.

4.3 SIL's Effect on Religious Affiliations

Panel A of Table 2 reports the main coefficients from estimating Equation 2 using actual SIL exposure, while Panel B presents the results based on expected SIL exposure. The outcome variable in each column represents the share of the population identifying with different religious affiliations. The results are consistent across both panels, indicating that Pentecostal evangelicals are the only group whose affiliation increases with higher SIL exposure. Specifically, estimates suggest that an increase in SIL exposure from 0 to 1 would lead to a 10.6 p.p. increase in the share of the Pentecostal population. However, increasing SIL exposure from 0 to 1 represents an out-of-sample shift, as shown in Table A4 in the Appendix. When SIL exposure increases by two standard deviations, the share of Pentecostals rises by 1.3 p.p. This change corresponds to a 16% increase relative to the mean share of Pentecostals during 1980-2010.

The negative coefficients in columns 2 to 4 of Table 2, indicate that the exposure to SIL did not convert one specific religious affiliation into Pentecostal evangelical. Instead, they indicate a broader substitution effect, with adherents of different religious affiliations shifting toward Pentecostalism. Regarding evangelicals who are not Pentecostals, while they also view the Bible as central in their religion, SIL exposure did not increase its affiliations. A possible explanation for this finding is the Pentecostal's entrepreneurial approach in Brazil, which allows for easy establishment of churches without strict regulations, unlike traditional denominations such as Methodists.

As an additional step towards understanding the effect of SIL's presence, I classify the Pentecostal evangelical population by ethnic group. By adding the census micro-data

Table 2: SIL's Effect on Religious Affiliations

	Pentecostals (1)	Evangelicals (Not Pent.) (2)	Roman Catholics (3)	Other religion (4)	No religion (5)
Panel A					
SIL exposure	0.106***	-0.023	-0.038	-0.050	-0.007
	(0.022)	(0.020)	(0.046)	(0.052)	(0.032)
R^2	0.889	0.871	0.935	0.760	0.865
Panel B					
Expected SIL exposure	0.427***	0.062	-0.461**	-0.218	0.102
	(0.088)	(0.073)	(0.194)	(0.136)	(0.088)
R^2	0.889	0.870	0.937	0.763	0.865
Municipality FE	yes	yes	yes	yes	yes
YearFE	yes	yes	yes	yes	yes
YearFE $\times X_{m,1980}$	yes	yes	yes	yes	yes
N	1,100	1,100	1,100	1,100	1,100
Mean Dep. Var	0.09	0.05	0.79	0.01	0.04

Unit of analysis: municipality-year level. 275 municipalities included. Time period: 1980 to 2010. Robust st. errors clustered at the language level in parentheses. * $p < 0.10$, ** $p < 0.05$, ***$p < 0.01$. Dependent variables correspond to the share of total population. Other religion counts for Buddhist, Hindu, Jewish, Muslim and Others.

provided by *IPUMS*, I classified the Pentecostal population into three groups: (i) "indigenous" population, (ii) "brown" population, and (iii) "black" and "white" population. Table 3 presents the results by ethnic group for the period from 1990 to 2010 when the data is available. The findings suggest that the effect of SIL presence on Pentecostal affiliation is mostly driven by the "indigenous" and "brown" populations.

Finally, Table A5 in the Appendix presents an analysis of the heterogeneous effects of SIL exposure. First, columns 1 and 2 compare municipalities where one versus multiple indigenous languages are spoken. The results reveal no significant differences between these two groups. Second, columns 3 and 4 examine whether the impact of SIL exposure varies depending on urbanization rates. The findings indicate that the effect of SIL exposure is significantly higher in more urbanized municipalities compared to less urbanized ones. One possible explanation for this is that urban environments facilitate the spread of SIL's religious views, not only among the indigenous populations for whom the Bible is being translated, but also within the broader surrounding population.

4.4 SIL's Effect on Voting Outcomes

Next, Equation 2 is estimated using as dependent variables: (i) the vote share obtained by far-right candidates in the presidential elections and (ii) the vote share obtained by

candidates associated with Pentecostal churches in the federal elections.[18] Notice that election results are only available since 1994 at the municipality level, and therefore, the sample period goes from 1990 to 2010.

Results analyzing voting outcomes are reported in columns 5 and 6 in Table 3. Again, Panel A reports estimates using actual SIL exposure, while Panel B expected SIL exposure. Results in column 5 indicate that in municipalities with higher exposure to SIL the vote share obtained by far-right candidates is higher. Specifically, two standard deviation increase in SIL exposure led to a 0.3 p.p. increase in the share of votes obtained by far-right candidates. Results in column 6 of Table 3 suggest that candidates associated with evangelical affiliations also obtained a higher vote share. Specifically, a two standard deviation increase in SIL exposure led to a 1.5 p.p. increase in the share of votes obtained by candidates associated with evangelical congregations.

Table 3: SIL's Effect on Pentecostal Affiliations and Voting Outcomes

	Pentecostals affiliations				Vote share	
	Indigenous	Brown	Black&White	All	Far-right	Evangelical
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A						
SIL exposure	0.014**	0.068**	0.016	0.101**	0.026***	0.127**
	(0.007)	(0.032)	(0.025)	(0.048)	(0.007)	(0.054)
R^2	0.653	0.852	0.931	0.891	0.831	0.527
Panel B						
Expected SIL exposure	0.208***	0.294**	-0.035	0.468***	0.072**	1.043***
	(0.037)	(0.129)	(0.030)	(0.168)	(0.028)	(0.275)
R^2	0.682	0.852	0.930	0.891	0.833	0.534
Municipality FE	yes	yes	yes	yes	yes	yes
Year FE	yes	yes	yes	yes	yes	yes
Year FE $\times X_{m,1980}$	yes	yes	yes	yes	yes	yes
N	825	825	825	825	825	825
Mean Dep. Var	0.00	0.05	0.06	0.11	0.01	0.06

Unit of analysis: municipality-year level. 275 municipalities included. Time period: 1990 to 2010. Robust standard errors clustered at the language level in parentheses. * $p < 0.10$, ** $p < 0.05$, ***$p < 0.01$. For columns 1 to 4, the dependent variables correspond to the population that identifies as Pentecostal within specific ethnic groups, divided by the total population of the municipality.

[18] See Section 3.2 for more details on how the candidates have been classified.

4.5 Pentecostals Effect on Voting Outcomes

To uncover the causal effect of Pentecostal growth on voting outcomes I estimate the following equation

$$y_{mt} = \gamma_1 Pentecostals_{mt} + \gamma_2(\psi_t \times X_{m,1980}) + \psi_m + \psi_t + \epsilon_{mt} \tag{7}$$

where $Pentecostals_{mt}$ is the share of Pentecostal population in municipality m at time t, which is instrumented with the actual SIL exposure defined in Equation 3. The exclusion restriction assumption implies that, conditional on the baseline controls, the translation of the Bible only affects voting outcomes through religious affiliations.

The results in Table 4 present OLS estimates in Panel A and 2SLS estimates in Panel B. The OLS estimates show a significant positive association: a 1 p.p. increase in Pentecostal affiliation is linked to a 0.04 p.p. increase in far-right vote share and a 0.56 p.p. increase in the vote share for evangelical candidates. However, these estimates are likely biased due to several factors. For instance, there might be municipalities' time-varying factors, such as media influence or specific income shocks, that affect both Pentecostal growth and political preferences.

On the other hand, the results 2SLS results indicate that an increase of 1 p.p. in the share of the Pentecostal population leads to an increase of 0.26 p.p. in the share of votes obtained by far-right candidates, which is equivalent to an increase of 11.5% with respect to the mean. Furthermore, estimations indicate a largely positive and significant effect of Pentecostal affiliation on the vote share of candidates associated with evangelical congregations. A 1 p.p. increase in the share of Pentecostal affiliations leads to an increase of 1.25 p.p. (21% increase with respect to the mean) in the vote share obtained by evangelical candidates. These results suggest that Pentecostal growth is an important driving force in the increasing support for conservative candidates in Brazil's recent history.

This IV approach relies on the following exclusion restriction: exposure to SIL influences political outcomes only through its effect on Pentecostal affiliations, conditional on baseline controls. The results in Table A7 support this assumption, showing that SIL exposure had no significant impact on urban population share, agricultural employment, literacy rates, or the share of the population that has not attended school. While missionary work has been shown to increase education during colonial times (Valencia Caicedo, 2019), the lack of effects in this context aligns with the fact that the indigenous population is predominantly bilingual, with 79% of them being literate, according to the 2010 Brazilian census

Since Federal Deputy candidates are elected at the state level, a natural question that

arises is whether the observed result regarding the vote share for evangelical candidates reflects a mechanical relationship, where an increase in the number of Pentecostals leads to more evangelical candidates running. To address this issue, I add an interaction of state fixed effects with time fixed effects to the main specification. Results presented in column 1 of Table A10 in the Appendix indicate that results are driven by a more intense level of support for Pentecostal candidates rather than a larger number of Pentecostal candidates running for election.

Notice that these estimates are obtained by focusing on municipalities where indigenous languages are spoken. Therefore, we can not assume that the same result will hold in other municipalities of Brazil as the population might have different characteristics and react differently to the Pentecostal political influence. To assess this, Section 5 examines whether spillover effects of SIL exposure lead to variations in Pentecostal affiliations in municipalities where indigenous languages are not spoken.

Table 4: Pentecostal Effect on Voting Outcomes

	Far-right vote share (1)	Evangelical vote share (2)
Panel A: OLS		
Pentecostal affiliations	0.043***	0.557***
	(0.013)	(0.141)
R^2	0.832	0.549
Panel B: 2SLS		
Pentecostal affiliations	0.255*	1.254***
(IV: SIL exposure)	(0.130)	(0.289)
First stage F statistic	14.809	14.809
Municipality FE	yes	yes
Year FE	yes	yes
Year FE $\times X_{m,1980}$	yes	yes
N	825	825
Mean Dep. Var	0.01	0.06

Unit of analysis: municipality-year level. 275 municipalities included. Time period: 1990 to 2010. Robust standard errors clustered at the language level in parentheses. * $p < 0.10$, ** $p < 0.05$, ***$p < 0.01$.

4.6 Pentecostals Effect on Bolsonaro's Support in 2018

The rise of Bolsonaro has been attributed to the strong support he received from the Pentecostal community, along with other factors such as crime levels and corruption scandals. In this section, I examine the extent to which the growth of Pentecostalism

contributed to Bolsonaro's victory in 2018. Since Bolsonaro did not run in previous presidential elections and no other candidate offers a direct comparison in terms of political rhetoric and popularity, a panel data study is not feasible.[19] However, understanding the factors that influenced Bolsonaro's vote share in 2018 remains relevant and insightful. To explore this, I estimate the following equation

$$y_m = \gamma_1 \Delta SILexposure_{m,2010-1990} + \gamma_2 X_m + \psi_s + \upsilon_m \tag{8}$$

where y_m is the outcome of interest for municipality m, such as the Pentecostal growth and the share of votes Bolsonaro received in the 2018 presidential election.

The main explanatory variable, $\Delta SILexposure_{m,2010-1990}$, captures the change in SIL exposure for municipality m between 1990 and 2010, where $\Delta SILexposure_{m,2010-1990} = SILexposure_{m,2010} - SILexposure_{m,1990}$. Here, $SILexposure_{m,2010}$ corresponds to the cross-sectional version of Equation 3 when evaluated at $t = 2010$, while $SILexposure_{m,1990}$ represents the same measure for $t = 1990$. Equation 8 also includes X_m, which consists of the same control variables as in Equation 2 for 1990, along with an indicator of whether a single or multiple indigenous languages are spoken in the municipality. Finally, ψ_s represents state fixed effects, and υ_m is the error term.

Estimates of Equation 8 are presented in Table 5. The dependent variable in Panel A is the Pentecostal growth between 1990 and 2010, while the dependent variable in Panel B is the vote share obtained by Bolsonaro in the 2018 presidential election. Column 1 includes baseline controls. Column 2 adds as control the share of votes obtained by far-right candidates in the 1998 presidential elections in municipality m.[20] This control is added to isolate the potential bias generated by municipalities that usually tend to vote for extreme right-wing candidates. Finally, column 3 also adds the share of Pentecostals in 1980.

First, I find a significant and positive relationship between the increase in SIL exposure and the growth of the Pentecostal population between 1990 and 2010. In all three specifications, the estimated coefficients are positive and statistically significant, indicating that municipalities with greater exposure to SIL experienced a larger increase in the Pentecostal share. This is in line with the results obtained in the main analysis. Second, I find that municipalities with higher SIL exposure had greater support for Bolsonaro in the 2018 elections. These findings suggest that the growth of Pentecostalism, driven by SIL exposure, played a role in increasing support for Bolsonaro.

[19] This analysis is limited by the absence of Census data prior to 2010, which means there is no information on Pentecostal affiliations after that year.

[20] See Table A1 in the Appendix for details on the candidates considered as far-right wing.

By examining the ratio between the coefficients in Panel B and Panel A from column 3, we obtain a Wald estimate of around 1.8, with a robust standard deviation of 1. This suggests that Bolsonaro received approximately 9.8 p.p. more votes in municipalities that experienced one standard deviation larger increase in the share of Pentecostals (about 5.5 p.p.) compared to municipalities where the increase was at the sample average (10.5 p.p.). These results further support the main finding, highlighting that the political influence of Pentecostals has been a key driving force behind the rise of the far-right in recent Brazilian history.

Table 5: Bolsonaro and Pentecostals

	(1)	(2)	(3)
Panel A:	Dependent Variable: ΔPentecostals		
$\Delta SILexposure_{m,2010-1990}$	0.088***	0.087***	0.078***
	(0.019)	(0.019)	(0.014)
adj. R^2	0.597	0.596	0.654
Mean Dep. Var	0.10	0.10	0.10
Panel B:	Dependent Variable: Bolsonaro Vote Share		
$\Delta SILexposure_{m,2010-1990}$	0.153**	0.151**	0.145**
	(0.065)	(0.064)	(0.070)
adj. R^2	0.772	0.772	0.775
Mean Dep. Var	0.46	0.46	0.46
State FE	Yes	Yes	Yes
Baseline controls	Yes	Yes	Yes
Far-right vote share 1990	No	Yes	Yes
Pentecostal share 1980	No	No	Yes
N	275	275	275

Unit of analysis: municipality level. 275 municipalities included. Cross-section analysis. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Panel A: Dependent variable is the change in the share of Pentecostals between 1990 and 2010. Panel B: Dependent variable is the vote share obtained by Bolsonaro in the first round of the 2018 presidential elections.

5 Spillover Effects of SIL

In this section, I first create a measure to capture potential spillover effects from SIL activities in nearby municipalities. Regions close to municipalities directly exposed to SIL may experience spillovers due to factors such as commuting or migration patterns. Next, I incorporate this measure into the baseline analysis to ensure that the main results are not driven by these spillovers. Finally, I analyze how spillover effects contribute to variations in Pentecostal affiliations in municipalities where no indigenous languages are spoken.

By following a market access approach, I construct the measure of indirect SIL exposure as

$$IndirectSILexposure_{mt} = \sum_{o} \frac{d(m,o)^{-\delta}}{\sum_k d(m,k)^{-\delta}} \times SILexposure_{o,t} \tag{9}$$

where $SILexposure_{o,t}$ is the exposure of SIL in municipality o at time t as defined in Equation 3. $d(m,o)$ is the euclidean distance between the population-weighted centroid of municipality m and municipality o.[21] Finally, δ refers to the elasticity of migration to roads, which is set at 1.2 based on Morten and Oliveira (2024). The parameter δ controls how much the indirect exposure declines with travel time. Notice that in $IndirectSILexposure_{mt}$, the only time variation is given by SIL exposure in nearby municipalities.

Next, $IndirectSILexposure_{mt}$ is added as a control in the main specification, Equation 2. Additionally, the interaction of state fixed effects with year fixed effects are included. Results are presented in Table A6 in the Appendix. In Panel A the dependent variable is the share of Pentecostal population, in Panel B the far-right vote share, and in Panel C the evangelical vote share. The coefficients are estimated for three different samples.

Columns 1 and 2 use the baseline sample: only municipalities where indigenous languages are spoken. The first column does not include the indirect SIL effect, while the second column does. As can be inspected, the coefficients estimated for the direct effect of SIL exposure on the different outcomes remain very similar in magnitude and significance when adding the indirect effect. This removes potential concerns related to spatial correlations in the baseline analysis.

Column 3 uses only municipalities where no indigenous languages are spoken, while column 4 includes all municipalities in Brazil. The effect of $IndirectSILexposure_{mt}$ on the share of Pentecostals is positive and highly significant across all samples. However, the magnitude of the coefficient is considerably larger in municipalities where no indigenous language is spoken, whereas in the remaining municipalities, the direct SIL effect appears to prevail. In municipalities where no indigenous languages are spoken, moving from the 50th to the 75th percentile of indirect SIL exposure leads to a 0.4 p.p. increase in the share of Pentecostal affiliation. Additionally, $IndirectSILexposure_{mt}$ increases the vote share obtained by evangelical and far-right candidates in these municipalities.

If we assume that the effect on voting outcomes resulting from the variation in Pentecostal populations due to direct and indirect SIL exposure is comparable, elasticities across different samples can be examine. Column 1 shows that for the baseline sample,

[21] Figure VII in the Online Appendix presents a map of the population-weighted centroids in Brazil. This has been calculated using the population count at a 100 meter grid provided by *WorldPop*.

when including state fixed effects, we obtain that a 1 p.p. increase in Pentecostal affiliations (due to SIL exposure) leads to a 1.8 p.p. increase in the evangelical vote share, and a 0.22 p.p. increase in the far-right vote share.[22] Meanwhile, for the municipalities without indigenous languages, column 3 reveals that a 1 p.p. increase in Pentecostal affiliations (due to indirect SIL exposure) results in a 1.0 p.p. ncrease in the evangelical vote share, and a 0.18 p.p. increase in the far-right vote share.[23] While the effects are strong in both samples, they are smaller in municipalities without indigenous languages, especially for evangelical candidates.

6 Mechanisms

So far, it has been shown that the growth of Pentecostal affiliation, driven by SIL exposure, has been accompanied by an increase in the vote share of far-right and evangelical candidates, with the latter experiencing stronger effect. This section examines whether a candidate's specific church affiliation influences their ability to secure Pentecostal votes.

Given that Pentecostal affiliates often attend services where pastors emphasize support for specific candidates, these churches can play a significant role in shaping electoral behavior through both direct and indirect endorsements. Most Pentecostal denominations influence their congregants' political preferences through sermons. Pastors frequently discuss the issues that should guide voting decisions, offer explicit or implicit evaluations of candidates, and occasionally invite candidates to special blessing ceremonies.

In Brazil, Pentecostal churches vary significantly in structure and size (Cammett, Novaes, and Tuñón, 2022), which could lead to different intensities of political influence. Major churches have well-developed institutional networks that can be leveraged for political mobilization. In contrast, smaller Pentecostal churches comprise a diverse range of congregations with significantly less infrastructure and organizational capacity, limiting their ability to coordinate electoral strategies. I categorize Pentecostal churches into two main groups: major Pentecostal churches and small Pentecostal churches. The Assembly of God (AG) and the Universal Church of the Kingdom of God (UCKG) are the two largest denominations, accounting for 49% of Brazil's total Pentecostal population according to the 2010 census.

To empirically assess this distinction, I use data drawn from Gomes (2021), which provides information on the church affiliation of every elected evangelical deputy from 1933 to 2018. Since this classification is only available for elected candidates, I estimate Equation 2 using municipalities where at least one candidate from each group was elected. Following this restriction, the sample includes 91.6% of the municipalities where

[22] Calculated as: $\hat{\beta}_{Wald} = \frac{0.109}{0.059} = 1.8$ and $\hat{\beta}_{Wald} = \frac{0.013}{0.059} = 0.22$, respectively.
[23] Calculated as: $\hat{\beta}_{Wald} = \frac{3.640}{3.474} = 1.05$ and $\hat{\beta}_{Wald} = \frac{0.610}{3.474} = 0.18$, respectively.

indigenous languages are spoken.

The results, presented in Table A8 in the Appendix, provide evidence of the political advantage of candidates associated with major Pentecostal churches. The dependent variable in column 1 represents the vote share obtained by candidates associated with major Pentecostal churches (UCKG and AG), while column 2 reflects the vote share of candidates linked to small Pentecostal churches. The findings indicate that candidates endorsed by major Pentecostal churches are significantly more successful capturing votes. In contrast, candidates affiliated with smaller Pentecostal churches do not experience the same electoral advantage. These results suggests that identifying with any Pentecostal church does not automatically guarantee electoral support, but the organizational advantage of the institution is a key element.

7 Robustness Checks

Alternative Specifications. First, the robustness of the results to alternative specifications is assessed. A comparison of the results in columns 1 and 2 of Table A6 in the Appendix reveals that the direct effect of SIL is not biased by the indirect effect. The coefficients for the direct effect of SIL exposure on the various outcomes remain consistent in magnitude and significance, even after the inclusion of the indirect effect. These findings help alleviate potential concerns related to spatial correlation.

Furthermore, Table A10 in the Appendix presents the results of the main specifications with different sets of control variables. Column 1 displays the baseline estimation. Column 2 adds the share of the population identifying with a Catholic affiliation in 1980, interacted with year fixed effects. Column 3 incorporates the share of the indigenous population in 1990, interacted with year fixed effects. Column 4 introduces time fixed effects, interacted with fixed effects that distinguish municipalities where only one indigenous language is spoken from those where multiple languages are spoken. Finally, column 5 presents the most rigorous specification, which includes the interaction between year fixed effects and state fixed effects.

The results from columns 1 to 4 remain positive, significant, and similar in magnitude. However, when state fixed effects are included in column 5, the results remain positive and significant, but the magnitude of the coefficient slightly decreases, particularly when the dependent variable is the share of Pentecostals and the vote share for right-wing candidates. Notably, the elasticity of Pentecostals to far-right support remains relatively unchanged, while the elasticity of Pentecostals to evangelical vote share increases.

Placebo Test. To address potential concerns that results may be driven by geographic patterns rather than the causal impact of SIL translation efforts, I conduct a placebo test

using a hypothetical measure of SIL exposure. Instead of relying on the actual timing of Bible translation, this placebo measure is based on the distance to the northwestern corner, under the assumption that languages closer to this region would have been translated first.

Additionally, a second placebo test is performed using the size of the indigenous population as a determinant of translation timing. A potential concern is that SIL may have prioritized languages spoken by larger groups before addressing smaller language groups, as language group size could potentialy be correlated with other socio-economic characteristics of its members.

The results of both placebo tests are presented in Table A11 in the Appendix. These findings mitigate potential identification concerns, as the placebo measure has no significant effect on the political outcomes of interest or on the share of the Pentecostal population.

Excluding Different Brazilian Regions. Given that Brazil is a big country, and regions are quite heterogeneous, a possible concern is that results might be driven by a specific region. In order to rule out this potential threat, the main analysis is estimated excluding each of Brazil's big regions: Midwest, Southeast, South, Northeast and North.

Table A9 in the Appendix presents the results of estimating Equation 2 after excluding each of these regions from the sample. In Panel A, the dependent variable corresponds to the share of Pentecostal affiliations; in Panel B, to the vote share obtained by far-right candidates; and in Panel C, to the vote share obtained by evangelical candidates. The results in Panels A and B remain relatively consistent across the different samples. While Panel C shows an increase in evangelical vote share across all specifications, greater variation is observed. This may be explained by the mechanisms discussed, particularly differences in the types of churches present in each region.

Alternative Expected SIL Exposure. This section aims to address potential concerns regarding cultural similarities between indigenous populations in Brazil and those in nearby regions that might be captured by the expected SIL exposure variable defined by Equation 6. To mitigate this concern, an alternative version of the expected SIL exposure variable is constructed with a slight modification. Specifically, when constructing the variable $CloseTranslation_{lt}$, defined by Equation 4, j will refer to all existing languages in the world, excluding the languages spoken in Brazil and also the languages spoken in Bolivia, Colombia, Paraguay and Peru.

Table A12 in the Appendix displays the results of regressing the alternative measure of expected SIL exposure on the main outcomes of interest. The results support the main finding that the growth in Pentecostal affiliations was accompanied by an increase

in the vote share of far-right and evangelical candidates, with the latter experiencing a significantly higher rise.

8 Conclusion

The idea that religiosity would gradually disappear was shared by most 19th century social thinkers, such as Max Weber, Karl Marx, and Sigmund Freud. However, Norris and Inglehart (2011) show that the world has more people with traditional religious beliefs than ever before, particularly in impoverished contexts, in which popular religions with political influence have risen. A clear example is the rise of Pentecostal Evangelism, which represents one of the fastest-growing segments of global Christianity, accounting for at least a quarter of the world's Christian population. This growth is mostly concentrated in countries from Latin America, Asia and Africa.

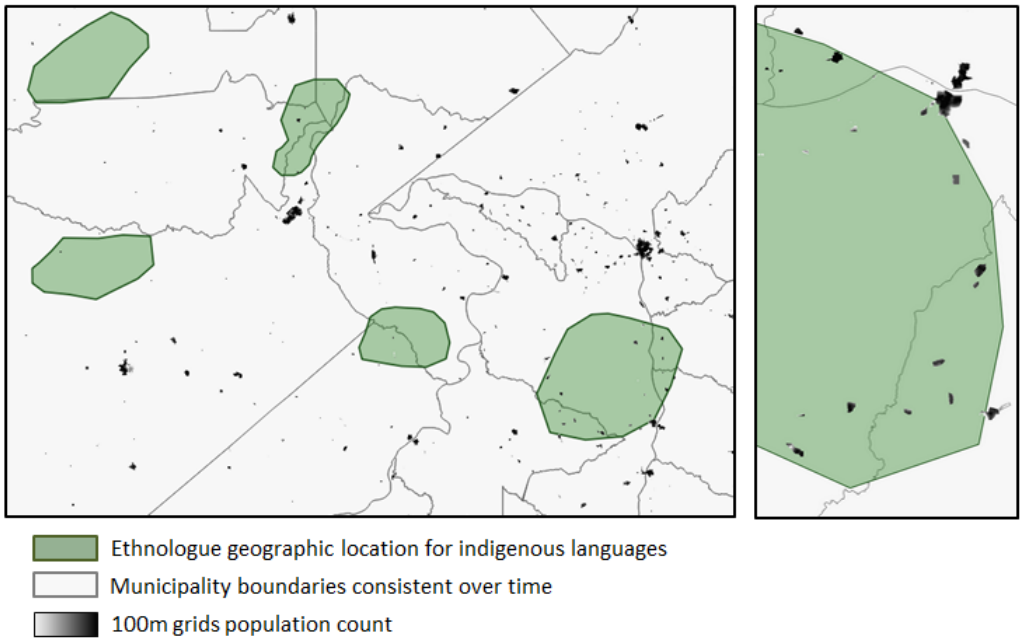
According to a survey of Latinobarómetro (2018), in Latin America, the Church (of any congregation) is considered the most reliable institution. Therefore, the Pentecostal upsurge and its strong involvement in politics may have relevant implications on its social and political landscape. In this paper, I provide evidence that the Pentecostal rise in Brazil has increased support for both evangelicals and far-right candidates in recent decades. These results indicate that religious institutions can have a strong influence in political outcomes.

There remain a number of open questions. For instance, the setup constructed allows for future research related to the classical debate of Catholicism vs. Protestantism, where different outcomes related to Development Economics could be studied. Furthermore, it builds a basis to address research questions related to the political entrenchment of Pentecostalism. In this respect, the relationship between Pentecostalism and support for militarized actions or sexual education are some examples of topics worthy of inclusion in future research agendas as they are extremely relevant in today's political debate.

APPENDIX

A Tables and Figures

Figure A1: **Determining Number of Speakers in each Municipality**

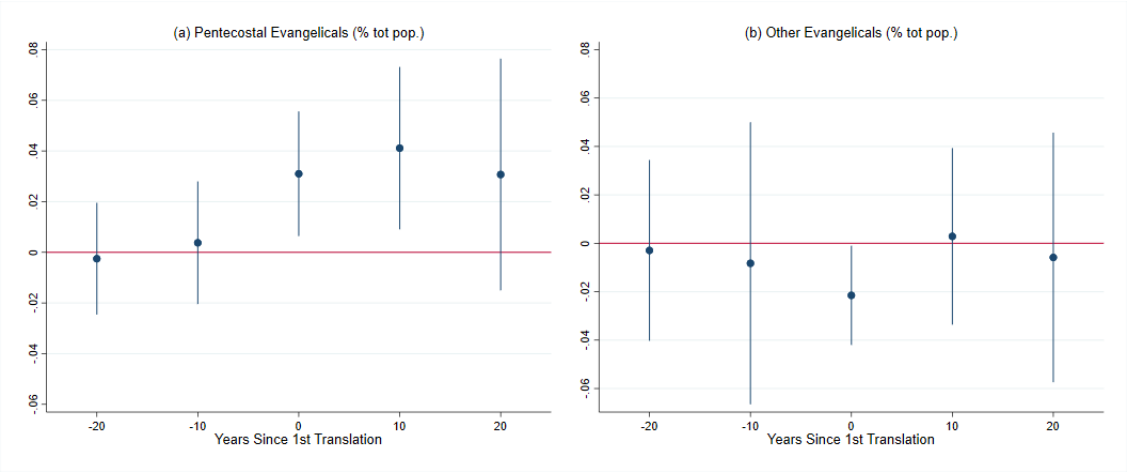


Note: This figure provides an example of the overlap between Ethnologue data and municipality boundaries, combined with population counts at a 100m grid resolution.

Table A1: **Right-Wing Candidates Considered in Each Election.**

Elections	Candidates	Political Party
1998	Enéas Carneiro	Party of the Reconstruction of the National Order
	Sergio Bueno	Social Christian Party
	Jose Maria Eymael	Christian Democratic Party
2006	Luciano Bivar	Social Liberal Party
	Jose Maria Eymael	Christian Democratic Party
2014	Everaldo Dias Pereira	Social Christian Party
	Jose Maria Eymael	Christian Democratic Party

Figure A2: **Pre-trend Analysis - α_p Estimation**



Note: Estimated using Borusyak, Jaravel, and Spiess (2024) imputation approach. The parameter α_p reflects the differential effect of the share of the population speaking indigenous languages in 1980, for each year with respect to the year when the first Bible was translated in the municipality. Confidence intervals are based on robust standard errors clustered at the language level.

Table A2: **Timing of the Bible Translation**

	Translated		
	(1)	(2)	(3)
Close Translations	0.445	0.558**	0.521*
	(0.283)	(0.284)	(0.279)
Language FE	yes	yes	yes
Year FE	yes	yes	yes
Year FE ×Language Speakers		yes	yes
Year FE ×Distance North-Western			yes
N	544	544	544
adj. R^2	0.631	0.644	0.642
Mean Dep. Var	0.33	0.33	0.33
Time period	1980-2010	1980-2010	1980-2010

Unit of analysis: language-year level. Robust standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. The analysis includes 136 indigenous languages spoken in Brazil. The dependent variable, Translated, is a dummy variable indicating whether the Bible has been translated into the specific language.

Table A3: **Municipalities Where Indigenous Languages Are Spoken**

	1980	**1990**	**2000**	**2010**
Number of municipalities with:				
No Bible translation	185	72	41	31
One Bible translated	86	176	189	194
More than one Bible translated	4	27	45	50
Ind. speakers with the Bible translated (% indigenous speakers; avg. municipalities)	28.3	67.8	76.7	84.6

Note: This table indicates for each period the number of municipalities in the sample where the Bible has not been translated into any indigenous languages, where there has been one Bible translation, and where more than one Bible translation has been made.

Table A4: **(Expected) SIL exposure descriptive**

	Municipality level			
Variable	*Mean*	*Std. dev.*	*Min*	*Max*
Number of languages spoken 1980	2	2.98	1	37
Share indigenous population (IPUMS data)	0.018	0.05	0	0.76
SIL exposure	0.014	0.06	0	0.50
Expected SIL exposure	0.006	0.03	0	0.29

Note: This table presents summary statistics for the municipalities-year, which includes 275 municipalities. When the year is not specified, the variables are averaged for the 1990 to 2010 period.

Table A5: **Heterogeneous Effects of SIL Exposure**

Dependent Variable:	Pentecostal Affiliations (% of Total Population)			
	Number of Ind. Lang. Spoken		Urbanization Rate	
Sample	One	Two or More	Below 50th Pct.	Above 50th Pct.
	(1)	(2)	(3)	(4)
SIL Exposure	0.095***	0.089***	0.060**	0.162***
	(0.017)	(0.015)	(0.027)	(0.018)
R^2	0.907	0.892	0.898	0.907
Municipality FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Year FE $\times X_{m,1980}$	Yes	Yes	Yes	Yes
Mean Dep. Var	0.10	0.09	0.10	0.09
N	728	372	552	560

Unit of analysis: municipality-year level. Time period: 1980 to 2010. Robust standard errors clustered at the language level in parentheses. * $p < 0.10$, ** $p < 0.05$, ***$p < 0.01$.

Table A6: **Spillover Effects**

Municipalities included	Indigenous Speakers (1)	Indigenous Speakers (2)	Non-Indigenous Speakers (3)	All Brazil (4)
Panel A	Dep. var. Pentecostals (% total pop.)			
SIL exposure	0.059**	0.058**		0.053***
	(0.024)	(0.024)		(0.017)
Indirect SIL Exposure		0.093***	3.474***	0.128**
		(0.023)	(0.861)	(0.050)
R^2	0.938	0.939	0.916	0.920
Mean Dep. var	0.11	0.11	0.08	0.08
Panel B	Dep. var. Far-right vote share			
SIL exposure	0.013***	0.013***		0.014***
	(0.005)	(0.005)		(0.004)
Indirect SIL Exposure		0.011	0.610***	0.024
		(0.010)	(0.155)	(0.019)
R^2	0.916	0.916	0.914	0.911
Mean Dep. var	0.01	0.01	0.01	0.01
Panel C	Dep. var. Evangelical vote share			
SIL exposure	0.109***	0.109***		0.125**
	(0.037)	(0.037)		(0.051)
Indirect SIL Exposure		0.038	3.640**	0.111
		(0.037)	(1.794)	(0.078)
R^2	0.732	0.732	0.643	0.651
Mean Dep. var	0.06	0.06	0.05	0.05
N	825	825	5,295	6,120
Municipality FE	yes	yes	yes	yes
YearFE	yes	yes	yes	yes
YearFE $\times X_{m,1980}$	yes	yes	yes	yes
YearFE $\times$ StateFE	yes	yes	yes	yes

Unit of analysis: municipality-year level. Time period: 1990 to 2010. Columns 1 and 2 include 275 municipalities where indigenous languages are spoken; column 3 includes 1,765 municipalities where no indigenous languages are spoken. Column 4 includes all municipalities in Brazil, based on IPUMS consistent boundaries for the period 1980 to 2010. Robust standard errors clustered at the municipality level in parentheses. * $p < 0.10$, ** $p < 0.05$, $^{***}p < 0.01$.

Table A7: **Other SIL Exposure Effects**

	Literacy Rate (1)	No Schooling Share (2)	Urban Pop. Share (3)	Agricultural Employment (4)
SIL Exposure	0.009	-0.084	-0.017	-0.007
	(0.024)	(0.076)	(0.044)	(0.032)
Municipality FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Year FE $\times X_{m,1980}$	Yes	Yes	Yes	Yes
N	825	825	825	825
R^2	0.983	0.953	0.976	0.960
Mean Dep. var	0.71	0.15	0.64	0.14

Unit of analysis: municipality-year level. 275 municipalities included. Time period: 1980 to 2010. Robust standard errors clustered at the language level in parentheses. * $p < 0.10$, ** $p < 0.05$, $^{***}p < 0.01$.

Table A8: **Mechanisms**

Dep. var	Vote share obtained by elected candidates associated with Pentecostal	
	Major Churches (1)	Small Churches (2)
2SLS estimation		
Pentecostals	1.680**	0.723
(IV: SIL Exposure)	(0.812)	(0.699)
N	756	756
Municipality FE	yes	yes
Year FE	yes	yes
Year FE $\times X_{m,1980}$	yes	yes
Year FE $\times$ State FE	yes	yes
Mean Dep. var	0.02	0.03

Unit of analysis: municipality-year level. 252 municipalities included. Time period: 19901 to 2010. Robust standard errors clustered at the language level in parentheses. * $p < 0.10$, ** $p < 0.05$, $^{***}p < 0.01$. Major Pentecostal churches include AG and UCKG, while small Pentecostal churches include regional and independent congregations.

Table A9: **Robustness Check - Excluding Different Brazilian Regions**

Region Excluded	Midwest (1)	South (2)	Southeast (3)	Northeast (4)	North (5)
Panel A	Dep. var.: Pentecostal affiliations (% total population)				
SIL exposure	0.099***	0.105***	0.083***	0.076***	0.129***
	(0.019)	(0.018)	(0.023)	(0.024)	(0.015)
N	872	1,012	808	776	932
R^2	0.918	0.890	0.886	0.903	0.887
Mean Dep. var	0.09	0.10	0.09	0.10	0.09
Panel B	Dep. var.: Far-right vote share				
SIL exposure	0.035***	0.028***	0.024**	0.021***	0.029**
	(0.004)	(0.008)	(0.009)	(0.005)	(0.012)
N	654	759	606	582	699
R^2	0.874	0.835	0.814	0.837	0.837
Mean Dep. var	0.01	0.01	0.01	0.01	0.01
Panel C	Dep. var.: Evangelical vote share				
SIL exposure	0.083	0.136***	0.111***	0.121**	0.194***
	(0.050)	(0.032)	(0.030)	(0.046)	(0.050)
N	654	759	606	582	699
R^2	0.558	0.535	0.550	0.635	0.518
Mean Dep. var	0.05	0.07	0.06	0.07	0.07
Municipality FE	yes	yes	yes	yes	yes
YearFE	yes	yes	yes	yes	yes
YearFE $\times X_{m,1980}$	yes	yes	yes	yes	yes

Unit of analysis: municipality-year level. Each column excludes the municipalities of a specific region of Brazil. Time period for Panel A: 1980 to 2010. Time period for Panel B and Panel C: 1990 to 2010. Robust standard errors clustered at the language level in parentheses. * $p < 0.10$, ** $p < 0.05$, ***$p < 0.01$.

Table A10: **Robustness Check - Additional Specifications**

	(1)	(2)	(3)	(4)	(5)
Panel A	Pentecostal affiliations (% total population)				
SIL exposure	0.114***	0.115***	0.108***	0.100***	0.0614***
	(0.037)	(0.037)	(0.039)	(0.030)	(0.020)
adj. R^2	0.832	0.832	0.833	0.844	0.900
Panel B	Far-right vote share				
SIL exposure	0.027***	0.027***	0.025***	0.024***	0.0134**
	(0.008)	(0.008)	(0.007)	(0.007)	(0.005)
adj. R^2	0.744	0.744	0.744	0.751	0.864
Panel C	Evangelical vote share				
SIL exposure	0.152***	0.159***	0.129***	0.110***	0.122***
	(0.033)	(0.035)	(0.044)	(0.036)	(0.035)
adj. R^2	0.270	0.293	0.321	0.340	0.565
Municipality FE	yes	yes	yes	yes	yes
Year FE	yes	yes	yes	yes	yes
Year FE $\times X_{m,1980}$	yes	yes	yes	yes	yes
Year FE $\times$*Evangelical share 1980*		yes	yes	yes	yes
Year FE $\times$*Indigenous share 1990*			yes	yes	yes
Year FE $\times$*Ind.Lang.DiversityFE*				yes	yes
Year FE $\times$*State FE*					yes
N	825	825	825	825	825

Unit of analysis: municipality-year level. 275 municipalities included. Time period: 1990 to 2010. Robust standard errors clustered at the municipality level in parentheses. * $p < 0.10$, ** $p < 0.05$, ***$p < 0.01$. $X_{m,1980}$ includes the baseline controls from the main analysis. Evangelical share 1980 refers to the share of the evangelical population in 1980. Indigenous share 1990 refers to the share of the indigenous population in 1990. *Ind.Lang.DiversityFE* are fixed effects differentiating municipalities where only one indigenous language is spoken from those where more than one is spoken.

Table A11: **Robustness Check: Placebo Test**

	Far-right vote share (1)	Evangelical vote share (2)	Pentecostal affiliations (3)
Panel A			
Placebo SIL - Distance	-0.001	-0.019	-0.011
	(0.004)	(0.043)	(0.020)
R^2	0.916	0.731	0.938
Panel B			
Placebo SIL - Language size	0.006	0.035	0.056
	(0.004)	(0.106)	(0.032)
R^2	0.916	0.731	0.938
Municipality FE	yes	yes	yes
Year FE	yes	yes	yes
Year $\times$ $X_{m,1980}$ FE	yes	yes	yes
Year $\times$ State FE	yes	yes	yes
N	825	825	825
Mean Dep. var	0.01	0.06	0.11

Unit of analysis: Municipality-year level. 275 municipalities. Time period: 1990 to 2010. Notes: Robust standard errors clustered at the language level are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A12: **Robustness Check - Alternative Expected SIL Exposure**

	Far-right vote share (1)	Evangelical vote share (2)	Pentecostal affiliations (3)
Alternative			
Expected SIL exposure	0.054***	0.973*	0.525***
	(0.011)	(0.519)	(0.164)
R^2	0.824	0.478	0.887
Municipality FE	yes	yes	yes
YearFE	yes	yes	yes
YearFE $\times X_{m,1980}$	yes	yes	yes
Observations	825	825	825
Mean Dep. var	0.01	0.06	0.11

Unit of analysis: municipality-year level. 275 municipalities included. Time period: 1990 to 2010. Robust st. errors clustered at the language level in parentheses. * $p < 0.10$, ** $p < 0.05$, ***$p < 0.01$. The alternative Expected SIL exposure is constructed excluding languages from Brazil, Bolivia, Colombia, Peru and Paraguay. Dependent variables in column 3 correspond to the share of total population.

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