

*Does the growth of religious minorities transform electoral politics? Evidence from the evangelical boom in Brazil*

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# Does the growth of religious minorities transform electoral politics?

Evidence from the evangelical boom in Brazil

*Forthcoming* in Political Science Research and Methods (PSRM)

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## Abstract

Christian evangelicals now represent a significant share of the global population. Notably, they are expected to soon outnumber Roman Catholics in several low- and middle-income countries. This paper examines whether such episodes of religious minority growth can reshape electoral politics. To address this, I combine novel data spanning over two decades (1994–2018) of Christian evangelicals' expansion across Brazilian municipalities with indicators of structural changes in electoral politics: voter turnout, competition, polarization, and conservatism. Regression models with unit and year-fixed effects reveal no impact of the evangelical boom on electoral competition and polarization, suggestive evidence of increasing conservatism in recent years, and a clear and robust negative effect on turnout. Regression discontinuity design estimates, leveraging an exogenous and discontinuous growth of Christian evangelicals in Brazil's rural areas, support these findings. The results suggest that the rise of religious minorities may drive gradual transformations in electoral politics.

**Keywords:** Religious minorities; christian evangelicals; electoral politics; quasi-experiment; Brazil.

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# Introduction

The post-World War II era saw a religious revival in various regions around the globe (Scheve et al., 2006; De La O and Rodden, 2008; Grzymala-Busse, 2015). Contrary to predictions that economic development and poverty reduction would gradually lead to low levels of religious attachment (Troeltsch, 2017; Weber, 2002), secularization remains far from a dominant trend across societies (Ranger, 2008; Schewel, 2019; Huber and Mohamed, 2021; Pulejo, 2023).

Religious revival spans various faith traditions, including Christianity, Islam, Hinduism, and Buddhism (Hefner, 1998; Pollack and Rosta, 2017), and is often marked by charismatic leaders who attract large followings through dynamic preaching, a focus on personal transformation, and promises of salvation or enlightenment (Stolz and Novak, 2023). Reflecting the diversity of global religious landscapes, different regions of the world have witnessed the revival of distinct religions. The rapid growth of Christian evangelicals in Africa and Latin America (Lehmann, 1992; Freston, 2004; Eriksen et al., 2019; Kirkpatrick, 2019) contrasts with the swift expansion of Islamism in Southeast Asia (Case, 2013) and Eastern Europe (Ramadan, 2012).

This paper focuses on the evangelical boom—the significant growth and influence of evangelical Christianity—and its implications for electoral politics. The proliferation of information and communication technologies facilitated the exchange of ideas and religious materials, enabling evangelical movements to reach a global audience (Wuthnow and Offutt, 2008). Simultaneously, missionary efforts funded by the United States (US) and European nations played a pivotal role in the worldwide expansion of evangelicalism (Martin, 1999; Nunn, 2010; Stanley, 2013). The rise of televangelism and the use of media platforms, such as radio and television, further allowed evangelical preachers to reach vast audiences, both do-



mestically and internationally (Schultze, 2003; Bruce, 2019). This media exposure accelerated the spread of evangelical churches and heightened public awareness of the movement across the globe (Ranger, 2008; Bekkering, 2011; Thomas and Lee, 2012). Christian evangelicals now make up a significant share (and in some cases, the majority) of the population in various democracies worldwide (Bellofatto and Johnson, 2013; Somma et al., 2017), with Australia, Botswana, Brazil, Costa Rica, El Salvador, Ghana, Latvia, Nigeria, and South Korea standing out as prominent examples.

Efforts to examine the impact of religious cleavages in politics are not new to the literature. Even in highly secularized societies such as those in Western Europe, electoral behavior scholars have long highlighted the critical role of religiously motivated voting (Lipset and Rokkan, 1967). More recent studies confirm that affiliation with Protestantism and other Christian-rooted religions remains a key predictor of voters' party choices (Van der Brug et al., 2009; Tilley, 2015, 2023). In the United States (US), numerous studies indicate that religion and moral conviction have gained importance and predict election outcomes as effectively as self-reported ideology (e.g., Green, 2007; Skitka and Morgan, 2014; Garrett and Bankert, 2020).

Significant advancements have also been made in the study of non-Western democracies. For example, cross-country research pointed to increasing levels of political mobilization among Christian evangelicals across Latin America (e.g., Freston, 1998, 2008; Stoll, 2023) and Sub-Saharan Africa (e.g., Ranger, 2008; McClendon and Riedl, 2019; Frahm-Arp, 2021). More recent studies outline the conditions under which this religious group is likely to engage in formal electoral politics (e.g., Boas, 2023; Smith and Boas, 2024), to induce partisan shifts and electoral realignment (e.g., Smith and Boas, 2024), and to adopt moral-reasoning strategies to mobilize the "People of God" (e.g., Grossman, 2015; Smith, 2019; Ferreira and Fuks, 2021).

While previous work investigates the appeal of evangelical candidates in elections (e.g., [Boas, 2014](#); [Reich and dos Santos, 2013](#); [Netto and Speck, 2017](#); [Rodrigues-Silveira and Cervi, 2019](#); [Ferreira, 2022](#)), we know far less about the impact of Christian evangelicals on key structural dimensions of electoral politics, such as competition, conservatism, and polarization. In this paper, I remedy this gap in the existing literature by examining a context of religious dominance shift, where Christian evangelicals have evolved from a small minority to a significant portion of the electorate. In Brazil, Christian evangelicals have experienced exponential growth over recent decades. In the early 1960s, population census data recorded only 5% of Christian evangelicals; by 2022, they represented roughly 35% of the Brazilian population. This growth is expected to persist, with evangelicals projected to become the largest religious group by 2040, ending over five centuries of dominance by the Roman Catholic Church in Brazil ([Alves et al., 2017](#)).

The potential political implications of this religious shift have not gone unnoticed. For instance, the rise of the extreme right in Brazil has been attributed to the growing conservatism of evangelicals. Indeed, prior studies link Jair Bolsonaro's 2018 victory to his substantial electoral support among evangelicals (e.g., [Amaral, 2020](#); [Rennó, 2020](#); [Layton et al., 2021](#); [Ferreira and Fuks, 2021](#)). Yet, somewhat surprisingly, there is little robust evidence connecting evangelicals to structural transformations in politics.<sup>1</sup> Does the growth of religious minorities, such as the evangelical boom in Brazil, transform electoral politics? To explore this question, I combine novel, granular data on the expansion of evangelical churches across municipalities ([Araújo, 2023](#)) with indicators of participation, competition, polarization, and conservatism in Brazilian elections held between 1994 and 2018 ([Power and Rodrigues-Silveira, 2019](#)).

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<sup>1</sup>Rather than explaining the electoral implications of the evangelical boom in Brazil, recent quasi-experimental studies ([Corbi and Sanches, 2022](#); [Costa et al., 2023](#)) focus on understanding its causes.

To account for time-invariant factors that could drive changes in political behavior across municipalities, I use regression models with unit and year-fixed effects to estimate the magnitude and direction of the impact of evangelical churches on electoral politics. This empirical approach incorporates a broad sample of Brazilian municipalities, encompassing both urban and rural areas. While this enhances external validity, it comes at the cost of lower internal validity: since the expansion of evangelicals across Brazil is not exogenous, these regression coefficients cannot be interpreted as causal.

In this paper, I address this common trade-off in studies using observables by leveraging an exogenous and discontinuous increase in evangelical churches prompted by the *Luz para Todos* (henceforth LPT) program, a large-scale rural electrification initiative launched in Brazil in 2004 and largely uninterrupted since (Araújo et al., 2024). As in other parts of the Global South, evangelical churches in Brazil often begin in modest settings such as garages, living rooms, or small rented spaces (Birman and Machado, 2012; da Cunha, 2021). This grassroots model enables aspiring pastors and religious leaders to establish their ministries with minimal resources and infrastructure (Spyer, 2020). By connecting millions of rural households to the electrical grid, the LPT created favorable conditions for the expansion of evangelical Christianity in Brazil.

As a core rule, a municipality qualified for the LPT if fewer than 85% of its households had access to electricity, based on the 2000 Brazilian census. My identification strategy operates as follows: around the 85% threshold, municipalities are comparable in their observable pretreatment characteristics, but the arrival of electricity triggered a discontinuous increase in the number of evangelical churches in municipalities more likely to receive this intervention, i.e., those below the 85% cutoff. Consequently, posttreatment changes in the electoral outcomes of

interest can be attributed to the rise of evangelicals in these targeted municipalities.

Results from fixed-effects models reveal a negative impact of evangelical churches on voter turnout. A one-standard-deviation increase in the number of churches per 100,000 inhabitants corresponds to an average reduction of 1.8 percentage points in turnout. Estimates also provide some evidence of increasing conservatism in municipalities with higher concentrations of evangelical churches, particularly in national and local elections held from 2012 onward. In this case, a one-standard-deviation increase in the number of churches per 100,000 inhabitants shifts the electorate by 0.0331 units to the right on the ideological scale, which corresponds to an average increase of roughly 17% in the level of conservatism. These findings suggest that the expansion of evangelical Christianity is gradually transforming electoral politics, though not across all observed dimensions: I find no consistent evidence that evangelical churches influence competition or polarization levels in Brazilian municipalities.

Fuzzy regression discontinuity (FRD) estimates that leverage the exogenous and discontinuous growth of evangelical Christianity corroborate findings from baseline fixed-effects estimates on the negative impact of the growth of Christian evangelicals on voter turnout. However, they reveal no statistically significant effects of the evangelical boom on levels of competition, conservatism, or polarization. This set of findings is persistent across several robustness and falsification tests.

These novel and robust findings contribute to the growing body of scholarship highlighting the role of expanding religious minorities in politics (e.g., [Blair, 1973](#); [Madeley, 2000](#); [Freston, 2008](#); [Imtiyaz, 2014](#); [Boas, 2023](#); [Stoll, 2023](#)), as well as to prior studies (e.g., [Brown and Brown, 2003](#); [Weber and Thornton, 2012](#); [Smith, 2019](#)) suggesting minimal influence of evangelical leaders on their followers. My findings urge caution in attributing the rise of Christian

evangelicals to increasing levels of polarization across democracies.

## Christian evangelicals and electoral politics

The rise of evangelicals is anticipated to influence societies in various ways. In this paper, I focus on four structural dimensions considered crucial for the quality of democracy: voter turnout, electoral competition, electoral conservatism, and electoral polarization. Voter turnout and electoral competition are often regarded as core components of democratic legitimacy (Przeworski et al., 1999; Anderson et al., 2005). In contrast, increasing conservatism and polarization could raise concerns about the functioning of representative democracy (Gidron et al., 2020; Wagner, 2021).

Focusing on these four aspects of elections does not imply that evangelicals cannot influence other critical political dimensions. Indeed, prior research suggests that the prominence of Christian evangelicals has noticeable effects on public opinion and policymaking (e.g., Lax and Phillips, 2009; Scheitle and Hahn, 2011; Grzymala-Busse, 2015, 2016). However, for the sake of parsimony and empirical tractability, I limit my analysis to aggregate-level dimensions directly related to electoral politics.<sup>2</sup> This section outlines the rationale for the hypotheses linking the expansion of Evangelical Christianity to changes in the four aforementioned dimensions of electoral politics.

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<sup>2</sup>Thus excluding from the analysis individual-level constructs related to emotions, such as antipartisanship and affective polarization. As extensively discussed in prior research (Baker et al., 2016; Abramowitz and Webster, 2018; Fuks et al., 2020; Harris et al., 2022), these are individual phenomena rooted in voters' political psychology and require individual-level hypotheses tested with micro-level data.

## Voter turnout

Numerous studies document evangelicals' involvement in political activism, organizing grassroots campaigns, and advocating for specific policies or legislation (Elisha, 2008; Margolis, 2020; Reich and dos Santos, 2013). For instance, the "Religious Right" conservative movement in the US has significantly shaped the country's political landscape since its emergence in the 1970s and remains highly influential in anti-abortion and pro-gun activism (e.g., Knuckey, 1999; Bernstein and Jakobsen, 2010; Whitehead et al., 2018). Conversely, evangelical churches operating on the opposite side of the ideological spectrum in the US have also achieved success, playing a pivotal role in recruiting and registering non-white and female voters (Deckman, 2014; Han and Arora, 2022).

During Brazil's transition from an authoritarian regime to democracy (1985–1988), evangelical churches played a pivotal role in securing the approval of a new *Magna Carta*. In the 1986 constitutional election, millions of Christian evangelicals cast their votes for the first time, responding to a campaign led by evangelical leaders urging their followers to support the "People of God" (Sylvestre, 1986). In recent years, mobilization within evangelical churches has contributed to the growing political engagement of low-income women (e.g., Teixeira and Reis, 2023).

In Argentina and Uruguay, new grassroots civil society movements have also emerged from Christian evangelical churches (Sotelo and Arocena, 2021). Similarly, the expansion of Evangelical Christianity has introduced previously marginalized populations into electoral politics across Sub-Saharan Africa, as evidenced in South Africa (Frahm-Arp, 2021), Zambia (Sperber and Hern, 2018), and Nigeria (Burgess, 2014).

Evangelicalism is, of course, not a monolithic movement (Freston, 2001, 2004, 2008), and

there are varying degrees of political involvement and diversity of views within evangelical churches (e.g., [Gallagher, 2004](#); [Danielsen, 2013](#)). Moreover, the extent and nature of political participation among Christian evangelicals can differ across countries and regions ([Schwadel, 2017](#)). Nevertheless, evangelical churches are often characterized as spaces of political mobilization. Based on this reasoning, I hypothesize that:

- H1: As the number of evangelical churches increases, voter turnout increases.

## **Electoral Competition**

The expansion of Evangelical Christianity may influence electoral competition through three key mechanisms: the emergence of new political parties, the coalition-building process, and the growing demand for single-issue political platforms in elections.

In contexts where Christian evangelicals were once a small minority but now form a significant portion of the electorate, new political movements or parties have emerged to represent their interests. The African Christian Democratic Party (ACDP) serves as a notable example. Unlike Western European Christian Democratic parties, which are rooted in Roman Catholic doctrine ([Esping-Andersen, 1988](#); [Gottfried, 2007](#)), the ACDP was designed to capitalize on the growth of Evangelical Christianity in South Africa ([Balcomb, 2004](#)).

Regardless of the emergence of Christian Democratic parties, contexts of religious dominance shift may lead established political elites to engage in coalition building to secure the support of evangelical voters. This often involves making concessions on certain policy issues or including evangelical candidates on their electoral tickets to appeal to this constituency.<sup>3</sup>

The political party *Republicanos* in Brazil exemplifies this process. Although not officially a

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<sup>3</sup>Consistent with this rationale, I show in Appendix A that evangelical candidates running for positions on local councils (*Câmara dos Vereadores*) are more likely to do so under established mainstream political parties.

Christian party, its candidates are typically selected by leaders of the *Universal do Reino de Deus*, one of Brazil's most prominent evangelical churches (Lehmann, 2021). In such cases, political parties trade part of their agenda-setting power for churches' ability to mobilize voters during elections (Cerqueira, 2021).

By identifying, training, and supporting potential candidates to run for office, evangelical churches can influence the nature of competition in elections. Leveraging their spiritual authority, pastors or church leaders may publicly endorse candidates from the pulpit or through other channels, such as church newsletters or social media platforms. While acknowledging that a church leader's endorsement does not guarantee electoral victory (Boas, 2014; Smith, 2019), facing opposition from growing religious groups in contexts with low levels of secularization can undoubtedly generate animosity and rejection in elections.

The expansion of Evangelical Christianity has also been linked to the increasing prominence of morality politics in democracies. Established political elites rooted in traditional socioeconomic cleavages now face competition from newcomers aligned with religious values, such as opposition to abortion, support for traditional marriage, or advocacy for religious freedom. This rising demand for morality politics and single-issue candidates has been well documented in Latin American (Smith, 2019; Smith and Boas, 2020; Boas, 2023) and Sub-Saharan democracies (Grossman, 2015; McClendon and Riedl, 2015). As these outsiders compete for votes in constituencies previously dominated by secular, established political elites, electoral competition may intensify.

- H2: As the number of evangelical churches increases, electoral competition increases.



## Electoral Conservatism

Evangelical churches are well known for their active role in advocating their positions on moral and social issues, such as opposition to abortion, support for religious freedom, and concerns about the erosion of traditional values (Hoover et al., 2002). As the emphasis on traditional family values aligns with conservative ideologies, Christian evangelicals are generally more inclined toward preserving the *status quo* (Robinson, 2010).

Evangelical churches have formed alliances with right-wing political parties and conservative movements in many democracies. In the United States, for example, evangelicals have been closely associated with the Republican Party. The support Donald Trump received from evangelical voters in the 2016 and 2020 presidential elections solidified a trend that began in the 1980s. In 2016, approximately 80% of White evangelical Christians voted for Trump, a level of support that remained consistent in 2020. This strong alignment between evangelicals and the Republican Party has its roots in the 1980s, when evangelical political involvement increased significantly, particularly during Ronald Reagan's presidency (Alberta, 2023). This alliance has continued to shape the political landscape, with evangelical support playing a crucial role in Republican electoral successes.

Across nations, the alignment between Christian evangelicals and conservative movements reflects the popularization of new evangelical theologies developed to counter more progressive views on gender identities, political identities, and multiculturalism (Forster, 2019). On this point, Smith and Boas (2020) argue that where alliances between elites and social movements fostered discussions on sexuality politics, Christian evangelicals responded with heightened conservatism in electoral politics. This "culture war" in Brazil and other parts of Latin America created conditions for electoral realignment, characterized by a tactical

partnership between Christian evangelicals and right-wing candidates. In line with this argument, the success of far-right candidate Jair Bolsonaro in Brazilian presidential elections is largely attributed to his strong support among Christian evangelicals ([Amaral, 2020](#); [Layton et al., 2021](#); [Rennó, 2020](#)).<sup>4</sup>

Of course, not all evangelicals identify as conservative or align solely with conservative political ideologies ([Alencar, 2020](#); [Spyer, 2020](#)). However, more left-leaning evangelicals tend to constitute a minority within the broader evangelical movement ([Gallagher, 2004](#)). I therefore hypothesize that:

- H3: As the number of evangelical churches increases, support for conservative parties increases.

## **Electoral Polarization**

Christian evangelicals often hold views that differ from those of more liberal or progressive segments of society, and these ideological differences can intensify polarization as opposing groups become more entrenched in their positions ([Hoover et al., 2002](#)). However, whether these ideological differences lead to polarization depends on other critical factors.

For example, evangelicals often use the “culture war” narrative to justify their stance against perceived secularism, moral decline, and liberal values ([Smith, 2019](#); [Smith and Boas, 2020](#)). When employed, this narrative can reinforce an “us versus them” mentality, further polarizing society by framing the conflict as a battle between believers and non-believers or good and evil in electoral politics ([Grossman, 2015](#)).

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<sup>4</sup>Post-election public opinion surveys showed that over 65% of Christian evangelicals voted for Bolsonaro in the 2018 and 2022 presidential elections. As documented by [Araújo \(2022\)](#), this outcome was primarily driven by Bolsonaro’s support among Pentecostal evangelicals.

Evangelical churches also foster a strong sense of social identity and community among their members (Campbell, 2004; Mariano, 2016). This dynamic can create heightened loyalty and solidarity within the group, sometimes at the expense of empathy and understanding toward those outside the evangelical community. In such cases, polarization may arise from an in-group versus out-group identity dynamic (Johnson et al., 2012).

Third, evangelical churches can contribute to polarization through media consumption habits. For instance, members of evangelical churches may rely on the same media outlets, which, in turn, reinforce their beliefs and values, creating echo chambers where opposing viewpoints are marginalized or dismissed (Lee Rogers and Powe, 2022). This dynamic can exacerbate polarization. These three potential mechanisms point to an increase in electoral polarization. Therefore, I hypothesize that:

- H4: As the number of evangelical churches increases, polarization increases.

I test these four hypotheses using detailed municipal-level data from Brazil, a paradigmatic example of religious dominance shift in recent decades.

## Methods and Data

In this paper, I use two identification strategies to estimate the impact of Christian evangelicals on electoral politics in Brazil. The first employs regression fixed-effects models to assess whether an increase in the number of evangelical churches per 100,000 inhabitants—or the share of Christian evangelicals—correlates with changes in voter turnout, electoral competition, polarization, and conservatism. The second focuses on a smaller sample of municipalities near the threshold used to implement LPT, a large-scale electrification program that connected

millions of households and other facilities to the electrical grid in Brazil. Although this approach has arguably lower external validity, the as-if-random discontinuous growth of Christian evangelicals in municipalities targeted by the LPT allows for a causal interpretation of their impact on electoral politics.

## Fixed effects models

To examine whether Christian evangelicals influence a set of electoral outcomes, I employ regression fixed-effects models to account for unobservable context-specific factors across units and over time. Following recent contributions in the literature ([Mummolo and Peterson, 2018](#); [Imai and Kim, 2019](#)), I interpret my estimated coefficients as correlations, without assigning causal meaning. In this analysis, I use a repeated cross-section of municipalities ( $i$ ) over a period of time ( $t$ ). The fixed-effects model to be estimated is represented by the general equation:

$$Y_{it} + \beta_0 + \beta_1 X_{1,it} + \beta_k X_{k,it} + \beta_1 X_{1,it} + Y_n E_2 + Y_n E_n + \delta_t T_2 + \delta_t T_t + u_{it} \quad (1)$$

Where

$Y_{it}$  is the outcome of interest, where  $i$  = municipality and  $t$  = election-year;

$X_{k,it}$  represents a set of municipal-level attributes;

$\beta_k$  is the coefficient for the municipal-level attributes included in the specification;

$u_{it}$  is the error term;

$Y_2$  is the coefficient for the binary regressors;

$T_2$  is time as dummy variable (dummy), so I have  $t-1$  time periods;

$\delta_t$  is the coefficient for the binary time regressors

Across specifications, I adjust standard errors by clustering municipal-level variation at the group level, specifically at the state level. This approach is standard in correlational models when there is no explicit intervention (treatment) affecting one or more units in the panel dataset (Cunningham, 2021).

## Fuzzy regression discontinuity design

Aiming to eliminate electricity exclusion in Brazil's most impoverished areas (Pereira et al., 2011), the LPT program was officially launched in 2003, during the first year of Luiz Inácio Lula da Silva's (Workers' Party, PT) presidency. The Ministry of Mines and Energy coordinated the program, which was implemented by state-level electric power companies and rural electrification cooperatives across Brazilian states. Between 2004 and 2015, the federal government invested over 15 billion *reais* (approximately 3 billion dollars) to connect more than 3.2 million households and facilities to the existing but underutilized electrical grid (Slough et al., 2015). Since 2016, the LPT has continued to operate at a slower pace without being discontinued (Araújo et al., 2024).

As documented in this paper, the arrival of electricity played a significant role in enabling the establishment and expansion of evangelical churches in areas impacted by the LPT. Unlike the rigid and centralized *modus operandi* of the Roman Catholic Church, the Christian evangelical landscape operates with significantly less regulation (Cerqueira and Tuñón, 2019). Starting a church in a garage or small residential space greatly reduces initial costs, making it accessible to individuals or small groups with limited financial resources.<sup>5</sup>

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<sup>5</sup>Starting in a garage or household setting does not constrain these churches' potential for growth and influence. Indeed, many of Brazil's largest and most impactful evangelical churches (e.g., Assembleia de Deus Ministério do Belém, Deus é Amor, Igreja Batista da Lagoinha) started in humble facilities before evolving into large congregations with substantial community influence (Birman and Machado, 2012; Spyer, 2020;

A municipality qualified for the LPT program if fewer than 85% of its households had access to electricity according to the 2000 Brazilian census. This threshold was primarily technical and proposed by the Brazilian Ministry of Mines and Energy staff to reflect the average electricity coverage among households in 2000 (Slough et al., 2015). A second, complementary criterion prioritized communities with low levels of human development, a higher concentration of marginalized ethnic groups (e.g., indigenous populations), and/or the presence of traditional territories of descendants of enslaved peoples (*quilombos*). Although communities meeting these characteristics were generally more likely to be located in municipalities below the 85% threshold, it is known that some targeted areas were situated in municipalities above this threshold (Pereira et al., 2011).

To address this imperfect compliance, I use the percentage of households with access to electricity in 2000 (i.e., the running variable) to predict the number of evangelical churches in municipalities affected by the LPT. In my reduced-form estimates, I rely on these predicted values from the first stage to evaluate the impact of evangelical churches on electoral outcomes. This as-if random treatment assignment serves as an instrument for treatment status, consistent with a typical fuzzy regression discontinuity design (Hahn et al., 2001).

In my framework, an instrumental variable (IV) approach combined with the RD design employs the exogenous assignment as an instrument for the number of evangelical churches. The IV exclusion restrictions are satisfied by design, as the assignment is strongly correlated with the establishment of evangelical churches and uncorrelated with the error term in the outcome equation, given that the assignment was exogenously determined by the LPT cutoff. In the context of a standard regression analysis, the first-stage regression can be expressed as:  

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[da Cunha, 2021](#)).

$$T_i = \delta_1 D_i + \delta_2 f(Z_i) + V_i \quad (2)$$

and the outcome response is related to the treatment via the equation:

$$Y_i = \beta_1 \hat{T} + \beta_2 f(Z_i) + \varepsilon_i \quad (3)$$

In this case,  $\beta$  represents the reduced-form estimator of the causal effect of evangelical churches on electoral outcomes. Specifically, this IV strategy estimates the local average treatment effect (LATE), capturing the impact of evangelical churches on the electoral outcomes of interest in municipalities below the 85% cutoff. In this analysis, I employ the standard data-driven procedure developed by [Calonico et al. \(2020\)](#) to select an optimal bandwidth around this cutoff. As is typical in regression discontinuity designs, this estimated effect is confined to units with forcing variable values near the threshold, i.e., the subpopulation of compliers ([Imbens and Lemieux, 2008](#)).

This identification strategy assumes that the LPT was implemented under quasi-experimental rules. Thus, it relies on validating the claim that the 85% threshold can be interpreted as exogenous. While this assumption cannot be directly tested, I evaluate its plausibility using several strategies.

First, I test for selection around the 85% threshold. In this context, self-selection is highly unlikely because the primary rule for allocating the program was based on the Brazilian census conducted in 2000. Local politicians (i.e., mayors and council members) could not have anticipated the rules under which the program would be implemented when the LPT began in 2004. Nonetheless, I conduct a manipulation test using a polynomial density estimation

to address this concern. Appendix B presents a visual representation of the continuity test approach used by [Cattaneo et al. \(2018\)](#). The test shows the actual density estimate with a shaded 95% confidence interval of the running variable (i.e., the percentage of households with electricity in 2000). The density estimates for targeted and non-targeted municipalities at the cutoff are similar, and the confidence intervals overlap. The value of the statistical test is 1.453, and the associated p-value is 0.146, indicating no evidence of self-selection (manipulation) near the 85% threshold under the continuity-based approach.

Second, I use data from the 2000 Brazilian census to examine pretreatment differences among municipalities near the threshold. As expected, there is no evidence of discontinuity around the 85% threshold prior to the program's implementation (see Appendix C). On average, there are no statistically significant differences in observables such as fertility rate, human development, inequality, income per capita, and urbanization.

Third, I test for the possibility of partisan-biased targeting. As prior studies indicate, conservative parties were dominant in rural areas of Brazil in the mid-2000s ([Mainwaring et al., 2000](#); [Alves and Hunter, 2017](#)). My exogeneity assumption for the 85% threshold would be violated if the Worker's Party (PT) had used the LPT to undermine its political rivals in the countryside, implying that constituencies controlled by conservative parties were more likely to be targeted. However, regression discontinuity estimates in Appendix C reveal no evidence that municipalities controlled by conservative parties (i.e., PFL, PMDB, and PTB) were disproportionately likely to fall below the 85% threshold. Another common form of partisan-biased targeting involves favoring political allies ([Brollo and Nannicini, 2012](#); [Bueno, 2018](#)). In this scenario, the PT might direct the LPT toward municipalities led by PT mayors. Reassuringly, I find no evidence that such constituencies benefited disproportionately from



the LPT, as shown in Appendix C.

## Data

My panel dataset comprises 71,012 municipal-level entries. These observations span the period from 1994 to 2018, covering six local elections (1996, 2000, 2004, 2008, 2012, and 2016) and seven national elections (1994, 1998, 2002, 2006, 2010, 2014, and 2018). For my fuzzy regression discontinuity estimates, the main analysis uses election years from 2004 to 2018, while election years from 1994 to 2002 (i.e., the period before LPT) are employed for the placebo test. Appendix D provides descriptive statistics for all variables used in this study. Below, I outline the set of variables used in the statistical analyses.

### Number of evangelical churches

To measure the salience and assess the growth of Christian evangelicals, I use the dataset compiled by Araújo (2023), which relies on official data from the Brazilian Fiscal Bureau, the *Receita Federal*, to calculate the number of evangelical churches across Brazilian municipalities.<sup>6</sup>

Figure 1 presents the number of evangelical churches from 1960 to 2019, the last year data was collected.<sup>7</sup> The expansion of evangelicals in Brazil began in the 1970s and accelerated by the late 1980s. Since then, Christian evangelicals have experienced consistent growth, particularly after 2003, when the federal government approved new regulation (Law No.

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<sup>6</sup>The number of evangelical churches, as reported by Araújo (2023), strongly correlates with the share of Christian evangelicals calculated by the Brazilian population authority (Instituto Brasileiro de Geografia e Estatística, IBGE). To the best of my knowledge, this dataset is the most reliable (and the only) available measure of the salience of evangelical churches over several decades and across Brazilian municipalities.

<sup>7</sup>As noted by Araújo (2023), a regulation introduced by the *Receita Federal* in 2020 allowed religious institutions to register multiple facilities under the same identifier. Consequently, evangelical churches with several locations can now use a single, unified identifier. While this change simplified the process of opening new churches, it reduced the quality and precision of the official data published by the *Receita Federal* after 2019.

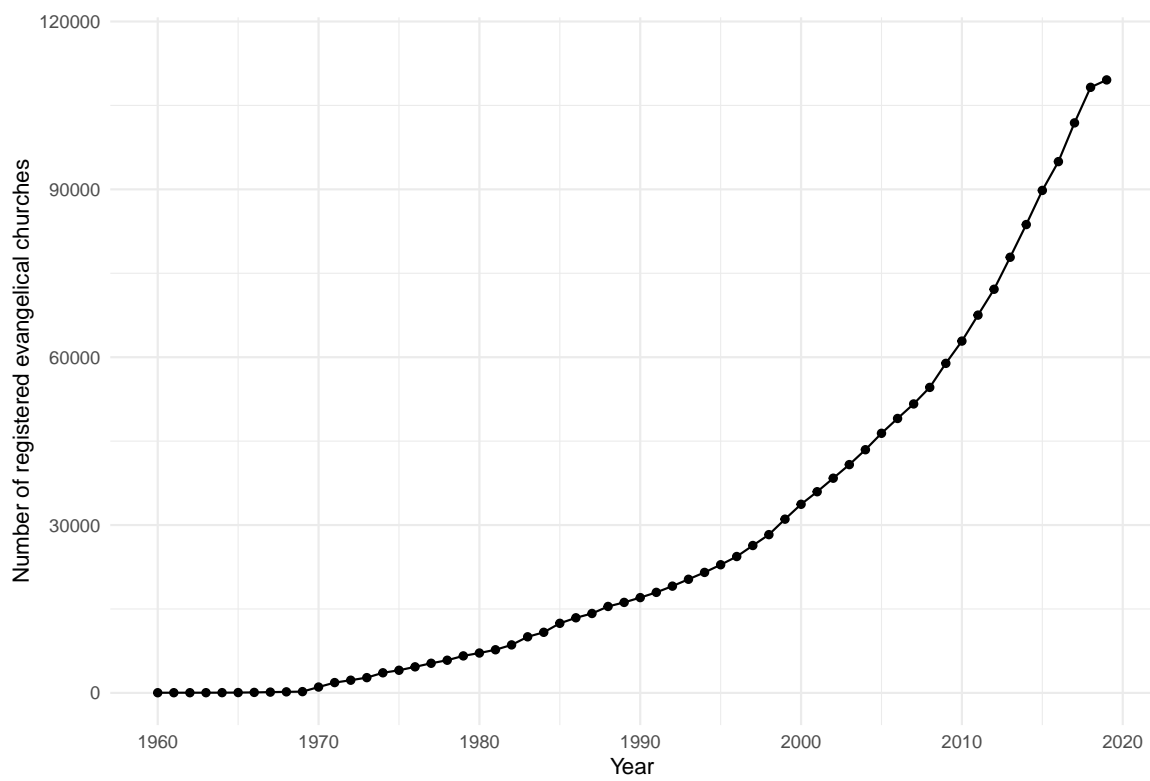
10.825, 2003) exempting religious institutions from various legal obligations. This change effectively facilitated the establishment of new worship spaces, increasing the number of evangelical churches across states and municipalities (Cerqueira and Tuñón, 2019). In 1980, Brazil had 7,129 evangelical churches. Approximately four decades later, in 2019, data indicates the existence of nearly 110,000 evangelical churches, marking a 1400% net growth during this period (Araújo, 2023).

To ensure comparability, I follow the author's approach by weighting this raw data by the population size of existing municipalities in a given year, resulting in the number of evangelical churches per 100,000 inhabitants. This information is available from 1960 to 2019, as shown in Figure 1. For my statistical analysis, I use a reduced time series of this variable spanning 1994 to 2018. This corresponds to the period for which the dataset—compiled and published by Power and Rodrigues-Silveira (2019)—with municipal-level indicators of polarization and conservatism is available.

## **Estimated share of Christian evangelicals**

To estimate the share of Christian evangelicals across municipalities, I used Brazilian census data to calculate the percentage growth of this religious group from 2000 to 2010. I then applied the estimated growth rate for each municipality to approximate the number of Christian evangelicals over time. Specifically, I used these projections to update the absolute and relative numbers (the share) of Christian evangelicals for all Brazilian municipalities for each year from 2000 to 2018. In this process, I assumed a constant and fixed growth rate between election years and that actual growth across municipalities after 2010 would mirror or closely resemble the growth observed between 2000 and 2010. Although this approach

Figure 1: Number of registered evangelical churches in Brazil (1960-2019)



Note: Compiled by the author. Figure 1 reports the number of registered evangelical churches per each year from 1960 to 2019, the last year for which the data was calculated by Araújo (2023).

likely underestimates the number of Christian evangelicals after 2010,<sup>8</sup> it should provide a reasonable approximation of the growth observed from 2000 to 2010. Reassuringly, these estimates positively correlate with the number of evangelical churches per 100,000 inhabitants used in my baseline estimates, as reported in Appendix E.

## **Voter turnout**

As a proxy for political participation, I use the standard measure of voter turnout, calculated as the ratio of the total number of votes (valid, blank, and null) to the total number of registered voters in each election (Power and Rodrigues-Silveira, 2019). This measure, derived from data provided by the Brazilian Electoral Court (*Tribunal Superior Eleitoral*, TSE), ranges from 0 to 1, where 1 indicates the highest level of participation—see Figure 2 (Panel A).

## **Electoral competition**

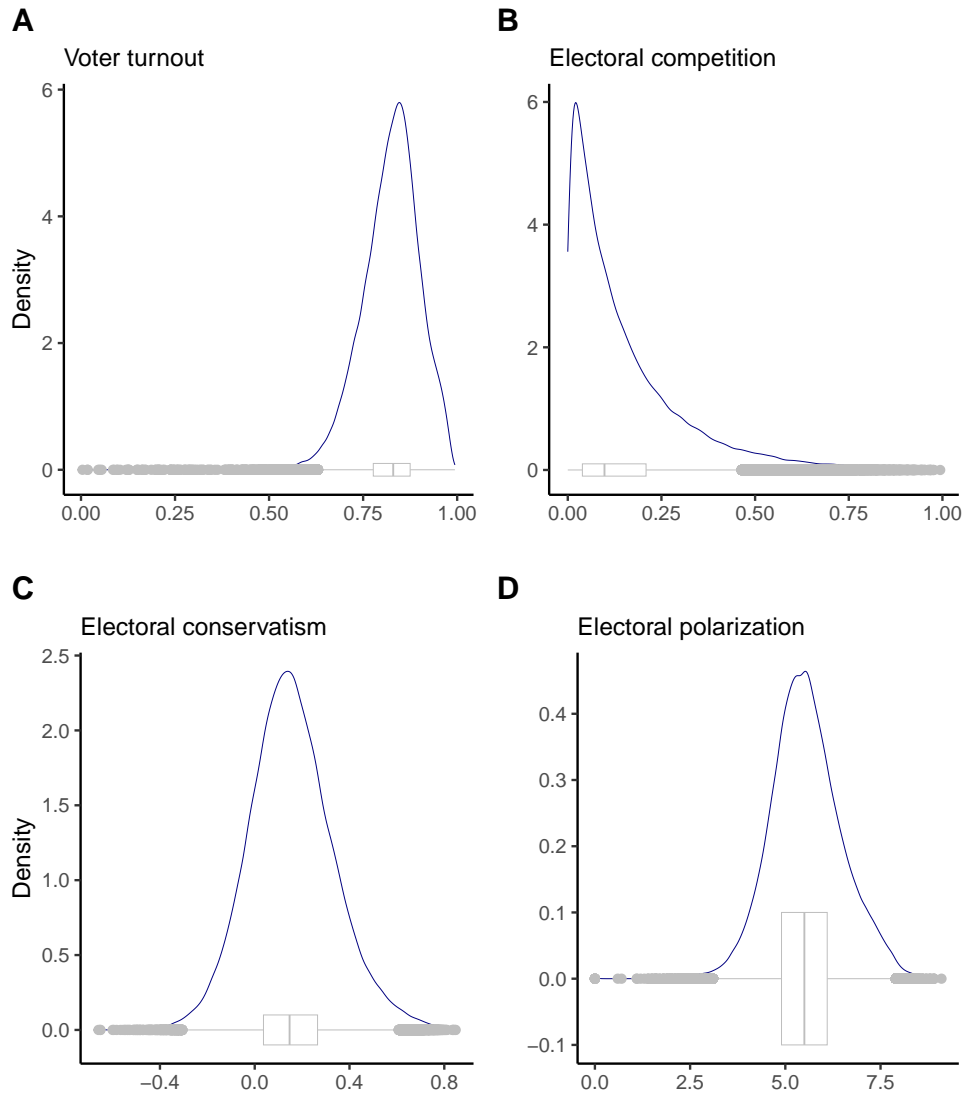
To measure electoral competition, I calculate the difference between the vote shares of the two candidates or parties that received the most votes in a given election.<sup>9</sup> This indicator has been used in prior studies (e.g., Power and Rodrigues-Silveira, 2019) and ranges from 0 (completely competitive; tied elections) to 1 (not competitive)—see Figure 2 (Panel B).

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<sup>8</sup>As of November 2024, when I completed revisions to this manuscript, the 2022 census data on religious affiliation at the municipal level was not yet publicly available. Thus, interpolation using data from the 2010 and 2022 censuses was not possible.

<sup>9</sup>Following the procedure outlined by Power and Rodrigues-Silveira (2019), electoral competition is defined as the difference between the top two candidates in mayoral (local elections) and presidential (national elections) contests.

Figure 2: Outcome variables descriptive statistics



Note: The unit of analysis is the municipality. Figure 2 reports descriptive statistics of the outcomes of interest using my panel dataset of local and national elections held from 1994 and 2018 in Brazil ( $N = 71,012$ ). Voter turnout ranges from 0 to 1 (the highest participation). Electoral competition ranges from 0 to 1 (absence of competition). Electoral conservatism ranges from -1 to 1 (positive values mean voters have an ideological orientation towards the right). Electoral polarization ranges from 0 to 10 (extreme polarization).

## **Electoral conservatism**

To approximate voters' level of conservatism in elections, I use an index representing the average ideological position of a given constituency, as estimated by [Power and Rodrigues-Silveira \(2019\)](#). To compute this measure for each Brazilian municipality, the authors used parties' left-right ideological scores from the Brazilian Legislative Surveys (BLS), an elite-based study conducted since 1993 with representatives in the Brazilian Congress ([Power and Zucco, 2012](#)). The BLS relies on self-reported ideological classifications collected through structured interviews to position political parties on the left-right continuum.

In this proxy for conservatism, the ideological contribution of each party in a given electoral year is calculated as the product of its proportion of votes and its ideological score for that year. Consequently, the greater the proportion of votes a party receives, the stronger its influence on the final indicator. For instance, the score will be high and positive if a right-wing party wins a substantial share of votes. The index ranges from approximately -1 to 1—see [Figure 2 \(Panel C\)](#). Positive values indicate that voters in a given municipality lean ideologically to the right, while negative values reflect stronger support for left-wing parties. By definition, zero represents the ideological center.

## **Electoral polarization**

I use the measure proposed by [Power and Rodrigues-Silveira \(2019\)](#) to assess polarization in multi-party systems. This indicator assumes that party politics is structured along a left-right dimension and captures the variation from the center of the political spectrum for each party competing in elections ([Dalton, 2008](#)). As before, parties' ideological scores are derived from the BLS ([Power and Zucco, 2012](#)).

Rather than measuring existing levels of affective polarization,<sup>10</sup> this index captures ideological divisions in the electorate by analyzing the distribution of votes within a constituency. The final polarization index is 0 (no polarization) when all voted parties occupy the same position on the left-right scale and 10 (extreme polarization) when the voted parties are distributed at opposite ends of the scale (i.e., the highest possible level of electoral polarization)—see Figure 2 (Panel D).

## Results

In this section, I present and discuss the results from both fixed-effects models and fuzzy regression discontinuity estimates. I also conduct a series of robustness tests to validate these findings.

### Fixed effects models

To account for time-invariant factors that could drive changes in political behavior at the municipal level, I use Ordinary Least Squares (OLS) models with unit (i.e., municipality) and election-year fixed effects. This empirical approach captures the average impact of changes in the number of evangelical churches on the outcomes of interest, conditional on a set of observables. While this method does not provide a causal interpretation of the regression coefficients, it helps to understand the magnitude and direction of the impact of evangelical churches on electoral politics.

Table 1 presents my preferred estimates, pooling data from national and local elections

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<sup>10</sup>Affective polarization reflects the degree to which voters have positive feelings toward their own party and negative sentiments toward opposing parties (Iyengar et al., 2012).

(refer to the column “All”). This approach benefits from greater statistical power, thereby increasing the likelihood of detecting an effect when one exists. However, some may prefer to examine the estimated impact separately, whether voters are casting ballots for a mayor or local council members (local elections) or for a president or congressional representatives (national elections).

As shown in Table 1, the number of evangelical churches per 100,000 inhabitants<sup>11</sup> does not predict changes in electoral polarization levels. There is some evidence that an increase in the number of churches reduces competition, but this effect is not consistent across models. Similarly, a higher number of evangelical churches per 100,000 inhabitants does not appear to encourage greater electoral participation. On the contrary, I found a negative and statistically significant correlation between the number of churches and voter turnout: a one-standard-deviation increase in the number of churches per 100,000 inhabitants corresponds to an average reduction of 1.8 percentage points in turnout. Table 1 also indicates a positive impact of evangelical churches on levels of conservatism. Specifically, a one-standard-deviation increase in the number of churches per 100,000 inhabitants shifts the electorate 0.0331 units to the right on the ideological scale. Using the mean conservatism score in my sample as a reference, this represents an average increase of roughly 17%.

Models accounting for heterogeneity over time largely confirm this pattern. Specifically, I replicate the baseline fixed-effects models—as described in equation 1—for sub-samples grouped by the following electoral periods: 1994–2000, 2002–2010, and 2012–2018.<sup>12</sup> Results reported in Appendix G suggest that the documented effects of evangelical churches on

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<sup>11</sup>I replicated the models in Table 1 using an alternative measure of Christian evangelicals’ salience across municipalities: the estimated share of Christian evangelicals. As reported in Appendix F, the results were consistent, with no substantive changes.

<sup>12</sup>Pooling several election years allows for testing heterogeneous effects over time while accounting for context-specific factors across units and periods.



Table 1: Correlation between the number of evangelical churches per 100,000 inhabitants and a set of electoral outcomes (1994-2018)

	Turnout			Competition			Conservatism			Polarization		
	All	National	Local	All	National	Local	All	National	Local	All	National	Local
	-.0007*** (.0001)	-.0005*** (.001)	-.0006*** (.0001)	.0003*** (.0002)	.0001 (.0000)	.0001 (.0000)	.0018*** (.0003)	.0021*** (.0003)	.0015*** (.0003)	.0000 (.0010)	-.0010 (.0014)	-.0015 (.0011)
Obs.	61,779	33,560	28,219	61,778	33,560	28,218	61,784	33,560	28,224	61,784	33,560	28,224
N. clusters	26	26	26	26	26	26	26	26	26	26	26	26
R <sup>2</sup>	0.0569	0.020	0.203	0.058	0.086	0.005	0.001	0.001	0.026	0.012	0.032	0.003

Note: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

The unit of analysis is the municipality. Table 1 presents Ordinary Least Squares (OLS) models with district and election-year fixed effects, including the following controls: human development index, log of population size, and log of electorate size. The primary explanatory variable is the number of evangelical churches per 100,000 inhabitants (Churches per 100,000). Standard errors are clustered at the state level. The dependent variables are voter turnout (turnout), electoral competition (competition), electoral conservatism (conservatism), and electoral polarization (polarization).

turnout and conservatism are primarily driven by voting behavior in more recent elections (2012–2018). While the negative effect on turnout warrants further investigation in future work, the observed impact of evangelicals on conservatism<sup>13</sup> aligns with prior research suggesting that the rising conservatism in Brazil is a response by Christian evangelicals to the increasing salience of sexuality politics issues in recent years (Smith, 2019; Smith and Boas, 2020; Boas, 2023).

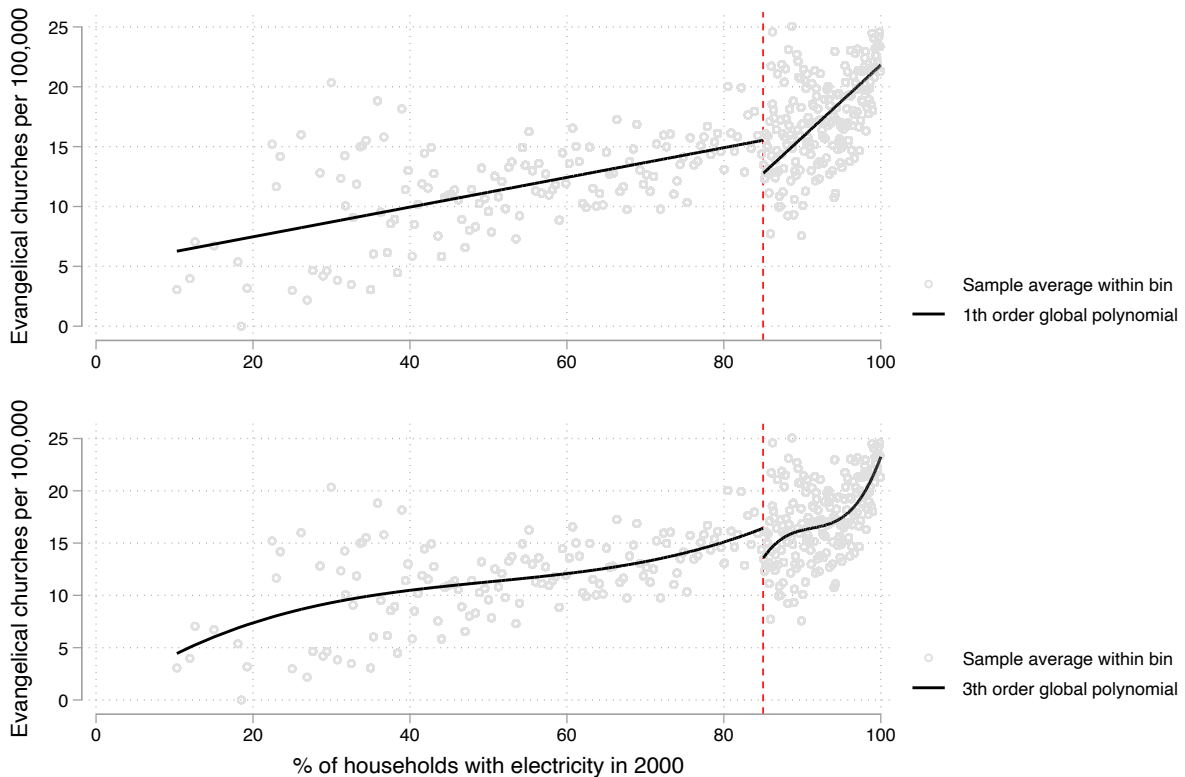
## Fuzzy regression discontinuity design

In this section, I examine whether the growth of evangelicals driven by the LPT translated into changes in electoral politics in targeted municipalities. Interpreting regression discontinuity design results is straightforward and can be effectively illustrated graphically, so I begin with the descriptive evidence presented in Figure 3. The figure demonstrates a discontinuous jump in the number of evangelical churches per 100,000 inhabitants at the LPT cutoff. In the posttreatment period (2004–2018), there is a higher concentration of evangelical churches

<sup>13</sup>As shown in Appendix H, I found similar results when using the share of votes for the Worker’s Party (PT) as an alternative measure of conservatism. On average, as the number of evangelical churches per 100,000 inhabitants increases, the PT’s share of votes tends to decrease.

in targeted municipalities below the 85% cutoff—those more likely to have benefited from the electrification scheme. Even when varying the polynomial (linear or cubic) used to plot the first stage, the evidence consistently shows that the number of evangelical churches per 100,000 inhabitants increased in municipalities more likely to be exposed to the LPT.

Figure 3: RD plot of the first-stage: the number of evangelical churches per 100,000 inhabitants given the value of the running variable – i.e., the percentage of households with electricity in 2000



Note: Figure 3 depicts the number of evangelical churches per 100,000 inhabitants around the LPT cutoff (85%). Following [Calonico et al. \(2015\)](#), I generated a visual representation of the first stage using first-order (Panel A) and third-order (Panel B) polynomials. The running variable is the percentage of households with electricity in 2000, as reported by the IBGE (2000).

Point estimates using a local linear fit confirm this finding. Table 2 (Panel A) demonstrates that the number of evangelical churches decreases as the percentage of households with electricity in 2000 (i.e., the running variable) increases. Specifically, municipalities below the 85% cutoff had, on average, three more evangelical churches per 100,000 inhabitants. Compared to municipalities within the same bandwidth used to compute this effect, this

represents a net growth of 37% in the posttreatment period (2005–2018).

Crucially, placebo estimates<sup>14</sup> reported in Appendix I provide further reassurance: prior to the arrival of electricity caused by the LPT (1994–2003), there is no evidence of more evangelical churches below the 85% cutoff. As expected, in the absence of the intervention, first-stage estimates consistently fail to reach conventional levels of statistical significance. This result supports my interpretation that the LPT did indeed cause an increase in the number of evangelical churches in municipalities exposed to the program.

Table 2: The impact of evangelical churches on electoral politics (2004-2018)

	Turnout			Competition			Conservatism			Polarization		
	All	National	Local	All	National	Local	All	National	Local	All	National	Local
(A) First-stage	-2.90** (1.03)	-2.92** (1.49)	-2.91** (1.34)	-3.00** (1.38)	-2.84* (1.77)	-2.96 (1.92)	-2.98** (1.30)	-2.94 (1.89)	-2.86** (1.56)	-2.85*** (1.11)	-2.89* (1.61)	-2.88* (1.58)
(B) Reduced form LATE	-.003** (.001)	-.003 (.002)	-.004* (.002)	.001 (.002)	-.004 (.004)	.006 (.005)	-.008 (.004)	-.014 (.010)	.000 (.004)	.025 (.016)	.020 (.023)	.030 (.024)
Obs. (Left of c)	3311	1660	1699	1926	1256	918	1871	1072	1408	2988	1488	1364
Obs. (Right of c)	5476	2710	2938	2726	1766	1292	2623	1530	1997	4362	2166	1947
Order loc. poly. (p)	1	1	1	1	1	1	1	1	1	1	1	1
BW loc. poly. (h)	7.74	7.69	8.19	4.44	5.59	4.24	4.32	4.94	6.19	6.70	6.59	6.04

Note: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

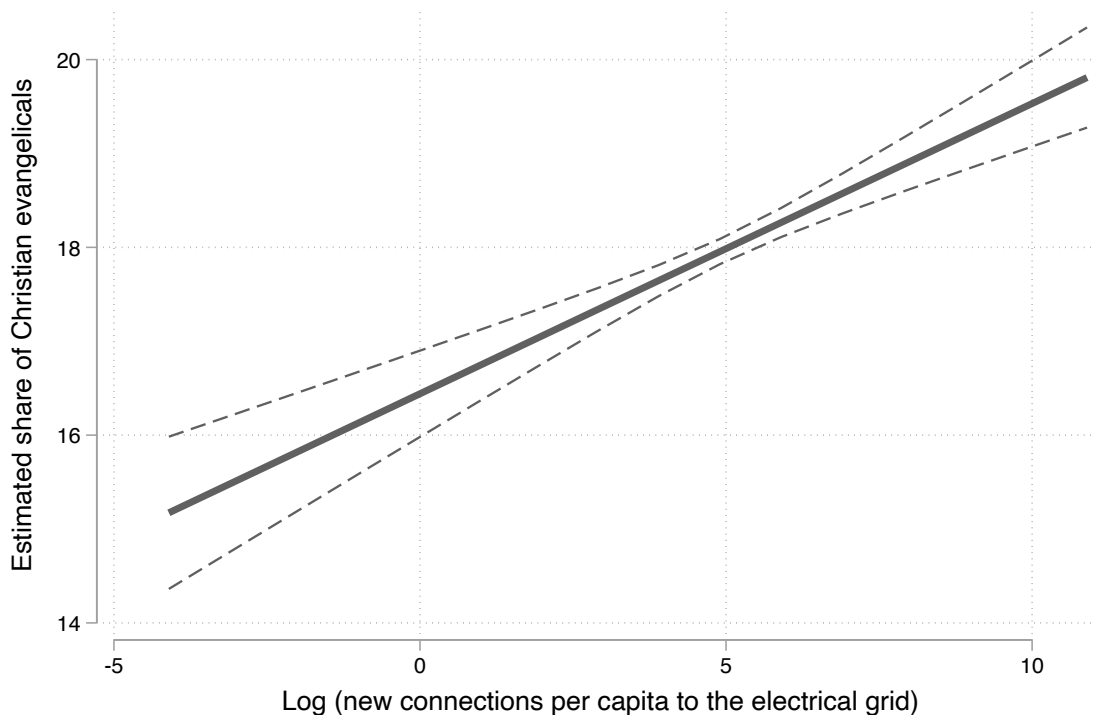
The unit of analysis is the municipality. Figure 2 presents FRD local linear estimates using the optimal bandwidth selection method proposed by [Calonico et al. \(2020\)](#). I use the percentage of households with electricity in 2000 (i.e., the running variable) to predict the number of evangelical churches per 100,000 inhabitants in targeted municipalities (Panel A). This as-if random treatment assignment estimates the LATE in reduced-form estimates (Panel B). My outcome variables in the reduced-form estimates are voter turnout (turnout), electoral competition (competition), electoral conservatism (conservatism), and electoral polarization (polarization).

Still, my identification strategy hinges on the assumption that the LPT increased the number of evangelical churches and created favorable conditions for recruiting new members. The rationale is that with electricity, evangelical churches can organize and conduct outreach activities more effectively. They can use electric-powered sound systems for outdoor events, multimedia presentations for evangelistic campaigns, and digital platforms for online services. As prior research has documented, evangelical churches in rural Brazil often host

<sup>14</sup>This aligns with what [Eggers et al. \(2023\)](#) describes as a placebo population test, i.e., a placebo estimate based on a different population that shares key features of the core analysis but avoids violating core assumptions.

community events, workshops, and classes, which become easier to conduct with electricity, attracting more participants and fostering a strong community around the church. Moreover, evangelical churches in rural Brazil frequently engage in social work, offering educational programs, literacy classes, and other community services (Spyer, 2020). With electricity, these initiatives can not only be carried out in the evenings but can also incorporate audiovisual aids, computers, and other tools, increasing their effectiveness and making the church a valuable community resource. The critical question is whether this expanded outreach translated into new members and supporters.

Figure 4: The predicted share of Christian evangelicals given the per capita number (log) of new connections to the electrical grid through the LPT (2004-2018)

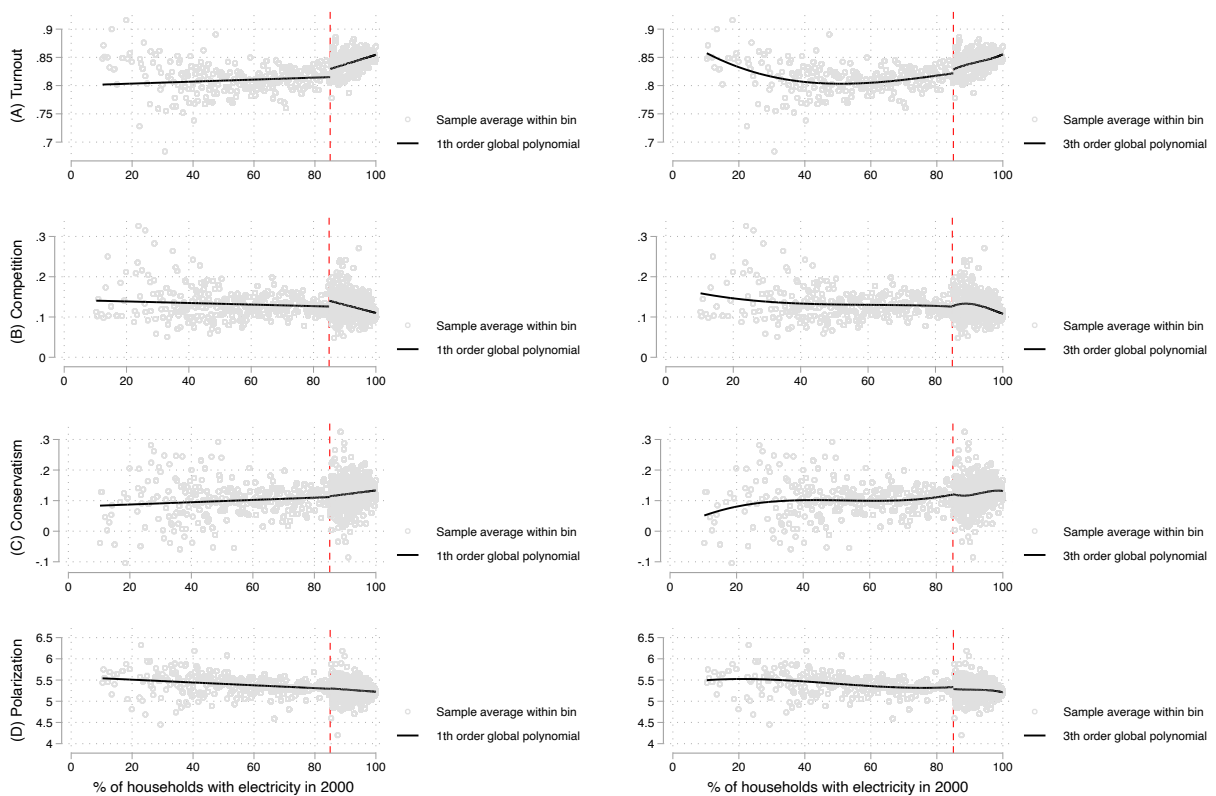


The figure shows the results of an OLS regression using the estimated share of Christian evangelicals and the number of new connections (per capita) to the electrical grid through the LPT program. The model includes the following controls: human development index, log of population size, and a dummy variable indicating whether the municipality is located in the Northeast region.

Figure 4 shows a strong positive correlation between the number of new connections (per capita) to the electrical grid through the LPT and the estimated share of Christian evangeli-

cals across Brazilian municipalities from 2004 to 2018. This robust correlation indicates that electrification significantly facilitated the expansion of Evangelical Christianity. Reassuringly, fixed-effects models, sharp regression discontinuity, and intention-to-treat estimates reported in Appendix J confirm this general finding: Evangelical Christianity grew faster in municipalities targeted by the LPT. In the most conservative estimate, I document a difference of at least two percentage points in the share of Christian evangelicals post-treatment.

Figure 5: The visual effect of evangelical churches on voter turnout (A), electoral competition (B), electoral conservatism (C), and electoral polarization (D)



Note: Figure 5 shows the number of evangelical churches per 100,000 inhabitants around the LPT cutoff (85%). Following [Calonico et al. \(2015\)](#), I generated a visual representation of the reduced-form estimates using first- and third-order polynomials. The running variable is the percentage of households with electricity in 2000, as reported by the IBGE (2000).

Does this growth of Christian evangelicals induced by the LPT cause changes in electoral politics? Figure 5 (Panels A–D) summarizes my reduced-form estimates. A quick visual inspection reveals lower levels of voter turnout in municipalities targeted by the LPT, i.e.,

those below the 85% cutoff. Beyond that, there is a consistent pattern of continuity (i.e., no observable discontinuity at the 85% threshold) around the cutoff for other electoral outcomes of interest. Importantly, this pattern holds across different polynomial fits (i.e., linear and cubic), suggesting that my findings are not model-specific.

Table 2 complements this visual description with point estimates<sup>15</sup> of the local impact of evangelical churches on the electoral outcomes of interest (see Panel B; reduced-form estimates). Contrary to H1 but consistent with results from fixed-effects models, the LATE coefficients produced by Models 1–3 are negative, indicating a negative impact of evangelical churches on voter turnout. On average, voter turnout was 0.30 percentage points higher in municipalities that were more likely to be affected by the LPT. As shown in Table 2, this documented effect was even larger (0.40 percentage points) in local elections held after the arrival of electricity.

Meanwhile, none of the coefficients estimating the effect of evangelical churches on electoral competition (Models 4–6) reach conventional levels of statistical significance, thereby rejecting H2.

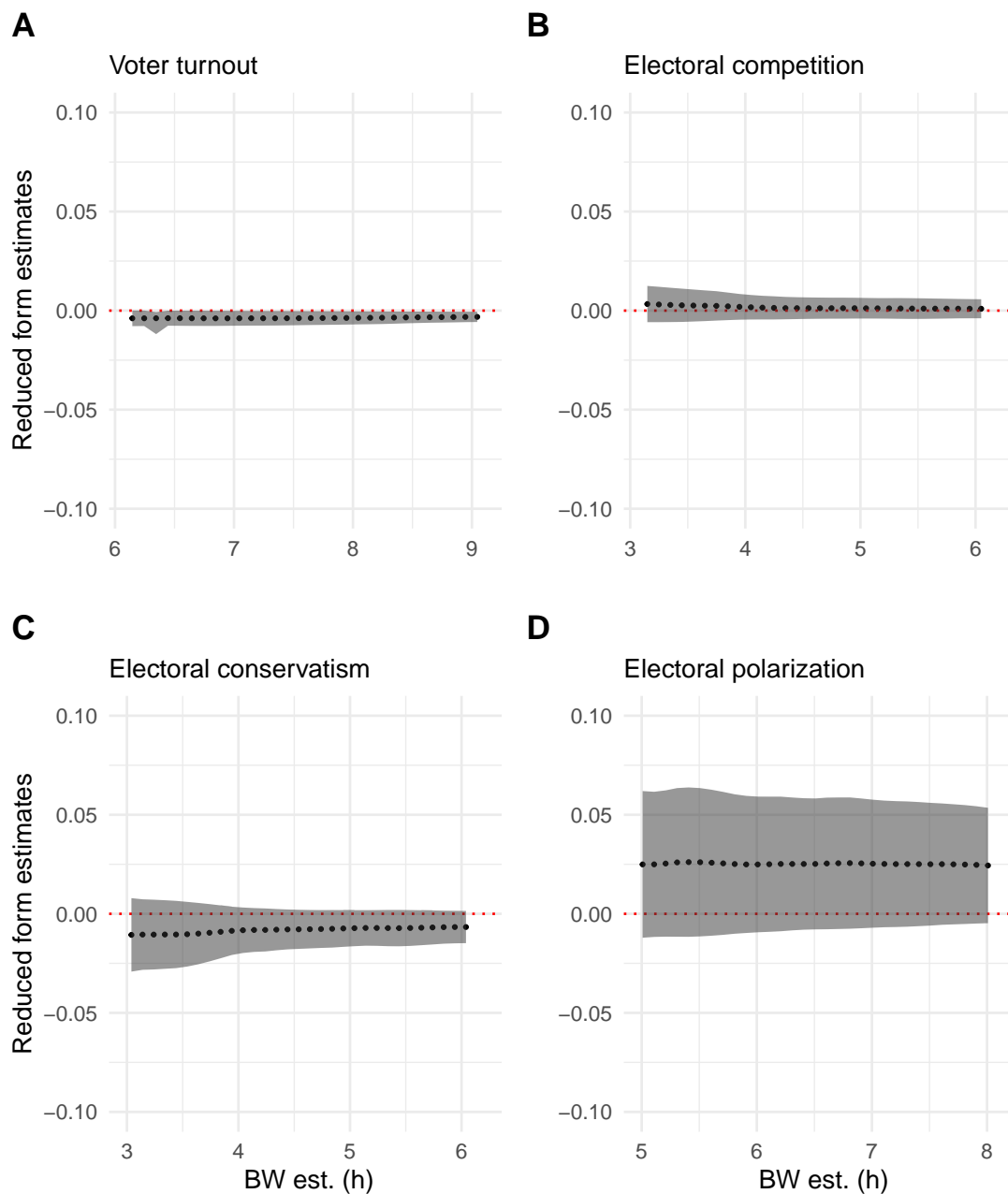
My previous analyses found support for H3. Yet, as indicated by the LATE coefficients in Models 7–9, the regression discontinuity design provides no evidence that the expansion of evangelicals caused an increase in conservatism.<sup>16</sup> It is worth noting that my fixed-effects estimates encompass most Brazilian municipalities, while the regression discontinuity design focuses on a more restricted and less urbanized set of municipalities near the LPT cutoff. These differences in sample composition may account for the contrasting results.

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<sup>15</sup>I replicated the models described in Table 1 using an alternative measure of Christian evangelicals' salience across municipalities: the estimated share of Christian evangelicals. As reported in Appendix K, the results are consistent, with only minor substantive changes.

<sup>16</sup>Estimates using the Workers' Party (PT) share of votes as an alternative measure of conservatism also fail to reach statistical significance at conventional levels, as reported in Appendix H.

Figure 6: BW est. (h) sensitiveness of reduced form estimates



Note: Figure 6 presents the reduced-form estimates (LATE) using a range of new bandwidth values slightly smaller and larger than the optimal bandwidth values (Calonico et al., 2020). For this analysis, I used the optimal bandwidth employed to calculate the LATE reported in the Full Model (All) shown in Table 2 as the benchmark.

Finally, contrary to H4, Models 10–12 show no positive impact of evangelical churches on electoral polarization. Importantly, across all models, first-stage estimates are statistically significant, indicating that the absence of results in the reduced form is not due to lack of power in the instrument used to predict changes in the outcome variables.

Selecting the bandwidth around the cutoff in which one estimates the LATE is crucial in regression discontinuity designs because the results and conclusions are typically sensitive to this choice (Bueno and Tuñón, 2015). Therefore, I replicate my estimates using several new values slightly smaller and larger than the optimal bandwidth (Calonico et al., 2020). Figure 6 shows that the estimated null impact in my reduced form estimates is consistent across several bandwidth choices.

Another concern could be that rural electrification boosted the growth not only of Christian evangelicals but also of other religious groups. I would not expect the arrival of electrification to have the same positive effect on the expansion of Roman Catholics as they have a well-established network of churches in rural areas, reflecting its historical dominance in Brazil (Azevedo, 2002). It is also unlikely that the LPT caused a proliferation of worship places of Spiritist and Afro-Brazilian religions such as *Candomblé* and Umbanda. Rural areas in Brazil have notably been dominated by Christian denominations, particularly Catholicism and Evangelicalism (Pierucci, 2008). Spiritism has historically been more prevalent among urban middle-class populations (Stoll, 2002; Signates, 2019). Afro-Brazilian traditions also have significant roots in urban centers such as Salvador, Rio de Janeiro, and Porto Alegre (Silva, 2022). In addition, Afro-Brazilian religious practices usually rely on rituals, gatherings, and oral traditions that do not require electricity (Silva, 2002, 2022). Therefore, the arrival of electricity may not have been a transformative factor for these religious practices as they have



been for evangelicals.

Still, to further rule out this possibility, I used the dataset created by [Araújo \(2023\)](#) to calculate the number of non-evangelical religious facilities per 100,000 inhabitants in each municipality. This classification captures the salience of all non-evangelical religious temples across Brazilian municipalities. Appendix L reports my results using this residual measurement of religious salience. Reassuringly, there is no evidence of a discontinuity in the number of non-evangelical facilities in municipalities below the 85% threshold. In other words, the LPT did not lead to an increase in worship spaces other than those attended by Christian evangelicals. Additionally, my reduced-form estimates are not statistically significant at conventional levels, as expected in this context.

Despite the consistency of my estimates across all models, it is possible that the LPT also influenced other variables relevant to the outcomes of interest, potentially affecting the validity of the identification strategy. To my knowledge, two studies have assessed the impact of the LPT on socioeconomic and political outcomes.

The first study finds that the arrival of electricity through the LPT reduced crime rates in targeted municipalities ([Arvate et al., 2018](#)). According to the authors, this effect is not explained by changes in the labor market or other development outcomes but rather by individuals staying home more often, reducing their exposure to violent crimes. I do not expect this documented channel to confound my findings. If anything, the arrival of electricity's reduction in crime should result in an *increase* in voter turnout. The second study shows that the LPT improved the supply of education in rural areas ([Araújo et al., 2024](#)). According to secularization theory, higher levels of development and education should reduce the propensity to engage in religious activities. However, this theory has proven insufficient

to explain church attendance trends across many middle- and low-income countries (e.g., [Grzymala-Busse, 2012](#); [Huber and Mohamed, 2021](#); [Pulejo, 2023](#)), including Brazil ([Freston, 2019](#)). Indeed, my estimates indicate that the arrival of electricity through the LPT contributed to the expansion of Evangelical Christianity, again, the opposite of what this theory would have predicted.<sup>17</sup> Critically, neither of these documented findings in the literature suggest that my estimates are confounded by other factors potentially influenced by the LPT.

## Conclusion

Theories predicting increased secularization due to economic development and reduced vulnerability have proven controversial. The religious revival across democracies suggests that this cleavage has gained salience in recent decades (e.g., [Grzymala-Busse, 2012](#); [Huber and Mohamed, 2021](#)). The global evangelical boom is a significant manifestation of this ongoing societal change ([Freston, 2001](#); [Somma et al., 2017](#)). In several low- and middle-income countries, Christian evangelicals are on the verge of becoming the largest religious group and, consequently, the majority of the electorate

This paper has aimed to examine whether the expansion of Evangelical Christianity is reshaping electoral politics in Brazil. Results from fixed-effects models spanning over two decades of elections, combined with a regression discontinuity design leveraging an exogenous increase in the number of evangelical churches, paint a nuanced picture: the evangelical boom appears to be linked to lower voter participation and greater conservatism in elections. However, I found no evidence that the growth of Christian evangelicals in Brazil

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<sup>17</sup>Notably, [Araújo et al. \(2024\)](#) also finds that the LPT did not lead to an immediate increase in votes for the Workers' Party (PT) in elections held shortly after the program's implementation. Instead, the PT only began to secure a higher share of votes in targeted municipalities nearly a decade after electricity arrived, an effect the authors attribute almost entirely to the enhanced supply of education for low-income voters.

over recent decades has resulted in higher levels of competition or polarization in elections. Whether these findings hold in other contexts remains an open question for future research to explore.

As is often the case, the results presented in this paper are limited by data availability. Episodes of religious minority growth, such as the one ongoing in Brazil, could well influence individual-level outcomes not captured in my empirical analyses. Recent studies suggest that evangelicals are more likely to consume and spread conspiracy theories (Gonzalez et al., 2021) and engage with fake news (Sacramento and Paiva, 2020; Lee Rogers and Powe, 2022). Additionally, the expansion of Christian evangelicals is likely to affect attitudes rooted in voters' political psychology, such as antipartisanship and affective polarization. Given the rapid growth of Evangelical Christianity in recent decades, studying how it shapes attitudes and fosters the creation of echo chambers presents a valuable area for future research.

Last but not least, this study does not address potential changes in candidates' profiles driven by the expansion of Christian evangelicals. As the share of this electorate grows, more candidates representing the interests of evangelicals are likely to run for office. Consequently, evangelical voters may shift their support from secular elites to new candidates who are more aligned with their interests and willing to engage more actively with this emerging religious identity. Investigating these and other electoral dynamics could help anticipate structural changes in contexts with growing religious minorities.

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# Does the growth of religious minorities transform electoral politics?

Evidence from the evangelical boom in Brazil

## Appendix

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# Contents

<b>A</b>	<b>Distribution of evangelical candidates across political parties</b>	<b>3</b>
<b>B</b>	<b>Testing for manipulation around the cutoff</b>	<b>6</b>
<b>C</b>	<b>Testing for the balance of pretreatment municipal-level covariates</b>	<b>8</b>
<b>D</b>	<b>Descriptive statistics</b>	<b>9</b>
<b>E</b>	<b>Measurement validity check: the estimated share of Christian evangelicals using census data</b>	<b>10</b>
<b>F</b>	<b>Fixed effects models using the estimated share of Christian evangelicals</b>	<b>11</b>
<b>G</b>	<b>Fixed effects models testing for heterogeneous effects by time</b>	<b>12</b>
<b>H</b>	<b>Using the Worker's Party (PT) share of votes as an alternative measure of conservatism</b>	<b>13</b>
<b>I</b>	<b>First-stage and reduced form placebo estimates</b>	<b>14</b>
<b>J</b>	<b>The impact of the LPT and the expansion of the Evangelical Christianity</b>	<b>15</b>
<b>K</b>	<b>First-stage and reduced form estimates using the estimated share of Christian evangelicals</b>	<b>16</b>
<b>L</b>	<b>Testing for the rise of other religious groups around the LPT cutoff</b>	<b>17</b>

## **A Distribution of evangelical candidates across political parties**

Table 1 reports the absolute and relative number of evangelical candidates competing for a position at the local council (Câmara dos Vereadores) from 2000 to 2024. The data is disaggregated by political parties. The column *Established* informs the year of creation of any party. As described, evangelical candidates are distributed across various parties and tend to run for office with mainstream, well-established political parties, e.g., MDB, PDT, PP, PTB, and PSD.

Table 1: Distribution of evangelical candidates competing in local council elections across political parties (2000-2024)

Party	Other Candidates	Pastores	Total	Established	Extinguished	Note
AGIR	7030	97	7127	2020	-	former PTdoB
%	0.24	0.5	0.24	-	-	-
AVANTE	29704	344	30048	2017	-	former PTdoB
%	1.01	1.78	1.02	-	-	-
CIDADANIA	21106	154	21260	2019	-	former PPS
%	0.72	0.8	0.72	-	-	-
DC	11278	185	11463	2018	-	former PSDC
%	0.38	0.96	0.39	-	-	-
DEM	98695	601	99296	2007	2021	current União Brasil
%	3.37	3.11	3.36	-	-	-
MDB	81873	496	82369	2017	-	former PMDB
%	2.79	2.57	2.79	-	-	-
Podemos	6232	67	6299	2017	-	former PTN
%	0.21	0.35	0.21	-	-	-
NOVO	7701	68	7769	2011	-	-
%	0.26	0.35	0.26	-	-	-
PAN	4606	33	4639	1996	2006	current PTB
%	0.16	0.17	0.16	-	-	-
PATRIOTA	22994	280	23274	2017	-	former PEN
%	0.78	1.45	0.79	-	-	-
PC do B	51868	178	52046	1985	-	-
%	1.77	0.92	1.76	-	-	-
PCO	697	4	701	1995	-	-
%	0.02	0.02	0.02	-	-	-
PDT	168528	886	169414	1979	-	-
%	5.75	4.59	5.74	-	-	-
PFL	75454	239	75693	1985	2007	current União Brasil
%	2.57	1.24	2.56	-	-	-
PGT	1507	9	1516	1987	2002	current PDT
%	0.05	0.05	0.05	-	-	-
PHS	34207	271	34478	1995	2019	current Solidariedade
%	1.17	1.4	1.17	-	-	-
PL	104277	963	105240	1985	-	former PR
%	3.56	4.99	3.56	-	-	-
PMB	11015	134	11149	2015	-	-
%	0.38	0.69	0.38	-	-	-
PMDB	211884	711	212595	1980	2017	current MDB
%	7.22	3.69	7.2	-	-	-
PMN	37481	309	37790	1984	-	-
%	1.28	1.6	1.28	-	-	-
PODE	41566	476	42042	2017	-	former PTN
%	1.42	2.47	1.42	-	-	-
PP	179619	1040	180659	2003	-	former PDS
%	6.12	5.39	6.12	-	-	-
PPB	33600	71	33671	1995	2003	current PP
%	1.15	0.37	1.14	-	-	-
PPL	5650	46	5696	2011	2020	current PCdoB
%	0.19	0.24	0.19	-	-	-
PPS	91080	437	91517	1992	2019	current Cidadania
%	3.11	2.26	3.1	-	-	-
PR	62833	387	63220	2006	2019	current PL
%	2.14	2.01	2.14	-	-	-
PRB	39293	620	39913	2005	2019	current PL
%	1.34	3.21	1.35	-	-	-
PRD	16127	206	16333	1995	2006	-
%	0.55	1.07	0.55	-	-	-
PRN	1170	3	1173	1989	1993	-
%	0.04	0.02	0.04	-	-	-

Note: Elaborated by the author with data from the Brazilian Electoral Court (TSE).

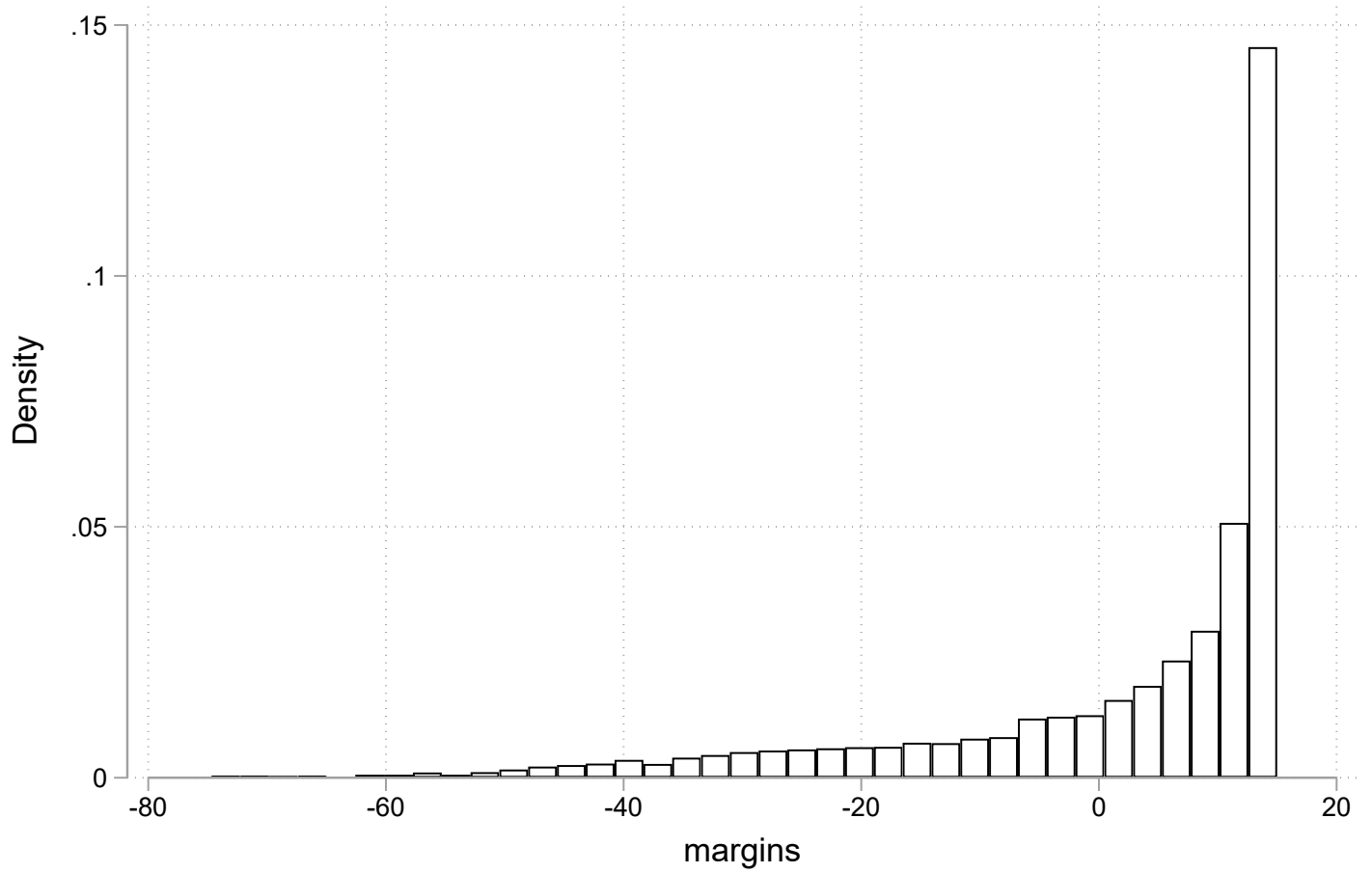
continued Table 12

Party	Other Candidates	Pastores	Total	Established	Extinguished	Note
PRONA	4064	25	4089	1993	2006	current PL
%	0.14	0.13	0.14	-	-	-
PROS	21501	190	21691	2010	-	-
%	0.73	0.98	0.73	-	-	-
PRP	32869	209	33078	1995	2019	-
%	1.12	1.08	1.12	-	-	-
PRTB	35439	312	35751	1994	-	-
%	1.21	1.62	1.21	-	-	-
PSB	152396	854	153250	1985	-	-
%	5.2	4.43	5.19	-	-	-
PSC	77263	1159	78422	1985	-	-
%	2.63	6.01	2.66	-	-	-
PSD	132787	867	133654	2011	-	-
%	4.53	4.49	4.53	-	-	-
PSDB	220665	1149	221814	1988	-	-
%	7.52	5.96	7.51	-	-	-
PSDC	30150	286	30436	1995	2018	current DC
%	1.03	1.48	1.03	-	-	-
PSL	59480	493	59973	1994	2021	current União Brasil
%	2.03	2.56	2.03	-	-	-
PSOL	19397	64	19461	2004	-	-
%	0.66	0.33	0.66	-	-	-
PST	5031	35	5066	1994	-	-
%	0.17	0.18	0.17	-	-	-
PSTU	1653	3	1656	1994	-	-
%	0.06	0.02	0.06	-	-	-
PT	213132	592	213724	1980	-	-
%	7.27	3.07	7.24	-	-	-
PT do B	27768	198	27966	2006	2020	current 2020
%	0.95	1.03	0.95	-	-	-
PTB	146845	965	147810	1981	-	-
%	5.01	5	5.01	-	-	-
PTC	32737	356	33093	1990	-	-
%	1.12	1.85	1.12	-	-	-
PTN	28148	243	28391	1989	2017	current Podemos
%	0.96	1.26	0.96	-	-	-
PV	81507	423	81930	1986	-	-
%	2.78	2.19	2.78	-	-	-
REDE	12234	95	12329	2015	-	-
%	0.42	0.49	0.42	-	-	-
REPUBLICANOS	58253	802	59055	2005	-	former PRB
%	1.99	4.16	2	-	-	-
SD	14151	120	14271	2012	-	-
%	0.48	0.62	0.48	-	-	-
SOLIDARIEDADE	30223	280	30503	2012	-	-
%	1.03	1.45	1.03	-	-	-
União Brasil	33808	253	34061	2021	former DEM/PSL	-
%	1.15	1.31	1.15	-	-	-
UP	165	0	165	2019	-	-
%	0.01	0	0.01	-	-	-
Total	2932844	19294	2952138	-	-	-
-	100	100	100	-	-	-

Note: Elaborated by the author with data from the Brazilian Electoral Court (TSE).

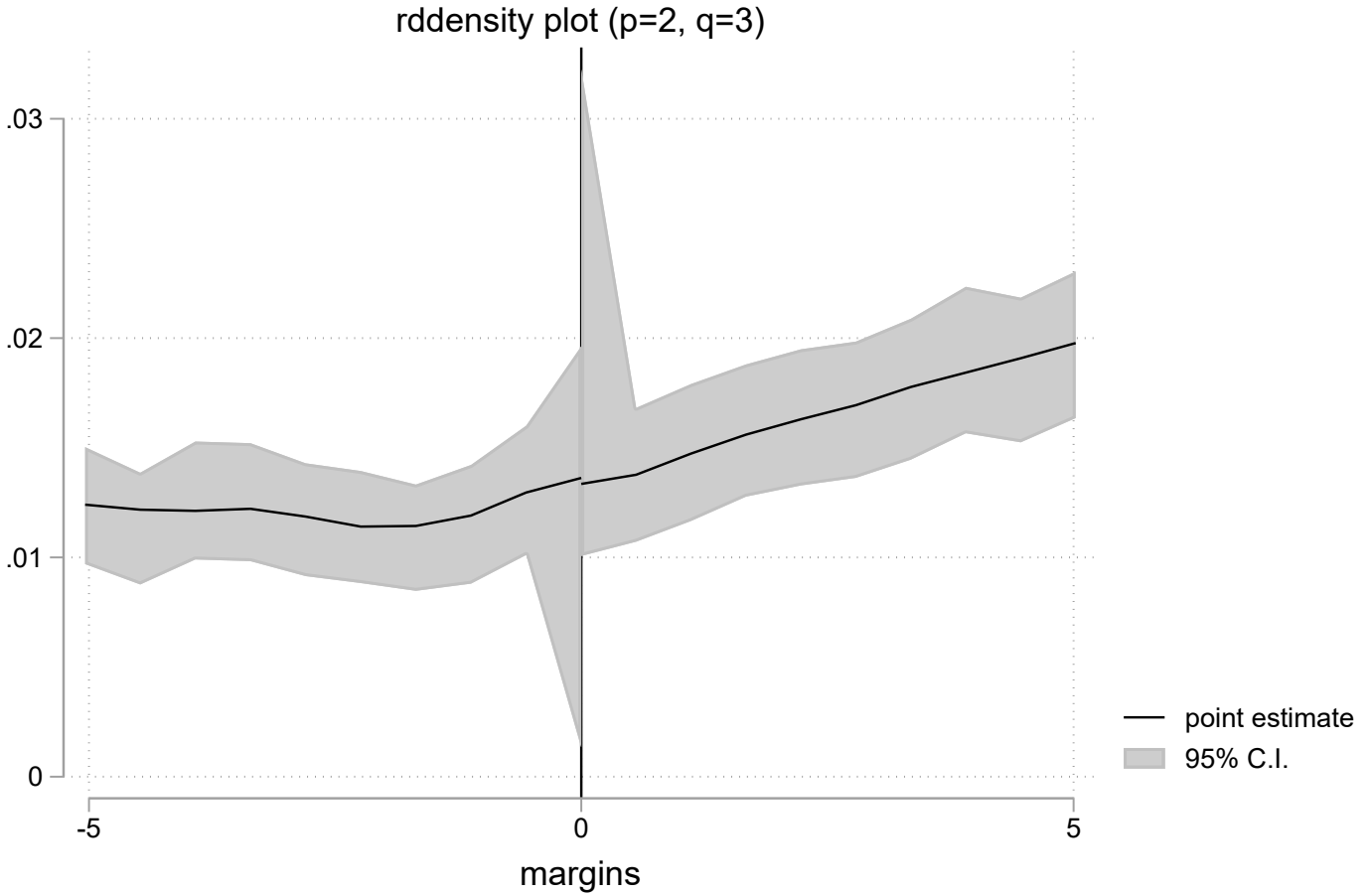
## B Testing for manipulation around the cutoff

Figure 1: Histogram of the running variable



Note: Compiled by the author with data from the Brazilian Institute of Geography and Statistics (IBGE). The unit of analysis is the municipality (N = 5,564). The running variable (margins) is the percentage of households with electricity in 2000 according to the Brazilian census.

Figure 2: RD manipulation test plot



Note: Compiled by the author with data from the Brazilian Institute of Geography and Statistics (IBGE). We use the automatic manipulation test based on density discontinuity developed by Cattaneo et al. (2018). The running variable (margins) is the percentage of households with electricity in 2000 according to the Brazilian census.

Table 2: RD Manipulation test using local polynomial density estimation

Cutoff $c = 0$ (85)	Left of $c$	Right of $c$
Number of obs	1712	3852
Eff. Number of obs	119	137
Order est. (p)	2	2
Order bias (q)	3	3
BW est. (h)	1.680	1.674
Method	T	$P >  T $
Robust	1.4530	0.1462
Number of obs	5564	
BW method	unrestricted	
Model	comb	
Kernel	triangular	
VCE method	jackknife	

Note: Compiled by the author with data from the Brazilian Institute of Geography and Statistics (IBGE, 2000). I use the automatic manipulation test based on density discontinuity developed by Cattaneo et al. (2018). The running variable (margins) is the percentage of households with electricity in 2000 according to the Brazilian census.

## C Testing for the balance of pretreatment municipal-level covariates

Table 3: Formal continuity-based analysis for pretreatment covariates (2000)

Variable	Coef. LATE	Std. Err.	Obs.	N. Clusters	BW est (h)
<b>Socioeconomic variables</b>					
Fertility rate	.002	.019	797	25	$80 \geq 85 \leq 90$
Life expectancy	-.209	.142	797	25	$80 \geq 85 \leq 90$
Child mortality rate	.903	.837	797	25	$80 \geq 85 \leq 90$
Human development index (HDI)	-.003	.003	797	25	$80 \geq 85 \leq 90$
Illiteracy rate	.389	.597	797	25	$80 \geq 85 \leq 90$
Income inequality (measured by Gini index)	.002	.002	797	25	$80 \geq 85 \leq 90$
Poverty rate	1.49*	.738	797	25	$80 \geq 85 \leq 90$
Unemployment rate	.072	.286	797	25	$80 \geq 85 \leq 90$
% of occupations in the formal sector	-.0205	.638	797	25	$80 \geq 85 \leq 90$
Economically active workforce	-122.1	191.5	797	25	$80 \geq 85 \leq 90$
Income per capita	-8.64*	4.97	797	25	$80 \geq 85 \leq 90$
Level of urbanization	-.003	.006	797	25	$80 \geq 85 \leq 90$
Population size	-294.7	442.6	797	25	$80 \geq 85 \leq 90$
<b>Political variables</b>					
Voter turnout (Local elections, 2000)	-.270	.412	782	25	$80 \geq 85 \leq 90$
Is the elected mayor a member of the PT (1996)	-.005	.008	797	25	$80 \geq 85 \leq 90$
Is the elected mayor a member of the PT (2000)	.000	.005	797	25	$80 \geq 85 \leq 90$
Number of voted parties (Local council elections, 2000)	.070	.133	782	25	$80 \geq 85 \leq 90$
Number of voted parties (Mayoral elections, 2000)	-.052*	.026	782	25	$80 \geq 85 \leq 90$
Number of voted parties in state parliament elections (2002)	-.013	.156	795	25	$80 \geq 85 \leq 90$
Number of voted parties in federal parliament elections (2002)	.003	.166	795	25	$80 \geq 85 \leq 90$
Number of elected council members (PFL, 2000)	.049	.105	797	25	$80 \geq 85 \leq 90$
Number of elected council members (PMDB, 2000)	.047	.086	797	25	$80 \geq 85 \leq 90$
Number of elected council members (PPB, 2000)	.067	.100	797	25	$80 \geq 85 \leq 90$
Number of elected council members (PTB, 2000)	.039	.079	797	25	$80 \geq 85 \leq 90$
Number of elected council members (PT, 2000)	-.032	.034	797	25	$80 \geq 85 \leq 90$

Note: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Compiled by the author using data from the Brazilian Institute of Geography and Statistics (IBGE, 2000), and Brazil's Electoral Court (Tribunal Superior Eleitoral, TSE). The unit of analysis is the municipality. I estimate the the Local Average Treatment Effect (LATE) using a linear model with clustered standard errors at the level of intervention (i.e., the municipality) (Abadie et al., 2023). My LATE estimates rely on observations of the running variable (% of households with electrification in 2000) around the 85% threshold.



## D Descriptive statistics

Table 4: Descriptive statistics - pretreatment municipal-level data

Variable	Obs	Mean	Std.Dev.	Min	Max
Voter turnout (Local elections, 2000)	5,504	86.70	6.64	57.02	99.11
Number of voted parties (Local council elections, 2000)	5,504	8.35	4.31	1	30
Number of voted parties (Mayoral elections, 2000)	5,504	2.695	1.048	1	15
Number of voted parties in state parliament elections (2002)	5,558	24.15	3.787	8	30
Number of voted parties in federal parliament elections (2002)	5,558	23.34	4.043	10	30
Number of elected council members (PFL, 2000)	5,564	1.725	1.610	0	10
Number of elected council members (PMDB, 2000)	5,564	2.022	1.652	0	11
Number of elected council members (PPB, 2000)	5,564	1.248	1.504	0	12
Number of elected council members (PTB, 2000)	5,564	.8927	1.227	0	7
Number of elected council members (PT, 2000)	5,564	.4417	.9417	0	16
Is the elected mayor a member of the PT (1996)	5,564	.0210	.1434	0	1
Is the elected mayor a member of the PT (2000)	5,564	.0334	.1797	0	1
Fertility rate	5,564	2.870	0.736	1.560	7.790
Life expectancy	5,564	68.41	3.963	57.46	77.24
Child mortality rate	5,564	39.28	18.71	12.51	106.3
Human development index (HDI)	5,564	0.523	0.104	0.208	0.820
Illiteracy rate	5,564	23.56	13.51	1	63.01
Income inequality (measured by Gini index)	5,564	0.547	0.0687	0.300	0.870
Poverty rate	5,564	41.06	22.78	0.700	90.76
Unemployment rate	5,564	11.02	6.223	0	59.17
% of occupations in the formal sector	5,564	36.03	18.12	1.920	86.38
Economically active workforce	5,564	13725	91633	280	5.341e+06
Income per capita	5,564	347.2	188.1	74.95	1760
Level of urbanization	5,564	0.585	0.237	0	1
Population size	5,564	30149	183702	795	1.040e+07
% of households with electrification in 2000	5,564	86.60	17.03	10.30	100
Targeted municipalities	5,564	0.308	0.462	0	1

Note: The unit of analysis is the municipality. Compiled by the author with data from the Brazilian Institute of Geography and Statistics (IBGE, 2000 and 2010) Brazil's Electoral Court (Tribunal Superior Eleitoral, TSE).

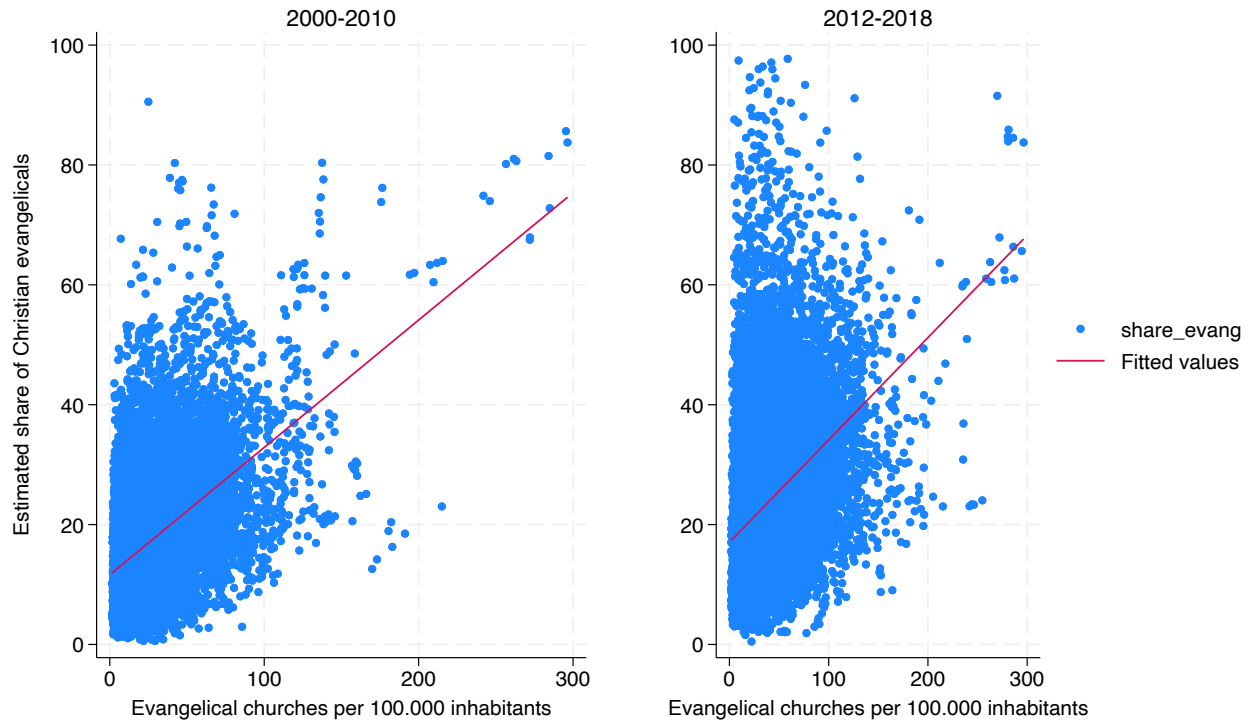
Table 5: Descriptive statistics - municipal-level panel data (1994-2018)

Variable	Obs	Mean	Std.Dev.	Min	Max
Voter turnout	71,006	.825	.079	.001	.994
Electoral competition	71,004	.147	.154	0	.994
Electoral conservatism	71,012	.189	.182	-.653	.848
Electoral polarization	71,012	5.54	.9451	0	9.1
Worker's Party (PT) share of votes	46,813	27.94	15.78	.0237	98.76
Human development index	71,000	.606	.132	.165	.929
Population size	70,398	33076	196647	652	1.22e+07
Number of evangelical churches	62,194	10.26	80.85	0	6912
Number of evangelical churches per 100,000	61,796	24.03	25.28	0	296.4

Note: The unit of analysis is the municipality. Compiled by the author with data from the Brazil's Electoral Court (Tribunal Superior Eleitoral, TSE), [Power and Rodrigues-Silveira \(2019\)](#), and [Araújo \(2023\)](#).

## E Measurement validity check: the estimated share of Christian evangelicals using census data

Figure 3: Correlation between the estimated shared of Christian evangelicals and the number of evangelical churches per 100,000 inhabitants (2000-2018)



Note: Compiled by the author. The share of evangelical churches per 100,000 inhabitants was originally calculated by [Araújo \(2023\)](#).

## F Fixed effects models using the estimated share of Christian evangelicals

Table 6: Correlation between the share of Christian evangelicals and a set of electoral outcomes (2000-2018)

	Turnout			Competition			Conservatism			Polarization		
	All	National	Local	All	National	Local	All	National	Local	All	National	Local
Churches per 100,000	-0.0001 (.0002)	-0.0000 (.0002)	.0001 (.0002)	.0003 (.0002)	.0004 (.0001)	.0002* (.0007)	.0039*** (.0009)	.0049*** (.0006)	.0022*** (.0017)	.0014 (.0026)	.0059** (.076)	-.0049** (.086)
Obs.	54,389	27,422	26,967	54,386	27,422	26,964	54,391	27,422	26,969	54,391	27,422	26,969
N. clusters	27	27	27	27	27	27	27	27	27	27	27	27
R <sup>2</sup>	0.059	0.015	0.214	0.027	0.060	0.052	0.000	0.000	0.009	0.000	0.009	0.000

Note: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

The unit of analysis is the municipality. Table 11 reports Ordinary least-squares (OLS) models with unit and election-year fixed effects and the following controls: human development index, log of the population size, and log of the electorate size. The main explanatory variable is the estimated share of Christian evangelicals. Standard errors are clustered at the state level.

## G Fixed effects models testing for heterogeneous effects by time

Table 7: Correlation between the share of Christian evangelicals and a set of electoral outcomes (1994-2018)

	Turnout			Competition			Conservatism			Polarization		
	94-00	02-10	12-18	94-00	02-10	12-18	94-00	02-10	12-18	94-00	02-10	12-18
Churches per 100,000	.0001 (.0001)	-.0002** (.0001)	-.0005*** (.0000)	.0001 (.0003)	.0003 (.0002)	-.0001 (.0001)	-.0003 (.0003)	.0004 (.0003)	.0010*** (.0003)	.0022 (.0020)	.0001 (.0022)	-.0010 (.0011)
Obs.	18,140	24,207	19,432	18,140	24,206	19,432	18,143	24,209	19,432	18,143	24,209	19,432
N. clusters	26	26	26	26	26	26	26	26	26	26	26	26
R <sup>2</sup>	0.096	0.061	0.047	0.064	0.021	0.002	0.046	0.001	0.009	0.005	0.010	0.002

Note: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

The unit of analysis is the municipality. Table 11 reports Ordinary least-squares (OLS) models with unit and election-year fixed effects and the following controls: human development index, log of the population size, and log of the electorate size. The main explanatory variable is the number of evangelical churches per 100,000 inhabitants (Churches per 100,000). Standard errors are clustered at the state level.

## H Using the Worker’s Party (PT) share of votes as an alternative measure of conservatism

Models 13–15 in Table 13 show the correlation between the number of evangelical churches per 100,000 inhabitants and the PT’s share of votes in national (i.e., presidential) and local elections. The PT’s share of votes tends to decrease as the number of evangelical churches increases. These findings align with the results reported in Models 7–9, which demonstrate that the number of evangelical churches per 100,000 has a positive impact on the conservatism index.

Table 8: Correlation between the number of evangelical churches per 100,000 inhabitants and a set of electoral outcomes (1994-2018)

	Turnout			Competition			Conservatism			Polarization			PT’s vote share		
	All	National	Local	All	National	Local	All	National	Local	All	National	Local	All	National	Local
	-.0007*** (.0001)	-.0005*** (.001)	-.0006*** (.0001)	.0003*** (.0002)	.0001 (.0000)	.0001 (.0000)	.0018*** (.0003)	.0021*** (.0003)	.0015*** (.0003)	.0000 (.0010)	-.0010 (.0014)	-.0015 (.0011)	-.252*** (.017)	-.287*** (.019)	-.1156** (.034)
Obs.	61,779	33,560	28,219	61,778	33,560	28,218	61,784	33,560	28,224	61,784	33,560	28,224	41,362	33,543	7,819
N. clusters	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
R <sup>2</sup>	0.0569	0.020	0.203	0.058	0.086	0.005	0.001	0.001	0.026	0.012	0.032	0.003	0.102	0.123	0.089

Note: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

The unit of analysis is the municipality. Table 11 reports Ordinary least-squares (OLS) models with district and election-year fixed effects and the following controls: human development index, log of the population size, and log of the electorate size. The main explanatory variable is the number of evangelical churches per 100,000 inhabitants (Churches per 100,000). Standard errors are clustered at the state level. The independent variables are voter turnout (turnout), electoral competition (competition), electoral conservatism (conservatism), electoral polarisation (polarization), and the share of votes for the Worker’s Party (PT’s vote share).

Models 13–15 in Table 14 estimate the impact of evangelical churches on the PT’s share of votes in areas targeted by the LPT. The estimated reduced-form coefficients are negative across all models, although they are not statistically significant at conventional levels.

Table 9: The impact of evangelical churches on electoral politics (2004-2018)

	Turnout			Competition			Conservatism			Polarization			PT’s vote share		
	All	National	Local	All	National	Local	All	National	Local	All	National	Local	All	National	Local
(A) First-stage	-2.90** (1.03)	-2.92** (1.49)	-2.91** (1.34)	-3.00** (1.38)	-2.84* (1.77)	-2.96 (1.92)	-2.98** (1.30)	-2.94 (1.89)	-2.86** (1.56)	-2.85*** (1.11)	-2.89* (1.61)	-2.88* (1.58)	-2.82 (1.79)	-2.41 (2.16)	-3.16 (2.51)
(B) Reduced form LATE	-.003** (.001)	-.003 (.002)	-.004* (.002)	.001 (.002)	-.004 (.004)	.006 (.005)	-.008 (.005)	-.014 (.010)	.000 (.004)	.025 (.016)	.020 (.023)	.030 (.024)	.760 (.715)	.882 (1.05)	.840 (1.05)
Obs. (Left of c)	3311	1660	1699	1926	1256	918	1871	1072	1408	2988	1488	1364	1106	868	
Obs. (Right of c)	5476	2710	2938	2726	1766	1292	2623	1530	1997	4362	2166	1947	1462	1168	868
Order loc. poly. (p)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
BW loc. poly. (h)	7.74	7.69	8.19	4.44	5.59	4.24	5.04	4.94	6.19	6.70	6.59	6.04	3.92	3.89	1168

Note: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

The unit of analysis is the municipality. Figure 9 reports FRD local linear estimates using an optimal bandwidth selection [Calonico et al. \(2020\)](#). I use the percentage of households with electricity in 2000 (i.e., the running variable) to predict the number of evangelical churches per 100,000 inhabitants in targeted municipalities (panel A). This as-if random treatment assignment estimates the LATE in reduced form estimates (panel B). My outcome variables in reduced form estimates are voter turnout (turnout), electoral competition (competition), electoral conservatism (conservatism), electoral polarisation (polarization), and the share of votes for the Worker’s Party (PT’s vote share).

# I First-stage and reduced form placebo estimates

Table 10: The impact of evangelical churches on electoral politics - Placebo estimates using pre-intervention (LPT) data (1994-2003)

	Turnout			Competition			Conservatism			Polarization		
	All	National	Local	All	National	Local	All	National	Local	All	National	Local
(A) First-stage	-.664 (.894)	-.769 (1.09)	-.374 (1.29)	-.723 (.953)	-.776 (1.07)	-.604 (1.50)	-.653 (1.04)	-.857 (1.31)	-.588 (1.49)	-.634 (.886)	-.778 (1.11)	-.385 (1.25)
(B) Reduced form LATE	-.023 (.035)	-.018 (.031)	-.047 (.171)	.005 (.022)	-.013 (.028)	.052 (.133)	.0023 (.027)	-.0009 (.0256)	.0178 (.064)	.352 (.506)	.378 (.565)	.158 (.543)
Obs. (Left of c)	1617	1089	688	1367	1114	470	1067	684	474	1662	1057	717
Obs. (Right of c)	2271	1553	1041	1887	1633	673	1458	938	677	2317	1476	1173
Order loc. poly. (p)	1	1	1	1	1	1	1	1	1	1	1	1
BW loc. poly. (h)	6.06	6.62	7.04	5.26	6.91	4.88	4.15	4.33	4.94	6.18	6.34	7.52

Note: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

The unit of analysis is the municipality. Figure 10 reports FRD local linear estimates using an optimal bandwidth selection [Calonico et al. \(2020\)](#). I use the percentage of households with electricity in 2000 (i.e., the running variable) to predict the number of evangelical churches per 100,000 inhabitants in targeted municipalities (panel A). This as-if random treatment assignment is used to estimate the LATE in reduced form estimates (panel B). My outcome variables in reduced form estimates are voter turnout (turnout), electoral competition (competition), electoral conservatism (conservatism), and electoral polarisation (polarization).

## J The impact of the LPT and the expansion of the Evangelical Christianity

Table 11: The impact of the LPT on the estimated share of Christian evangelicals

Estimand	FE	ITT	SRD					
	1	2	3	4	5	6	7	8
Estimate	.0780*** (.032)	1.914** (.313)	11.67*** ( 2.38)	2.643*** (.821)	.646 (.4486)	.0382 (.1198)	.100 (.071)	.131** (.039)
Obs.	18,316	38,375	1,021	2,013	3,118	7,911	12,121	30,510
R <sup>2</sup>	0.170	0.185	-	-	-	-	-	-
BW loc. (h)	-	-	1%	2%	3%	7%	10%	15%

Note: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

The unit of analysis is the municipality. The fixed effects (FE) model (1) employs unit and year-election fixed effects to regress the number of the LPT connections per capita against the estimated share of Christian evangelicals while controlling for human development, population size, and the electorate size. The Intention to treat (ITT) model (2) estimate the average difference in the between the share of Christian evangelicals in municipalities below the 85% cutoff (therefore, potentially targeted by the program) with those above this same threshold regardless of whether they actually participated in the program. Sharp regression discontinuity (SRD) models (3-8) estimate the local average treatment effect (LATE) by comparing municipalities just below (treated units) with those just above (non-treated units) the 85% LPT threshold. Table show my results using several bandwidths (1%, 2%, 3%, 7%, 10%, and 15%) selection, i.e., the window used to estimate the LATE. I use Ordinary Least Squares (OLS) models across all specifications reported in this table.

# K First-stage and reduced form estimates using the estimated share of Christian evangelicals

Table 12: The impact of evangelical churches on electoral politics (2004-2018)

	Turnout			Competition			Conservatism			Polarization		
	All	National	Local	All	National	Local	All	National	Local	All	National	Local
(A) First-stage	-1.34** (.597)	-1.509* (.798)	-1.21 (.843)	-1.287** (.653)	-1.31 (.900)	-1.27 (.885)	-1.30* (.720)	-1.30 (1.03)	-1.37* (.773)	-1.38*** (.591)	-1.40 (.860)	-1.38* (.762)
(B) Reduced form	-.007** (.004)	-.006 (.004)	-.0109 (.008)	.0073 (.007)	.0027 (.0090)	.0119 (.012)	-.0114 (.0095)	-.0261 (.0229)	.0102 (.009)	.0175 (.033)	.0153 (.0455)	.0149 (.0439)
Obs. (Left of c)	3661	2175	1595	3070	1730	1730	2630	1376	1899	3760	1945	1924
Obs. (Right of c)	5173	3057	2212	4194	2394	2003	3462	1806	2688	5262	2673	2772
Order loc. poly. (p)	1	1	1	1	1	1	1	1	1	1	1	1
BW loc. poly. (h)	5.60	6.46	5.00	4.76	5.28	4.57	4.00	4.12	5.81	5.68	5.71	5.95

Note: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

The unit of analysis is the municipality. Table 12 reports FRD local quadratic estimates using an optimal bandwidth selection [Calonico et al. \(2020\)](#). I use the percentage of households with electricity in 2000 (i.e., the running variable) to predict the estimated share of Christian evangelicals in targeted municipalities (panel A). This as-if random treatment assignment is used to estimate the LATE in reduced form estimates (panel B). My outcome variables in reduced form estimates are voter turnout (turnout), electoral competition (competition), electoral conservatism (conservatism), and electoral polarisation (polarization).



## L Testing for the rise of other religious groups around the LPT cutoff

Table 13: The impact of LPT on the number of non-evangelical religious facilities (A); and the impact of non-evangelical religious facilities on electoral outcomes (B)

	Turnout			Competition			Conservatism			Polarization		
	All	National	Local	All	National	Local	All	National	Local	All	National	Local
(A) First-stage	1.21 (.949)	.062 (1.19)	1.24 (1.33)	.357 (.869)	-.020 (1.17)	.474 (1.18)	.231 (.842)	-.028 (1.17)	-.225 (1.01)	.176 (.836)	-.368 (1.11)	.305 (1.14)
(B) Reduced form	.015 (.012)	.237 (4.54)	.019 (.019)	-.030 (.075)	.387 (0.22)	-.031 (.079)	.087 (.320)	-1.42 (58.6)	.019 (.100)	-.286 (1.42)	.022 (.182)	-.284 (1.12)
Obs. (Left of c)	1523	1040	691	1904	1076	956	2073	1076	1469	2113	1304	1065
Obs. (Right of c)	2081	1478	947	2663	1534	1337	2936	1538	2142	3008	1818	1510
Order loc. poly. (p)	1	1	1	1	1	1	1	1	1	1	1	1
BW loc. poly. (h)	3.50	4.73	3.28	4.35	4.87	4.37	4.71	4.88	6.47	4.81	5.66	4.85

Note: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

The unit of analysis is the municipality. Figure 13 reports FRD local linear estimates using an optimal bandwidth selection [Calónico et al. \(2020\)](#). I use the percentage of households with electricity in 2000 (i.e., the running variable) to predict the number of non-evangelical religious facilities per 100,000 inhabitants in targeted municipalities (panel A). This as-if random treatment assignment is used to estimate the LATE in reduced form estimates (panel B). My outcome variables in reduced form estimates are voter turnout (turnout), electoral competition (competition), electoral conservatism (conservatism), and electoral polarisation (polarization).

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